Publications Using Pinnacle's Products

April 21, 2026

Peer-Reviewed Publications Using Pinnacle Technology's Products
(Exception is paper by Hu et al that provides an overview of the sensor technology)

Go to: Sensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Sensor, Other

Sensors

Afzal, A., Kiyatkin, A.E. (2019) Interactions of benzodiazepines with heroin: Respiratory depression, temperature effects, and behavior. *Neuropharmacology*. doi:10.1016/j.neuropharm.2019.107677

Agnesi, F., Blaha, C.D., Lin, J., & Lee, K.H. (2010). Local glutamate release in the rat ventral lateral thalamus evoked by high-frequency stimulation. *Journal of Neural Engineering, 7*(2). doi: 10.1088/1741-2560/7/2/026009

Agnesi, F., Tye, S.J., Bledsoe, J.M., Griessenauer, C.J., Kimble, C.J., Sieck, G.C., Bennet, K.E., Garris, P.A., Blaha, C.D., Lee, K.H. (2009). Wireless instantaneous neurotransmitter concentration system-based amperometric detection of dopamine, adenosine, and glutamate for intraoperative neurochemical monitoring. *Journal of Neurosurgery, 111*(4), 701-711. doi: 10.3171/2009.3.JNS0990

Aizawa, H., Sun, W., Sugiyama, K., Itou, Y., Aida, T., Cui, W., Toyoda, S., Terai, H., Yanagisawa, M., Tanaka, K.. (2020) Glial glutamate transporter GLT-1 determines susceptibility to spreading depression in the mouse cerebral cortex. *Glia*. doi: 10.1002/glia.23874

Aluisio, L., Fraser, I., Berdyyeva, T., Tryputsen, V., Shireman, B.T., Shoblock, J., Lovenberg, T., Dugovic, C., Bonaventure, P. (2014). Pharmacological or genetic orexin1 receptor inhibition attenuates MK-801 induced glutamate release in mouse cortex. *Frontiers in Neuroscience, 8,* 107. doi: 10.3389/fnins.2014.00107

Beamer, E, Engel T. (2019) Using Amperometric, Enzyme-Based Biosensors for Performing Longitudinal Measurements of Extracellular Adenosine 5-Triphosphate in the Mouse. *Methods Mol Biol.* 2041:197-207. doi: 10.1007/978-1-4939-9717-6_14

Behrend, C.E., Cassim, S.M., Pallone, M.J., Daubenspeck, J.A., Hartov, A., Roberts, D.W., & Leiter, J.C. (2009). Toward feedback controlled deep brain stimulation: Dynamics of glutamate release in the subthalamic nucleus in rats. Journal of Neuroscience Methods, *180*(2), 278-289. doi: 10.1016/j.jneumeth.2009.04.001

Beland, A. (2023) The Complementary Roles of Glucose and Lactate in Meeting Neuronal Energetic Needs: An Investigation into the Modulation of Cortical Metabolism and Extracellular Metabolite Pools in the Mouse. *Doctorate of Philosophy degree in Experimental Psychology, University of Ottawa*. https://ruor.uottawa.ca/bitstream/10393/45537/1/Beland_Alexandria_2023_thesis.pdf

Béland-Millar, A., Kirby, A., Truong, Y., Ouellette, J., Yandiev, S., Bouyakdan, K., Pileggi, C., Naz, S., Yin, M., Carrier, M., Kotchetkov, P., St-Pierre, M-K., Tremblay, M-E., Courchet, J., Harper, M-E., Alquier, T., Messier, C., Shuhendler, A.J., Lacoste, B. (2023) 16p11.2 haploinsufficiency reduces mitochondrial biogenesis in brain endothelial cells and alters brain metabolism in adult mice. *Cell Reports,* (2023) 13(4), 480. doi: 10.1016/j.celrep.2023.112485

Béland-Millar, A., Messier, C. (2022) Voluntary Behavior and Training Conditions Modulate in vivo Extracellular Glucose and Lactate in the Mouse Primary Motor Cortex. *Front Neurosci.* 2022 Jan 4;15:732242. doi: 10.3389/fnins.2021.732242

Béland-Millar, A., Larcher, J., Courtemanche, J, Yuan, T., & Messier, C. (2017). Effects of systemic metabolic fuels on glucose and lactate levels in the brain extracellular compartment of the mouse. *Frontiers in Neuroscience, 11*(7). doi: 10.3389/fnins.2017.00007

Béland-Millar, A. & Messier, C. (2018). Fluctuations of extracellular glucose and lactate in the mouse primary visual cortex during visual stimulation. *Behavioural Brain Research, 344*, 91-102. doi: 10.1016/j.bbr.2018.02.018

Benbow, T., Cairns, B.E. (2021). Dysregulation of the peripheralglutamatergic system: A key player inmigraine pathogenesis?. *Cephalalgia*. June 2021. doi:10.1177/03331024211017882

Benomar, M., Huang, M-H., Chu, S.S., Xia, X., Cao, H. (2024). Polarized IrOx Enables Novel Referencing for Biocompatible L-Glutamate Sensors. *2024 IEEE SENSORS,* Kobe, Japan, 2024, pp. 1-4. doi: 10.1109/SENSORS60989.2024.10784834

Bingul, D., Kalra, K., Murata, E.M., Belser, A., Dash, M.B. (2020). Persistent changes in extracellular lactate dynamics following synaptic potentiation. *Neurobiology of Learning and Memory, 175*, 107314. doi: 10.1016/j.nlm.2020.107314

Bola, R.A. & Kiyatkin, E.A. (2016). Robust brain hyperglycemia during general anesthesia: Relationships with metabolic brain inhibition and vasodilation. *Frontiers in Physiology, 7*, Article 39. doi: 10.3389/fphys.2016.00039

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Bola, R.A. & Kiyatkin, E.A. (2018). Inflow of oxygen and glucose into brain tissue induced by intravenous norepinephrine: Relationships with central metabolic and peripheral vascular responses. *Journal of Neurophysiology, 119*(2), 499-508. doi: 10.1152/jn.00692.2017

Bollella, P. (2022) Enzyme-based amperometric biosensors: 60 years later … Quo Vadis?. *Analytica Chimica Acta, Volume 1234,* 2022 November 22, 340517. doi: 10.1016/j.aca.2022.340517

Bonaventure, P., Aluisio, L., Shoblock, J., Boggs, J.D., Fraser, I.C., Lord, B., Lovenberg, T., Galici, R. (2011). Pharmacological blockade of serotonin 5-HT_7 receptor reverses working memory deficits in rats by normalizing cortical glutamate neurotransmission. *PLoS ONE, 6*(6), 1-7. doi: 10.1371/journal.pone.0020210

Cairns, B.E., Dong, X., Mann, M.K., Svensson, P., Sessle, B.J., Arendt-Nielsen, L., & McErlane, K.M. (2007). Systemic administration of monosodium glutamate elevates intramuscular glutamate levels and sensitizes rat masseter muscle afferent fibers. *Pain, 132*, 33-41. doi: 10.1016/j.pain.2007.01.023

Chang, S., Shon, Y.M., Agnesi, F., & Lee, K.H. (2009). Microthalamotomy effect during deep brain stimulation: Potential involvement of adenosine and glutamate efflux. *Engineering in Medicine and Biology Society. Annual International Conference of the IEEE*, 3294-3297. doi: 10.1109/IEMBS.2009.5333735

Cherion, D., Armgarth, A., Beni, V. Linderhed, U., Tybrandt, K., Nillsson, D., Simon, T., Berggren, M., (2019) Large-area printed organic electronic ion pumps. *Flex. Print. Electron*. 4 022001 doi:10.1088/2058-8585/ab17b1

Chernov, M.M., Swan, C.B., Leiter, J.C. (2023) In Search of a Feedback Signal for Closed-Loop Deep Brain Stimulation: Stimulation of the Subthalamic Nucleus Reveals Altered Glutamate Dynamics in the Globus Pallidus in Anesthetized, 6-Hydroxydopamine-Treated Rats. *Biosensors,* Volume 42, Issue 5, 30 May 2023, 112485. doi: 10.3390/bios13040480

Choi, S., Noya, M.R., Kiyatkin, E.A. (2024). Oxygen fluctuations in the brain and periphery induced by intravenous fentanyl: 5 effects of dose and drug experience. *Journal of Neurophysiology,* 12 June 2024, 38863429. doi: 10.1152/jn.00177.2024

Choi, S., Irwin, M.R., Kiyatkin, E.A. (2023) Xylazine effects on opioid-induced brain hypoxia. bioRxiv, Preprint (2023). doi: 10.1101/2023.03.31.535103

Choi, S., Irwin, M.R., Noya, M.R., Shaham, Y., Kiyatkin, E.A. (2023). Combined treatment with naloxone and the alpha2 adrenoceptor antagonist atipamezole reversed brain hypoxia induced by a fentanyl-xylazine mixture in a rat model. *Neuropsychopharmacology*, 2023 Dec 20. doi: 10.1038/s41386-023-01782-2

Choi, S., Noya, M.R., Kiyatkin, E.A. (2024). Oxygen fluctuations in the brain and periphery induced by intravenous fentanyl: 5 effects of dose and drug experience. *Journal of Neurophysiology,* 12 June 2024, 38863429. doi: 10.1152/jn.00177.2024

Chowdhury, G.M.I., Wang, P., Ciardi, A., Mamillapalli, R., Johnson, J., Zhu, W., Eid, T., Behar, K., Chan, O. (2017). Impaired glutamatergic neurotransmission in the VMH may contribute to defective counterregulation in recurrently hypoglycemic rats. *Diabetes, 66*(5). doi: 10.2337/db16-1589

Constantino, N.J., Carroll, C.M., Williams, H.C., Yuede, C.M., Sheehan, P.W., Snipes, J.A., Musiek, E.S., Johnson, L.A., Macauley, S.L. (2024). Kir6.2-KATP channels alter glycolytic flux to modulate cortical activity, arousal, and sleep-wake homeostasis. *Preprint bioRxiv,* 2024. doi: 10.1101/2024.02.23.581817

Cordeiro, C.A., de Vries, M.G., Ngabi, W., Oomen, P.E., Cremers, T.I.F.H., & Westerink, B.H.C. (2015). *In vivo* continuous and simultaneous monitoring of brain energy substrates with a multiplex amperometric enzyme-based biosensor device. *Biosensors and Bioelectronics*, *67*, 677-686. doi: 10.1016/j.bios.2014.09.101

Corva, D.M., Adams, S.D., Bennet, K.E., Berk, M., Kouzani, A.Z. (2021). Miniature FSCV Devices: A Review. *IEEE Sensors Journal.* doi:10.1109/JSEN.2021.3069950

Curay, C.M., Irwin, M.R., Kiyatkin, E.A. (2023) The pattern of brain oxygen response induced by intravenous fentanyl limits the time window of therapeutic efficacy of naloxone. Neuropharmacology, 231, (2023), 109507. **doi: 10.1016/j.neuropharm.2023.109507**

Curay, C.M., Irwin, M.R., Kiyatkin, E.A. (2022) Rapid fluctuations in brain oxygenation during glucose-drinking behavior in trained rats. *Journal of Neurophysiology*, Volume 127, Issue 2, February 2022. doi: 10.1152/jn.00527.2021

Endo, H., Takahashi, E., Murata, M., Ohnuki, H., Ren, H., Tsugawa, W., & Sode, K. (2010). Wireless monitoring of blood glucose levels in flatfish with a needle biosensor. *Fisheries Science*, *76*(4), 687-694. doi: 10.1007/s12562-010-0256-0

Endo, H., Yonemori, Y., Hibi, K., Ren, H., Hayashi, T., Tsugawa, W., & Sode, K. (2009). Wireless enzyme sensor system for real-time monitoring of blood glucose levels in fish. *Biosensors Bioelectronics, 24*(5), 1417-1423. doi: 10.1016/j.bios.2008.08.038

Forderhase, A.G., Styers, H.C., Lee, C.A., Sombers, L.A. (2020) Simultaneous voltammetric detection of glucose and lactate fluctuations in rat striatum evoked by electrical stimulation of the midbrain. *Anal Bioanal Chem,* 412, 6611–6624 (2020). doi: 10.1007/s00216-020-02797-0

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Funada, M., Takebayashi-Ohsawa, M., Tomiyama, K. (2020). Synthetic cannabinoids enhanced ethanol-induced motor impairments through reduction of central glutamate neurotransmission. *Toxicology and Applied Pharmacology,* Volume 408, 115283. doi: 10.1016/j.taap.2020.115283

Gass, J.T. & Olive, M.F. (2012). Neurochemical and neurostructural plasticity in alcoholism. *ACS Chemical Neuroscience, 3*(7), 494-504. doi: 10.1021/cn300013p

Gass, J.T., Sinclair, C.M., Cleva, R.M., Widholm, J.J., & Olive, M.F. (2011). Alcohol-seeking behavior is associated with increased glutamate transmission in basolateral amygdala and nucleus accumbens as measured by glutamate-oxidase-coated biosensors. *Addiction Biology, 16*(2), 215-228. doi: 10.1111/j.1369-1600.2010.00262.x

Gazerani, P., Au, S., Dong, X., Kumar, U., Arendt-Nielsen, L., & Cairns, B.E. (2010). Botulinum neurotoxin type A (BoNTA) decreases the mechanical sensitivity of nociceptors and inhibits neurogenic vasodilation in a craniofacial muscle targeted for migraine prophylaxis. *Pain, 151*(3), 606-616. doi: 10.1016/j.pain.2010.07.029

Gifford, R., Batchelor, M.M., Lee, Y., Gokulrangan, G., Meyerhoff, M.E., & Wilson, G.S. (2005). Mediation of *in vivo* glucose sensor inflammatory response via nitric oxide release. *Journal of Biomedical Materials Research Part A, 75*(4), 755-766. doi: 10.1002/jbm.a.30359

Gifford, R., Kehoe, J.J., Barnes, S.L., Kornilayev, B.A., Alterman, M.A., & Wilson, G.S. (2006). Protein interactions with subcutaneously implanted biosensors. *Biomaterials*, *27*(12), 2587-2598. doi: 10.1016/j.biomaterials.2005.11.033

Guiseppi-Elie, A. (2011). An implantable biochip to influence patient outcomes following trauma-induced hemorrhage. *Analytical and Bioanalytical Chemistry, 399*(1), 403-419. doi: 10.1007/s00216-010-4271-x

Guyenet, S.J., Matsen, M.E., Morton, G.J., Kaiyala, K.J., & Schwartz, M.W. (2013). Rapid glutamate release in the mediobasal hypothalamus accompanies feeding and is exaggerated by an obesogenic food. *Molecular Metabolism, 2*(2), 116-122. doi: 10.1016/j.molmet.2013.02.001

Guyo, G.A., Pavlova, O.N., Blokhina, I.A., Semyachkina-Glushkovskaya, O.V., Pavlov, A.N. (2022) Multiresolution wavelet analysis of transients: numerical simulations and application to EEG. *Eur. Phys. J. Spec. Top* (2022). doi: 10.1140/epjs/s11734-022-00710-7

Hakim, A.W., Dong, X., & Cairns, B.E. (2011). TNFα mechanically sensitizes masseter muscle nociceptors by increasing prostaglandin E_2 levels. *Journal of Neurophysiology, 105*(1), 154-161. doi: 10.1152/jn.00730.2010

Hallock, H.L., Adiraju, S.S., Miranda-Barrientos, J., McInerney, J.M., Oh, S., DeBrosse, A.C., Li, Y., Carr, G.V., Martinowich, K. (2023) Electrophysiological correlates of attention in the locus coeruleus–prelimbic cortex circuit during the rodent continuous performance test. *Neuropsychopharmacology,* 279, 2023. doi: 10.1038/s41386-023-01692-3

Hataoka, K., Kaizaki-Mitsumotor, A., Takebayashi-Ohsawa, M., Hattori, N., Funada, M., Numazawa, S. (2019) Hyperreflexia induced by XLR-11 smoke is caused by the pyrolytic degradant. *Forensic Toxicol* doi: 10.1007/s11419-019-00476-z

Hibi, K., Hatanaka, K., Takase, M., Ren, H., & Endo, H. (2012). Wireless biosensor system for real-time L-lactic acid monitoring in fish. *Sensors*, *112*(4), 6269-6281. doi: 10.3390/s120506269

Hu, Y., Mitchell, K.M., Albahadily, F.N., Michaelis, E.K., & Wilson, G.S. (1994). Direct measurement of glutamate release in the brain using a dual enzyme-based electrochemical sensor. *Brain Research, 659*(1-2), 117-125. doi: 10.1016/0006-8993(94)90870-2

Hughes, G., Pemberton, R.M., Fielden, P.R., & Hart, J.P. (2016). The design, development and application of electrochemical glutamate biosensors. *Trends in Analytical Chemistry, 79*, 106-113. doi: 10.1016/j.trac.2015.10.020

Ionescu, I., Allers, K., Arban, R., Dorner-Ciossek, C., & Kussmaul, L. (2017). Glutamate levels measured by glutamate voltammetry in the rat prefrontal cortex after treatment with N-methyl-D-aspartate receptor antagonists. *European Neuropsychopharmacology, 27*(4), S651-S652. doi: 10.1016/S0924-977X(17)31220-8

Irwin, M.R., Curay, C.M., Choi, S., Kiyatkin, E.A. (2023) Basic physiological effects of ketamine-xylazine mixture as a general anesthetic preparation for rodent surgeries. *Brain Research,* Volume 1804, April 2023, 1482551. doi: 10.1016/j.brainres.2023.148251

Irwin, M.R., Curay, C.M., Choi, S., Kiyatkin, E.A. (2023) Basic metabolic and vascular effects of ketamine and its interaction with fentanyl. *Neuropharmacology,* Volume 228, May 2023, 109465. doi: 10.1016/j.neuropharm.2023.109465

Isherwood, S.N., Robbins, T.W., Dalley, J.W., & Pekcec, A. (2018). Bidirectional variation in glutamate efflux in the medial prefrontal cortex induced by selective positive and negative allosteric mGluR5 modulators. *Journal of Neurochemistry*. doi: 10.1111/jnc.14290

Jamal, M., Chakrabarty, S., Yousuf, M.A., Khosla, A., & Razeeb, K.M. (2018). Micro and nanostructure based electrochemical sensor platform for glutamate detection. *Microsystem Technologies,* 1-14. doi: 10.1007/s00542-018-3710-z

Janke, E., Zhang, M., Eun Ryu, S., Bhattarai, J.P., Schreck, M.R., Moberly, A.H., Luo, W., Ding, L., Wesson, D.W., Ma, M. (2022) Machine learning-based clustering and classification of mouse behaviors via respiratory patterns. *iScience.* 25, 105625. doi: 10.1016/j.isci.2022.105625

Joshi, J., Kodama, T., Siegel, J. (2014). Caffeine promotes glutamate and histamine release in the posterior hypothalamus. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology,* 2014 Sep 15;307(6):R704-10. doi: org/10.1152/ajpregu.00114.2014

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Jung, J., Kang, J., Kim, T. (2023) Attenuation of homeostatic sleep response and rest-activity circadian rhythm in vitamin D deficient mice. *Chronobiology International,* 40:8, 1097-1110, 2023. doi: 10.1080/07420528.2023.2253299

Kamijo, Y., Machler, P., Ness, N., Vu, CQ., Kusakizako, T., Mannuthodikayil, J., Ku, Z., Boisvert, M., Grebenik, E., Miyazaki, I., Hashizume, R., Sato, H., Liu, R., Hori, Y., Tomita, T., Katayama, T., Furube, A., Caraveo, G., Paquet, M-E., Drobizhev, M., Nureki, O., Arai, S., Brancaccio, M., Campbell, RE., Kleinfeld, D., Nasu, Y. (2025). A red fluorescent genetically encoded biosensor for in vivo imaging of extracellular l-lactate dynamics. *Nature Communications,* 16, Article number: 9531, 2025. doi: 10.1038/s41467-025-64484-x

Kennedy, F. McMinn, A., Martin, A. (2022) Short Note: Extracellular Export and Consumption of Glucose in Antarctic Sea Ice. Polar Biology, 45, 763–768 (2022). doi: 10.1007/s00300-022-03031-6

Kim, J., Imani, S., de Araujo, W.R., Warchall, J., Valdes-Ramirez, G., Paixao, T.R.L.C., … & Wang, J. (2015). Wearable salivary uric acid mouthguard biosensor with integrated wireless electronics. *Biosensors and Bioelectronics, 74*, 1061-1069. doi: 10.1016/j.bios.2015.07.039

Kim, I., Lai, P-H., Lobo, R., & Gluckman, B. (2014). Challenges in wearable personal health monitoring systems. *Engineering in Medicine and Biology Society,* 5264-5267. doi: 10.1109/EMBC.2014.6944813

Kim, M.H., Yoon, H., Wellman, L.L., Sanford, L.D. (2013). In-vivo Sensing of Glutamate Levels in the Basolateral Amygdala Across Sleep-Wake States. *SENSORS, 2013 IEEE, Baltimore, MD, pp. 1-3.* doi: 10.1109/ICSENS.2013.6688211

Kinlein, S.A., Wallace, N.K., Savenkova, M.I., Karatsoreos, I.N. (2022) Chronic hypothalamic-pituitary-adrenal axis disruption alters glutamate homeostasis and neural responses to stress in male C57Bl6/N mice. *Neurobiology of Stress,* Volume 19, 2022 July, 100466. doi: 10.1016/j.ynstr.2022.100466

Kiyatkin, E.A. & Smirnov, M.S. (2010). Rapid EEG desynchronization and EMG activation induced by intravenous cocaine in freely moving rats: A peripheral, nondopamine neural triggering. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology, 298*(2), R285-R300. doi: 10.1152/ajpregu.00628.2009

Kiyatkin, E.A. & Lenoir, M. (2011). Intravenous saline injection as an interoceptive signal in rats. *Journal of Psychopharmacology, 217*(3), 387-396. doi: 10.1007/s00213-011-2294-4

Kiyatkin, E.A. & Lenoir, M. (2012). Rapid fluctuations in extracellular brain glucose levels induced by natural arousing stimuli and intravenous cocaine: Fueling the brain during neural activation. *Journal of Neurophysiology, 108*(6), 1669-1684. doi: 10.1152/jn.00521.2012

Kiyatkin, E.A., Wakabayashi, K.T., & Lenoir, M. (2013). Physiological fluctuations in brain temperature as a factor affecting electrochemical evaluations of extracellular glutamate and glucose in behavioral experiments. *ACS Chemical Neuroscience, 4*(5), 652-665. doi: 10.1021/cn300232m

Kiyatkin, E. A., (2019) Respiratory depression and brain hypoxia induced by opioid drugs: morphine, oxycodone, heroin, and fentanyl. *Neuropharmacology*. pii: S0028-3908(18)30624-5. doi: 10.1016/j.neuropharm.2019.02.008

Kotanen, C.N. & Guiseppi-Elie, A. (2012). Bioactive electroconductive hydrogels yield novel biotransducers for glucose. *Macromolecular Symposia, 317-318*(1), 187-197. doi: 10.1002/masy.201100164

Kotanen, C.N. & Guiseppi-Elie, A. (2013). Characterization of a wireless potentiostat for integration with a novel implantable biotransducer. *Sensors Journal, IEEE, 14*(3), 768-776. doi: 10.1109/JSEN.2013.2288059

Kotanen, C. & Guiseppi-Elie, A. (2013). Wireless system with multianalyte implantable biotransducer. *Security and Privacy for Implantable Medical Devices*, 83-91. doi: 10.1007/978-1-4614-1674-6_3

Kotanen, C.N., Karunwi, O., Alam, F., Uyehara, C.F.T., & Guiseppi-Elie, A. (2018). Fabrication and *in vitro* performance of a dual responsive lactate and glucose biosensor. *Electrochimica Acta, 267*, 71-79. doi: 10.1016/j.electacta.2018.02.042

Kotanen, C.N., Karunwi, O., & Guiseppi-Elie, A. (2014). Biofabrication using pyrrole electropolymerization for the immobilization of glucose oxidase and lactate oxidase on implanted microfabricated biotransducers. *Bioengineering, 1,* 85-110. doi: 10.3390/bioengineering1010085

Kuebler, I.R.K., Jolton, J.A., Hermreck, C., Hubbard, N.A., Wakabayashi, K.T. (2022) Contrasting dose-dependent effects of acute intravenous methamphetamine on lateral hypothalamic extracellular glucose dynamics in male and female rats. *Journal of Neurophysiology,* 2022 September 29. doi: 10.1152/jn.00257.2022

Lee, K.H., Hitti, F.L., Chang, S-Y., Lee, D.C., Roberts, D.W., McIntyre, C.C., & Leiter, J.C. (2011). High frequency stimulation abolishes thalamic network oscillations: An electrophysiological and computational analysis. *Journal of Neural Engineering, 8*(4), 1-11. doi: 1010.1088/1741-2560/8/4/046001

Lee, K.H., Kristic, K., van Hoff, R., Hitti, F.L., Blaha, C., Harris, B., Roberts, D.W., Leiter, J.C. (2007). High-frequency stimulation of the subthalamic nucleus increases glutamate in the subthalamic nucleus of rats as demonstrated by *in vivo* enzyme-linked glutamate sensor. *Brain Research, 1162*(8), 121-129. doi: 10.1016/j.brainres.2007.06.021

Lengacher, S., Finsterwald, C., Magistretti, P. (2020) Compositions and methods of treatment for neurological disorders comprising motor neuron diseases. *United States Patent Application 20200325148, Gliapharm SA (Geneva, CH), US Patent App. 16/955,227.* https://www.freepatentsonline.com/y2020/0325148.html

Lengacher, S., Finsterwald, C., Magistretti, P. (2020) Compositions and methods of treatment for neurological disorders comprising a dementia. *United States Patent Application 20200339591, Gliapharm SA (Geneva, CH), US Patent App. 16/955811.* https://www.freepatentsonline.com/y2020/0339591.html

Lenoir, M. & Kiyatkin, E. (2013). Intravenous nicotine injection induces rapid, experience-dependent sensitization of glutamate release in the ventral tegmental area and nucleus accumbens. *Journal of Neurochemistry, 127*(4), 541-551. doi: 10.1111/jnc.12450

Lerchundi, R., Fernandez-Moncada, I., Contreras-Baeza, Y., Sotelo-Hitschfeld, T., Machler, P., Wyss, M.T., Stobart, J., Baeza-Lehnert, F., Alegria, K., Weber, B., Barros, L.F. (2015). NH_4+ triggers the release of astrocytic lactate via mitochondrial pyruvate shunting. *Proceedings of the National Academy of Sciences of the United States of America, 112*(35), 11090-11095. doi: 10.1073/pnas.1508259112

Li, B. & Freeman, R.D. (2015). Neurometabolic coupling between neural activity, glucose and lactate in activated visual cortex. *Journal of Neurochemistry, 133*(5). doi: 10.1111/jnc.13143

Li, J., Koinkar, P., Fuchiwaki, Y., & Yasuzawa, M. (2016). A fine pointed glucose oxidase immobilized electrode for low-invasive amperometric glucose monitoring. *Biosensors and Bioelectronics*, *86*, 90-94. doi: 10.1016/j.bios.2016.06.037

Limiac, FG., Noya, MR., Kiyatin, EA. (2025). Comparison of fentanyl-induced brain oxygen responses following intravenous and intraperitoneal injections in rats. *Neuropharmacology,* Volume 271, 15 June 2025, 110412. doi: 10.1016/j.neuropharm.2025.110412

Limiac, FG., Arce, A., Kiyatkin, EA. (2026). Brain oxygen responses induced by arousing stimuli and fentanyl: 4 generalized or structure-specific?. *American Journal of Physiology,* (2026). https://scholar.google.com/scholar_url?url=https://journals.physiology.org/doi/pdf/10.1152/ajpregu.00332.2025%3Fdownload%3Dtrue&hl=en&sa=X&d=2755340965372387794&ei=yyezaeVTlsmJ6g_U-byACg&scisig=AFtJQixINqfCGBcDJiIxpK5Oluas&oi=scholaralrt&hist=dMTFdp0AAAAJ:8244283468679051861:AFtJQiyNpcgvov1D-FA6QVIM9aNo&html=&pos=1&folt=kw

Machler, P., Wyss, M.T., Elsayed, M., Stobart, J., Gutierrez, R., Faber-Castell, A., Kaelin, V., Zuend, M., San Martin, A., Romero-Gomez, I., Baeza-Lehnert, F., Lengacher, S., Schneider, B., Aebischer, P., Magistretti, P., Felipe Barros, L., Weber, B. (2016). *In vivo* evidence for a lactate gradient from astrocytes to neurons. *Cell Metabolism*, *23*, 1-9. doi: 10.1016/j.cmet.2015.10.010

Marlinge, M., Vairo, D., Marolda, V., Bruzzese, L., Adjriou, N., Guiol, C., Kipson, N., Bonnardel, A., Gastaldi, M., Kerbaul, F., Michelet, P., Claude Deharo, J., Mottola, G., Mace, P., Chefrour, M., Guieu, R. (2017). Rapid measurement of adenosine concentration in human blood using fixed potential amperometry: Comparison with mass spectrometry and high-performance liquid chromatography. *Journal of Analytical & Bioanalytical Techniques, 8*(4). doi: 10.4172/2155-9872.1000371

Marvin, J.S., Machler, P., Meng, C., Ates, T., Patel, R.H., Adhikari, R., Makurath, M.A., Ku, Z., Feliciano, D., Atasoy, D., Cui, G., Kleinfeld, D., Brown, T.A. (2025). iGlucoSnFR2: A genetically encoded fluorescent sensor for measuring intracellular or extracellular glucose in vivo in mouse brain. *Sci. Adv.,*11, eadz3889 (2025). https://www.science.org/doi/pdf/10.1126/sciadv.adz3889

Matsuno, A. & Inoue, H. (2008). Hippocampal glutamate release on learning and memory in teeth-loss rats. *Prosthodontic Research and Practice, 7*(2), 71-77. doi: 10.2186/prp.7.71

Mazziotti, R., Cacciante, F., Sagona, G., Lupori, L., Gennaro, M., Putignano, E., Grazia Alessandri, M., Ferrari, A., Battini, R., Cioni, G., Pizzorusso, T., Baroncelli, L. (2020). Novel translational phenotypes and biomarkers for creatine transporter deficiency. *Brain Communications*, fcaa089. doi: 10.1093/braincomms/fcaa089

Mazzone, G.L. & Nistri, A. (2011). Delayed neuroprotection by riluzole against excitotoxic damage evoked by kainate on rat organotypic spinal cord cultures. *Neuroscience*, *190*, 318-327. doi: 10.1016/j.neuroscience.2011.06.013

Mazzone, G.L. & Nistri, A. (2011). Electrochemical detection of endogenous glutamate release from rat spinal cord organotypic slices as a real-time method to monitor excitotoxicity. *Journal of Neuroscience Methods*, *197*(1), 128-132. doi: 10.1016/j.jneumeth.2011.01.033

Mazzone, G.L., Veeraraghavan, P., Gonzalez-Inchauspe, C., Nistri, A., & Uchitel, O.D. (2017). ASIC channel inhibition enhances excitotoxic neuronal death in an *in vitro* model of spinal cord injury. *Neuroscience, 343*, 398-410. doi: 10.1016/j.neuroscience.2016.12.008

McMinn, A. & Lee, S. (2018). Use of glucose biosensors to measure extracellular glucose exudation by intertidal microphytobenthos in southern Tasmania. *Journal of Phycology*. doi: 10.1111/jpy.12641

Miyakoshi, L.M., Staeger, F.F., Li, Q., Pan, C., Xie, L., Kang, H., Pavan, C., Dang, J., Sun, Q., Erturk, A., Nedergaard, M. (2023) The state of brain activity modulates cerebrospinal fluid transport. *Progress in Neurobiology,* (2023). doi: 10.1016/j.pneurobio.2023.102512

Moore, K., Oelberg, W., Glass, M.R., Johnson, M., Been, L., Meisel, R.. (2019). Glutamate Afferents From the Medial Prefrontal Cortex Mediate Nucleus Accumbens Activation by Female Sexual Behavior. *Front. Behav. Neurosci.,* 04 October. doi: 10.3389/fnbeh.2019.00227

Morita, H., Abe, C., Awazu, C., & Tanaka, K. (2007). Long-term hypergravity induces plastic alterations in vestibulo-cardiovascular reflex in conscious rats. *Neuroscience Letters, 412*(3), 201-205. doi: 10.1016/j.neulet.2006.11.014

Moriyama, H., Nomura, S., Imoto, H., Maruta, Y., Mori, N., Fujii, N., Haji, K., Suzuki, M., Ishihara, H. (2025). Anti-seizure effects of WS-3, a TRPM8 agonist, on focal onset seizure mouse model via reduction of extracellular glutamate levels. *Neuropsychopharmacology,* 50, pages1855–1863 (2025). doi: 10.1038/s41386-025-02143-x

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Morrell, C.N., Sun, H., Ikeda, M., Beique, J-C., Swaim, A.M., Mason, E., Martin, T., Thompson, L.E., Gozen, O., Ampagoomian, D., Sprengel, R., Rothstein, J., Faraday, N., Huganir, R., Lowenstein, C.J. (2008). Glutamate mediates platelet activation through the AMPA receptor. *Journal of Experimental Medicine, 205*(3), 575-584. doi: 10.1084/jem.20071474

Muramatsu, T., Ohnuki, H., Ushio, H., Hibi, K., Igarashi, M., Hayashi, T., Ren, H., Endo, H. (2011). Electrochemical flow injection immunoassay for cortisol using magnetic microbeads. *International Journal of Environmental and Analytical Chemistry, 91*(2), 161-173. doi: 10.1080/03067319.2010.500725

Nakajima, T., Takeda, S., Ito, Y., Oyama, A., Takami, Y., Takeya, Y., Yamamoto, K., Sugimoto, K., Shimizu, H., Shimamura, M., Rakugi, H., Morishita, R. (2022) A novel chronic dural port platform for continuous collection of cerebrospinal fluid and intrathecal drug delivery in free-moving mice. *Fluids and Barriers of the CNS*, 19, Article number: 31. doi: 10.1186/s12987-022-00331-1

Nakajima, T., Takeda, S., Ito, Y., Oyama, A., Takami, Y, Takeya, Y., Yamamoto, K., Sugimoto, K., Shimizu, H., Shimamura, M., Rakugi, H., Morishita, R. (2021). A Novel Chronic Dural Port Platform for ContinuousCollection of Large Volumes of Cerebrospinal Fluidand Intrathecal Drug Delivery in Free-Moving Mice. Research Square, preliminary report, under review, May 2021. doi: 10.21203/rs.3.rs-508382/v1

Newman, L.A., Korol, D.L., & Gold, P.E. (2011). Lactate produced by glycogenolysis in astrocytes regulates memory processing. *PLoS ONE, 6*(12), e28427. doi: 10.1371/journal.pone.0028427

Newman, L.A., Scavuzzo, C.J., Gold, P.E., & Korol, D.L. (2017). Training-induced elevations in extracellular lactate in hippocampus and striatum: Dissociations by cognitive strategy and type of reward. *Neurobiology of Learning and Memory*, *137*, 142-153. doi: 10.1016/j.nlm.2016.12.001

Nishiguchi, T., Yamanishi, K., Patel, S., Malicoat, JR., Phuong, NJ., Seki, T., Ishii, T., Aoyama, B., Shimura, A., Gorantla, N., Yamanashi, T., Iwata, M., Pieper, AA., Shinozaki, G. (2024). Discovery of novel protective agents for infection-related delirium through bispectral electroencephalography. *Transl Psychiatry*. 2024 Oct 3;14(1):413. doi: 10.1038/s41398-024-03130-4

Nishiguchi, T., Shibata, K., Yamanishi, K., Dittrich, MN., Islam, NY., Patel, S., Phuong, NJ., Marra, PS., Malicoat, JR., Seki, T., Nishizawa, Y., Yamanashi, T., Iwata, M., Shinozaki, G. (2024). The Bispectral Electroencephalography Method Quantifies Postoperative Delirium-Like States in Young and Aged Male Mice After Head-Mount Implantation Surgery. *J Gerontol A Biol Sci Med Sci.*, *2024 Aug 1;79(8):glae158*. doi: 10.1093/gerona/glae158

Nguyen, C.M., Rao, S., Yang, X., Dubey, S., Mays, J., Cao, H., & Chiao, J-C. (2015). Sol-Gel deposition of iridium oxide for biomedical micro-devices. *Sensors, 15*, 4212-4228. doi: 10.3390/s150204212

Ouyang, W., Liu, W., Zhang, Y., Liu, Y., Kim, J.U., Shen, H., Wu, Y., Luan, H., Kilner, K., Lee, S.P., Lu, Y., Yang, Y., Wang, J., Yu, Y., Wegener, A.J., Moreno, J.A., Xie, Z., Wu, Y., Won, S.M., Kwon, K., Wu, C., Bai, W., Guo, H., Liu, T-L., Bai, H., Monti, G., Zhu, J., Madhvapathy, S.R., Trueb, J., Stanslaski, M., Higbee-Dempsey, E.M., Stepien, I., Ghoreishi-Haack, N., Haney, C.R., Kim, T-I., Huang, Y., Ghaffari, R., Banks, A.R., Jhou, T.C., Good, C.H., Rogers, J.A. (2023) A wireless and battery-less implant for multimodal closed-loop neuromodulation in small animals. *Nature Biomedical Engineering,* (2023). doi: 10.1038/s41551-023-01029-x

Otsuguro, K., Wada, M., & Ito, S. (2011). Differential contributions of adenosine to hypoxia-evoked depressions of three neuronal pathways in isolated spinal cord of neonatal rats. *British Journal of Pharmacology*, *164*(1), 132-144. doi: 10.11111/j.1476-5381.2011.01333.x

Özel, R.E., Ispas, C., Mallikarjunarao, G., Leiter, J.C., & Andreescu, S. (2014). Glutamate oxidase biosensor based on mixed ceria and titania nanoparticles for the detection of glutamate in hypoxic environments. *Biosensors and Bioelectronics, 52*, 397-402. doi:10.1016/j.bios.2013.08.054

Paul, D.W. & Stenken, J.A. (2015). A review of flux considerations for *in vivo* neurochemical measurements. *Analyst, 140*(11), 3709-3730. doi: 10.1039/C4AN01898B

Park, M. Hoang, G.M., Nguyen, T., Lee, E., Jung, H.J., Choe, Y., Kim, J.G., Kim, T. (2021 Effects of Transcranial Ultrasound Stimulation Pulsed at 40 Hz on Aβ Plaques and Brain Rhythms in 5XFAD Mice. 26 July 2021, PREPRINT (Version 1) available at Research Square. doi: 10.21203/rs.3.rs-734856/v1

Perekopskiy, D., Kiyatkin, E.A. (2019) 6-Monoacetylmorphine (6-MAM), Not Morphine, Is Responsible for the Rapid Neural Effects Induced by Intravenous Heroin. *ACS Chem Neurosci.* July 2019 doi:10.1021/acschemneuro.9b00305

Perekopskiy, D., Afzal, A., Jackson, S.N., Muller, L., Woods, A.S., Kiyatkin, E.A. (2020) The Role of Peripheral Opioid Receptors in Triggering Heroin-induced Brain Hypoxia. *Sci Rep*. Jan 21;10(1):833. doi: 10.1038/s41598-020-57768-3.

Perez Custodio, R.J., Sayson, L.V., Botanas, C.J., Abiero, A., Kim, M., Lee, H.J., Ryu, H.W., Lee, Y.S., Kim, H.J., Cheong, J.H. (2020). Two newly-emerging substituted phenethylamines MAL and BOD induce differential psychopharmacological effects in rodents. *Journal of Psychopharmacology*. doi: 10.1177/0269881120936458.

Piao, C-S., Holloway, A.L., Hong-Routson, S., & Wainwright, M.S. (2017). Depression following traumatic brain injury in mice is associated with down-regulation of hippocampal astrocyte glutamate transporters by thrombin. *Journal of Cerebral Blood Flow and Metabolism*. doi: 10.1177%2F0271678X17742792

Qin, S., van der Zeyden, M., Oldenziel, W.H., Cremers, T.I.F.H., & Westerink, B.H.C. (2008). Microsensors for *in vivo* measurement of glutamate in brain tissue. *Sensors, 8*(11). doi: 10.3390/s8116860

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Ryu, I.S., Kim, J., Yang, J.H., Seo, S.Y., Sohn, S., Kim, S., Lee, K., Seo, J-W., Choe, E.S. (2021). Exposure to Commercial Cigarette Smoke Produces Psychomotor Sensitization via Hyperstimulation of Glutamate Response in the Dorsal Striatum. *Brain Sci.*, 2021, 11, 14. doi:10.3390/brainsci11010014

Ryu, I.S., Kim, J., Seo, S.Y., Yang, J.H., Oh, J.H., Lee, D.K., Cho, HW., Shoon Yoon, S., Seo, JW., Chang, S., Kim, HY., Shim, I., Choe, E.S. (2017). Behavioral changes after nicotine challenge are associated with α7 nicotinic acetylcholine receptor-stimulated glutamate release in the rat dorsal striatum. *Scientific Reports, 7*. doi:10.1038/s41598-017-15161-7

Ryu, I.S., Kim, J., Seo, S.Y., Yang, J.H., Oh, J.H., Lee, D.K., Cho, HW., Shoon Yoon, S., Seo, JW., Chang, S., Kim, HY., Shim, I., Choe, E.S. (2018). Repeated administration of cigarette smoke condensate increases glutamate levels and behavioral sensitization. *Frontiers in Behavioral Neuroscience, 12*(47). doi: 10.3389/fnbeh.2018.00047

Scavuzzo, C.J., Newman, L.A., Gold, P.E., Korol, D.L. (2020). Extracellular levels of glucose in the hippocampus and striatum during maze training for food or water reward in rats. *bioRxiv* 2020.04.20.051284. doi: 10.1101/2020.04.20.051284

Schobel, S.A., Chaudhury, N.H., Khan, U.A., Paniagua, B., Styner, M.A., Asllani, I., … & Small, S.A. (2013). Imaging patients with psychosis and a mouse model establishes a spreading pattern of hippocampal dysfunction and implicates glutamate as a driver. *Neuron, 78*(1), 81-93. doi: 10.1016/j.neuron.2013.02.011

Scott, D.E., Willis, S.D., Gabbert, S., Johnson, D.A., Naylor, E., Janle, E.M., Krichevsky, J.E., Lunte, C.E., Lunte, S.M. (2015). Development of an on-animal separation based sensor for monitoring drug metabolism in freely roaming sheep. *Analyst, 140*(11). doi: 10.1039/C4AN01928H

Shigetomi, E., Jackson-Weaver, O., Huckstepp, R.T., O'Dell, T.J., & Khakh, B.S. (2013). TRPA1 channels are regulators of astrocyte basal calcium levels and long-term potentiation via constitutive D-serine release. *Journal of Neuroscience*, *33*(24), 10143-10153. doi: 10.1523/JNEUROSCI.5779-12.2013

Shimizu, H. & Tsugawa, W. (2012). Glucose monitoring by direct electron transfer needle-type miniaturized electrode. *Electrochemistry, 80*(5), 375-378. doi: 10.5796/electrochemistry.80.375

Shin, J., Y. Yan, W. Bai, Y. Xue, P. Gamble, L. Tian, I. Kandela, C. R. Haney, W. Spees, Y. Lee, M. Choi, J. Ko, H. Ryu, J.-K. Chang, M. Pezhouh, S.-K. Kang, S. M. Won, K. J. Yu, J. Zhao, Y. K. Lee, M. R. MacEwan, S.-K. Song, Y. Huang, W. Z. Ray and J. A. Rogers (2018). Bioresorbable pressure sensors protected with thermally grown silicon dioxide for the monitoring of chronic diseases and healing processes. *Nature Biomedical Engineering*. doi: 10.1038/s41551-018-0300-4

Siegmann, MJ., Parry, S., Lark, ARS., Mir, FA., Choi, J., Carpenter, AH., Crowley, EA., White, CG., Kang, J., Purdon, PL., Nehs, CJ. (2025). A ketogenic diet decreases sevoflurane-induced burst suppression in rats. *Brain Research Bulletin,* Volume 223, April 2025, 111274. doi: 10.1016/j.brainresbull.2025.111274

Siemsen, B.M., Barry, S.M., Vollmer, K.M., Green, L.M., Brock, A.G., Westphal, A.M., King, R.A., DeVries, D.M., Otis, J.M., Cowan, C.W., Scofield, M.D. (2022) A Subset of Nucleus Accumbens Neurons Receiving Dense and Functional Prelimbic Cortical Input Are Required for Cocaine Seeking. *Frontiers Cellular Neuroscience,* 24 February 2022. doi: 10.3389/fncel.2022.844243

Simon, D.T., Larsson, K.C., Nilsson, D., Burstrom, G., Galter, D., Berggren, M., & Richter-Dahlfors, A. (2015). An organic electronic biomimetic neuron enables auto-regulated neuromodulation. *Biosensors and Bioelectronics, 71,* 359-364. doi: 10.1016/j.bios.2015.04.058

Skwarzynska, D., Sun, H., Williamson, J., Kasprzak, I., Kapur, J. (2023) Glycolysis regulates neuronal excitability via lactate receptor, HCA1R. Brain, 2023, 1-15. **doi: 10.1093/brain/awac419**

Solis, E., Jr., Afzal, A., & Kiyatkin, E.A. (2018). Opposing mechanisms underlying differential changes in brain oxygen and temperature induced by intravenous morphine. *Journal of Neurophysiology,*. doi: 10.1152/jn.00445.2018

Solis, E., Jr., Afzal, A., & Kiyatkin, E.A. (2018). Changes in brain oxygen and glucose induced by oxycodone: Relationships with brain temperature and peripheral vascular tone. *Neuropharmacology, 133*, 481-490. doi: 10.1016/j.neuropharm.2018.02.017

Solis, E., Jr., Afzal, A., & Kiyatkin, E.A. (2018). Intravenous cocaine increases oxygen entry into brain tissue: Critical role of peripheral drug actions. *ACS Chemical Neuroscience*. doi: 10.1021/acschemneuro.8b00302

Solis, E., Cameron-Burr, K.T., & Kiyatkin, E. (2017). Heroin contaminated with fentanyl dramatically enhances brain hypoxia and induces brain hypothermia. *eNeuro, 4*(5). doi: 10.1523/ENEURO.0323-17.2017

Solis, E., Jr., Cameron-Burr, K.T., & Kiyatkin, E.A. (2018). Rapid physiological fluctuations in nucleus accumbens oxygen levels induced by arousing stimuli: Relationship with changes in brain glucose and metabolic neural activation. *Frontiers in Integrative Neuroscience, 11*(9). doi:10.3389/fnint.2017.00009

Solis, E., Jr., Cameron-Burr, K.T., Shaham, Y., & Kiyatkin, E.A. (2017). Fentanyl-induced brain hypoxia triggers brain hyperglycemia and biphasic changes in brain temperature. *Neuropsychopharmacology, 43*, 810-819. doi: 10.1038/npp.2017.181

Solis, E., Cameron-Burr, K.T., Shaham, Y., & Kiyatkin, E.A. (2017). Intravenous heroin induces rapid brain hypoxia and hyperglycemia that precede brain metabolic response. *eNeuro, 4*(3). doi: 10.1523/ENEURO.0151-17.2017

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Soto, R. J., Privett, B. J., & Schoenfisch, M. H. (2014). *In vivo* analytical performance of nitric oxide-releasing glucose biosensors. *Analytical Chemistry*, *86*(14), 7141-7149. doi: 10.1021/ac5017425

Sweeney, P., Qi, Y., Xu, Z., & Yang, Y. (2016). Activation of hypothalamic astrocytes suppresses feeding without altering emotional states. *Glia, 64*(12), 2263-2273. doi: 10.1002/glia.23073

Takaoka, H. & Yasuzawa, M. (2010). Fabrication of an implantable fine needle-type glucose sensor using γ-polyglutamic acid. *Analytical Sciences*, *26*(5), 551-555. doi: 10.2116/analsci.26.551

Takase, M., Murata, M., Hibi, K., Huifeng, R., & Endo, H. (2014). Development of mediator-type biosensor to wirelessly monitor whole cholesterol concentration in fish. *Fish Physiology and Biochemistry, 40*(2), 385-394. doi: 10.1007/s10695-013-9851-1

Takase, M., Takahashi, E., Murata, M., Ohnuki, H., Hibi, K., Ren, H., & Endo, H. (2013). Development of a biocompatible glucose biosensor for wireless and real time blood glucose monitoring of fish. *International Journal of Environmental Analytical Chemistry*, *93*(2), 125-139. doi: 10.1080/03067319.2011.649739

Takase, M., Yoneyama, Y., Murata, M., Hibi, K., Ren, H., & Endo, H. (2012). Carbon nanotube enhanced mediator-type biosensor for real-time monitoring of glucose concentrations in fish. *Analytical and Bioanalytical Chemistry*, *403*(4), 1187-1190. doi: 10.1007/s00216-012-5894-x

Takase, M., Yoneyama, Y., Murata, M., Hibi, K., Ren, H., & Endo, H. (2012). Mediator-type biosensor for real-time wireless monitoring of blood glucose concentrations in fish. *Fisheries Science, 78*(3), 691-698. doi: 10.1007/s12562-012-0495-3

Tawfik, V.L., Chang, S-Y., Hitti, F.L., Roberts, D.W., Leiter, J.C., Jovanovic, S., & Lee, K.H. (2010). Deep brain stimulation results in local glutamate and adenosine release: Investigation into the role of astrocytes. *Neurosurgery, 67*(2), 367-375. doi: 10.1227/01.NEU.0000371988.73620.4C

Teneqexhi, P., Khalid, A., Nisbett, K.E., Job, G.A., Messer, Jr, W.S., Ragozzino, M.E. (2023) The Partial M1 Muscarinic Cholinergic Receptor Agonist, CDD-0102A, Differentially Modulates Glutamate Efflux in Striatal Subregions during Stereotyped Motor Behavior in the BTBR Mouse Model of Autism. *ACS Chemical Neuroscience,* 2023, 14, 15, 2699–2709. doi: 10.1021/acschemneuro.3c00260

Thomas, S.A., Perekopskiy, D., Kiyatkin, E.A. (2020). Cocaine added to heroin fails to affect heroin-induced brain hypoxia. *Brain Research, Volume 1746, November*. doi: 10.1016/j.brainres.2020.147008

Thomas, S.A., Curay, C.M., Kiyatkin, E.A. (2021). Relationships between oxygen changes in the brain and periphery following physiological activation and the actions of heroin and cocaine. *Sci Rep*., 6355 (2021). doi: 10.1038/s41598-021-85798-y

Thomas, S.A., Curay, C.M., Kiyatkin, E.A. (2021 Effects of alcohol on brain oxygenation and brain hypoxia induced by intravenous heroin. *Neuropharmacology*, Volume 197, 1 October 2021, 108713. doi: 10.1016/j.neuropharm.2021.108713

Uslaner, J.M., Smith, S.M., Huszar, S.L., Pachmerhiwala, R., Hinchliffe, R.M., Vardigan, J.D., Nguyen, S.J., Surles, NO., Yao, L., Barrow, J.C., Uebele, V.N., Renger, J.J., Clark, J., Hutson, P.H. (2012). T-type calcium channel antagonism produces antipsychotic-like effects and reduces stimulant-induced glutamate release in the nucleus accumbens of rats. *Neuropharmacology, 62*(3), 1413-1421. doi: 10.1016/j.neuropharm.2010.11.015

Van Gompel, J.J., Bower, M.R., Worrell, G.A., Stead, M., Chang, S-Y., Goerss, S.J., Kim, I., Bennet, K.E., Meyer, F.B., Marsh, W.R., Blaha, C.D., Lee, K.H. (2014). Increased cortical extracellular adenosine correlates with seizure termination. *Epilepsia, 55*(2), 233-244. doi: 10.1111/epi.12511

Van Gompel, J.J., Chang, S-Y., Goerss, S.J., Kim, I.Y., Kimble, C., Bennet, K.E., & Lee, K.H. (2010). Development of intraoperative electrochemical detection: Wireless instantaneous neurochemical concentration sensor for deep brain stimulation feedback. *Neurosurgical FOCUS, 29*(2), E6. doi: 10.3171/2010.5.FOCUS10110

Veliskova, J., Marra, C., Liu, Y., Shekhar, A., Park, D.S., Iatckova, V., Xie, Y., Fishman, G.I., Velisek, L., Goldfarb, M. (2021). Early onset epilepsy and sudden unexpected death in epilepsy with cardiac arrhythmia in mice carrying the early infantile epileptic encephalopathy 47 gain-of-function FHF1(FGF12) missense mutation. Epilepsia, May 2021. doi: 10.1111/epi.16916

Wakabayashi, K.T. & Kiyatkin, E.A. (2012). Rapid changes in extracellular glutamate induced by natural arousing stimuli and intravenous cocaine in the nucleus accumbens shell and core. *Journal of Neurophysiology*, *108,* 285-299. doi: 10.1152/jn.01167.2011

Wakabayashi, K.T. & Kiyatkin, E.A. (2013). Critical role of peripheral drug actions in experience-dependent changes in nucleus accumbens glutamate release induced by intravenous cocaine. *Journal of Neurochemistry, 128*(5) 672-685. doi: 10.1111/jnc.12472

Wakabayashi, K.T. & Kiyatkin, E.A. (2015). Behavior-associated and post-consumption glucose entry into the nucleus accumbens extracellular space during glucose free-drinking in trained rats. *Frontiers in Behavioral Neuroscience*, *9*, 173. doi: 10.3389/fnbeh.2015.00173

Wakabayashi, K.T. & Kiyatkin, E.A. (2015). Central and peripheral contributions to dynamic changes in nucleus accumbens glucose induced by intravenous cocaine. *Frontiers in Neuroscience, 9*, Article 42. doi: 10.3389/fnins.2015.00042

Wakabayashi, K.T., Myal, S.E., & Kiyatkin, E.A. (2015). Fluctuations in nucleus accumbens extracellular glutamate and glucose during motivated glucose-drinking behavior: Dissecting the neurochemistry of reward. *Journal of Neurochemistry, 132*(3), 327-341. doi: 10.1111/jnc.12993

Wakabayashi, K.T., Spekterman, L., & Kiyatkin, E.A. (2016). Experience-dependent escalation of glucose drinking and the development of glucose preference over fructose – association with glucose entry into the brain. *European Journal of Neuroscience*, *43*(11), 1460-9568. doi: 10.1111/ejn.13137

Wallace, N., Pollard, F., Savenkova, M., Karatsoreos, I. (2019) Daily Rhythms in Lactate Metabolism in the Medial Prefrontal Cortex of Mouse: Effects of Light and Aging. *BioRxiv*, May 9, 2019. Web.

Wallace, N.K., Pollard, F., Savenkova, M., Karatsoreos, I.N. (2020) Effect of Aging on Daily Rhythms of Lactate Metabolism in the Medial Prefrontal Cortex of Male Mice. *Neuroscience*, Volume 448. doi: 10.1016/j.neuroscience.2020.07.032

Walsh, S.R.M. (2023) Neuronal Primary Cilia in Postnatal Brains & Alzheimer's Disease Mice EEG Patterns Under Fear Conditioning. *Honors Theses and Capstones.* 752. https://scholars.unh.edu/honors/752

Wang, Y., Dye, C.A., Sohal, V., Long, J.E., Estrada, R.C., Roztocil, T., Lufkin, T., Deisseroth, K., Baraban, S.C., Rubenstein, J.L.R. (2010). *Dlx5* and *Dlx6* regulate the development of parvalbumin-expressing cortical interneurons. *Journal of Neuroscience, 30*(15), 5334-5345. doi: 10.1523/JNEUROSCI.5963-09.2010

Wang, Y., Liu, X., Schneider, B., Zverina, E.A., Russ, K., Wijeyesakere, S.J., Fierke, C.A., Richardson, R.J., Philbert, M.A. (2012). Mixed inhibition of adenosine deaminase activity by 1, 3-dinitrobenzene: A model for understanding cell-selective neurotoxicity in chemically-induced energy deprivation syndromes in brain. *Toxicological Sciences*, *125*(2), 509-521. doi: 10.1093/toxsci/kfr317

Wang, X., Zang, D., & Lu, X-Y. (2014). Dentate gyrus-CA3 glutamate release/NMDA transmission mediates behavioral despair and antidepressant-like responses to leptin. *Molecular Psychiatry, 20,* 509-519. doi: 10.1038/mp.2014.75

Wilson, G., Michael, A. (2019). Compendium of In Vivo Monitoring in Real-Time Molecular Neuroscience: Volume 3: Probing Brain Function, Disease and Injury with Enhanced Optical and Electrochemical Sensors. October 2019. doi: 10.1142/11441

Wippel, C., Maurer, J., Fortsch, C., Hupp, S., Bohl, A., Ma, J., Mitchell, T.J., Bunkowski, S., Bruck, W., Nau, R., Iliev, A.I. (2013). Bacterial cytolysin during meningitis disrupts the regulation of glutamate in the brain, leading to synaptic damage. *PLoS Pathogens*, *9*(6), e1003380. doi: 10.1371/journal.ppat.1003380

Wu, H., Aoki, A., Arimoto, T., Nakano, T., Ohnuki, H., Murata, M., Ren, H., Endo, H. (2015). Fish stress become visible: A new attempt to use biosensor for real-time monitoring fish stress. *Biosensors and Bioelectronics, 67,* 503-510. doi: 10.1016/j.bios.2014.09.015

Wu, H., Ohnuki, H., Murata, M., & Endo, H. (2017). Flow immunosensor system with an electrode replacement unit for continuous cortisol monitoring for fish. *Sensing and Bio-Sensing Research, 13,* 122-127. doi: 10.1016/j.sbsr.2017.01.002

Wu, H., Ohnuki, H., Ota, S., Murata, M., Yoshiura, Y., & Endo, H. (2017). New approach for monitoring fish stress: A novel enzyme-functionalized label-free immunosensor system for detecting cortisol levels in fish. *Biosensors and Bioelectronics, 93,* 57-64. doi: 10.1016/j.bios.2016.10.001

Yamanashi, T., Malicoat, JR., Steffen, KT., Zarei, K., Li, R., Purnell, BS., Najafi, A., Saito, K., Singh, U., Toth, BA., Lee, S., Dailey, ME., Cui, H., Kaneko, K., Cho, HR., Iwata, M., Buchanan, GF., Shinozaki, G. (2021). Bispectral EEG (BSEEG) quantifying neuro-inflammation in mice induced by systemic inflammation: A potential mouse model of delirium. *J Psychiatr Res.*, *2021 Jan;133:205-211*. doi: 10.1016/j.jpsychires.2020.12.036. Epub 2020 Dec 15

Yasuzawa, M., Edagawa, K., Matsunaga, T., Takaoka, H., & Yabutani, T. (2011). Highly selective needle-type glucose sensors prepared by the immobilization of glucose oxidase on γ-polyglutamic acid film. *Analytical Sciences*, *27*(3), 337-340. doi: 10.2116/analsci.27.337

Yasuzawa, M., Toba, T., Li, J., Koinkar, P.M., Ueki, T., & Fuchiwaki, Y. (2015). Preparation of micro-biosensor for continuous glucose monitoring. *Modern Physics Letter B, 29*(6,7). doi: 10.1142/S0217984915400400

Yonemori, Y., Takahashi, E., Ren, H., Hayashi, T., & Endo, H. (2009). Biosensor system for continuous glucose monitoring in fish. *Analytica Chimica Acta, 633*(1), 90-96. doi: 10.1016/j.aca.2008.11.023

Yoneyama, Y., Yonemori, Y., Murata, M., Ohnuki, H., Hibi, K., Hayashi, T., Ren, H., Endo, H. (2009). Wireless biosensor system for real-time cholesterol monitoring in fish "Nile tilapia". *Talanta, 80*(2), 909-915. doi: 10.1016/j.talanta.2009.08.014

Zhanmu, O., Yang, Y., Feng, B., Wang, H., Li, H., Zhou, H, Ge, W-Q., Wan, K-X., Wang, S-X., Zhang, K-L., Zhang, H., Pei, L., Pan, H-L., Tian, Q., Li, M. (2024). Differential regulation of pruritic sensation and emotion by cannabinoid type 1 receptors on mPFC glutamatergic and GABAergic neurons. *Acta Pharmacol Sin,* 46, 904–921 (2025). doi: 10.1038/s41401-024-01426-1

Capillary Electrophoresis

Fischer, D.J., Hulvey, M.K., Regel, A.R., & Lunte, S.M. (2009). Amperometric detection in microchip electrophoresis devices: Effect of electrode material and alignment on analytical performance. *Electrophoresis*, *30*(19), 3324-3333. doi: 10.1002/elps.200900317

Fleck, J., Marafiga, J.R., Jesse, A.C., Ribeiro, L.R., Rambo, L.M., & Mello, C.F. (2015). Montelukast potentiates the anticonvulsant effect of phenobarbital in mice: An isobolographic analysis. *Pharmacological Research, 94*, 24-41. doi: 10.1016/j.phrs.2015.02.001

Gunasekara, D.B., Hulvey, M.K., & Lunte, S.M. (2011). In-channel amperometric detection for microchip electrophoresis using a wireless isolated potentiostat. *Electrophoresis*, *32*(8), 832-837. doi: 10.1002/elps/201000681

Gunasekara, D.B., Hulvey, M.K., Lunte, S.M., & da Silva, J.A. (2012). Microchip electrophoresis with amperometric detection for the study of the generation of nitric oxide by NONOate salts. *Analytical and Bioanalytical Chemistry, 403*(8), 2377-2384. doi: 10.1007/s00216-012-5810-4

Meneses, D., Gunasekara, D., Pichetsurnthorn, P., da Silva, J., de Abreu, F., & Lunte, S. (2014). Evaluation of in-channel amperometric detection using a dual-channel microchip electrophoresis device and a two-electrode potentiostat for reverse polarity separations. *Electrophoresis, 35*(19). doi: 10.1002/elps.201400297

Patabadige, D.R.E.W. (2017). Developing multilayer microfluidic platforms and advancing laser induced fluorescent detection and electrochemical detection to analyze intracellular protein kinases, reactive nitrogen and oxygen species in single cells. *Kansas State University,* (Doctoral dissertation). hdl.handle.net/2097/35299

Regel, A. & Lunte, S. (2013). Integration of a graphite/PMMA composite electrode into a poly(methyl methacrylate) (PMMA) substrate for electrochemical detection in microchips. *Electrophoresis*, *34*(14), 2101-2106. doi: 10.1002/elps.201300055

Saylor, R.A. & Lunte, S.M. (2017). PDMS/glass hybrid device with a reusable carbon electrode for on-line monitoring of catecholamines using microdialysis sampling coupled to microchip electrophoresis with electrochemical detection. *Electrophoresis, 39*(3), 462-469. doi: 10.1002/elps.201700211

Saylor, R.A., Reid, E.A., & Lunte, S.M. (2015). Microchip electrophoresis with electrochemical detection for the determination of analytes in the dopamine metabolic pathway. *Electrophoresis, 36(*16), 1912-1919. doi: 10.1002/elps.201500150

Scott, D.E., Grigsby, R.J., & Lunte, S.M. (2013). Microdialysis sampling coupled to microchip electrophoresis with integrated amperometric detection on an all-glass substrate. *ChemPhysChem*, *14*(10), 2288-2294. doi: 10.1002/cphc.201300449

FSCV

Bayazitov, I.T., Teubner, B.J.W., Feng, F., Wu, Z., Li, Y., Blundon, J.A., Zakharenko, S.S. (2024) Sound-evoked adenosine release in cooperation with neuromodulatory circuits permits auditory cortical plasticity and perceptual learning. *Cell Reports*, 43, 113758, 2024. doi: 10.1016/j.celrep.2024.113758

Cabrera, J.M.R., Price, J.B., Rusheen, A.E., Goyal, A., Jondal, D., Barath, A.S., Shin, H., Chang, S-Y., Bennet, K.E., Blaha, C.D., Lee, K.H., Oh, Y. (2020) Advances in neurochemical measurements: A review of biomarkers and devices for the development of closed-loop deep brain stimulation systems. *Reviews in Analytical Chemistry,* vol. 39, no. 1, 2020, pp. 188-199. doi: 10.1515/revac-2020-0117

Chen, D., Qi, Y., Zhang, J., Yang, Y. (2022) Deconstruction of a hypothalamic astrocytewhite adipocyte sympathetic axis that regulates lipolysis in mice. *Nature Communications*, (2022) 13:7536. doi: 10.1038/s41467-022-35258-6

Feng, J., Zhang, C., Lischinsky, J.E., Jing, M., Zhou, J., Wang, H., Zhang, Y., Dong, A., Wu, Z., Wu, H., Chen, W., Zhang, P., Zou, J., Hires, S.A., Zhu, J.J., Cui, G., Lin, D., Du, J., Li, Y. (2019) A Genetically Encoded Fluorescent Sensor for Rapid and Specific In Vivo Detection of Norepinephrine. *Neuron*, Volume 102, Issue 4, 22 May. doi: 10.1016/j.neuron.2019.02.037

Kang, S., Park, J., Jeong, Y., Oh, Y-S., Choi, J-W. (2022) Second-Derivative-Based Background Drift Removal for a Tonic Dopamine Measurement in Fast-Scan Cyclic Voltammetry. Anal. Chem., (2022) 94, 33, 11459–11463. **doi: 10.1021/acs.analchem.2c01047**

Kimble, L.C., Twiddy, J.S., Berger, J.M., Forderhase, A.G., McCarty, G.S., Meitzen, J., Sombers, L.A. (2023) Simultaneous, Real-Time Detection of Glutamate and Dopamine in Rat Striatum Using Fast-Scan Cyclic Voltammetry. *ACS Sens*, 2023, 8, 11, 4091–4100. doi: 10.1021/acssensors.3c01267

Meunier, C.J. (2020) Advancing Voltammetry and Analysis Strategies for Enhanced Throughput, Quantification,Chemical Diversity, and Selectivity. *North Carolina State University*, Graduate Theses and Dissertations - Philosophy. repository.lib.ncsu.edu

Mughrabi, I.T., Gerber, M., Jayaprakash, N., Palandira, S.P., Al-Abed, Y., Datta-Chaudhuri, T., Smith, C., Pavlov, V.A., Zanos, S. (2023) Voltammetry in the spleen assesses real-time antiinflammatory norepinephrine release elicited by autonomic neurostimulation. Research Square, (2023). **doi: 10.21203/rs.3.rs-2757689/v1**

Mughrabi, I.T., Gerber, M., Jayaprakash, N., Palandira, S.P., Al-Abed, Y., Datta-Chaudhuri, T., Smith, C., Pavlov, V.A., Zanos, S. (2023) Voltammetry in the spleen assesses real-time immunomodulatory norepinephrine release elicited by autonomic neurostimulation. *Journal of Neuroinflammation*, 20, Article number: 236 (2023). doi: 10.1186/s12974-023-02902-x

Mughrabi, I.T., Gerber, M., Jayaprakash, N., Al-Abed, Y., Zanos, S. (2022) Spleen voltammetry assesses in real time norepinephrine release elicited by autonomic stimulation. bioRxiv, (2022), 04.26.489592. **doi: 10.1101/2022.04.26.489592**

Seonhye, H., Jisuk, K., Junhyun, K., Myung Yung, J., Hargsoon, Y. (2019) Investigation of electrochemical and mechanical coupling effects of micromotion in neural sensing. Proc. SPIE 10969. doi:10.1117/12.2513913

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Turner, KM., Berger, JM., Sombers, LA. (2025). Progress toward Multianalyte Neurochemical Detection: Techniques and Applications. *ACS Chem. Neurosci.,* 2025, 16, 20, 3919–3931. doi: 10.1021/acschemneuro.5c00286

Yu, X-D., Zhu, Y., Sun, Q-X., Deng, F., Wan, J., Zheng, D., Gong, W., Xie, S-Z., Shen, C-J., Fu, J-Y., Huang, H., Lal, H-Y., Jin, J., Li, Y., Li, X-M. (2022) Distinct serotonergic pathways to the amygdala underlie separate behavioral features of anxiety. Nature neuroscience, Volume 25, Dec 2022, 1651-1663. **doi: 10.1038/s41593-022-01200-8**

Seizure

Acker, D.W.M., Wong, I., Kang, M., & Paradis, S. (2018). Semaphorin 4D promotes inhibitory synapse formation and suppresses seizures *in vivo*. *Epilepsia*. doi: 10.1111/epi.14429

Adel, S.S., Clarke, V.R.J., Evans-Strong, A., Maguire, J., Paradis, S. (2023). Semaphorin 4D induced inhibitory synaptogenesis decreases epileptiform activity and alters progression to Status Epilepticus in mice. *Epilepsy Research*, Volume 193, July 2023, 107156. doi: 10.1016/j.eplepsyres.2023.107156

Akman, O., Raol, Y.H., Auvin, S., Cortez, M.A., Kubova, H., de Curtis, M., Ikeda, A., Dudek, F.E., Galanopoulou, A.S. (2018). Methodological recommendations and possible interpretations of video-EEG recordings in immature rodents used as experimental controls. *Epilepsia*. doi: 10.1002/epi4.12262

Alam, M.M, Zhao, X-F., Liao, Y., Mathur, R., McCallum, S.E., Mazurkiewicz, J.E., Adamo, M.A., Feustel, P., Belin, S., Poitelon, Y., Zhu, X.C., Huang, Y. (2021). Deficiency of Microglial Autophagy Increases the Density of Oligodendrocytes and Susceptibility to Severe Forms of Seizures. *eNeuro,* 20 January 2021, 8 (1) ENEURO.0183-20.2021. doi: 10.1523/ENEURO.0183-20.2021

Aloi, M.S., Prater, K.E., Sanchez, R.E.A., Beck, A., Pathan, J.L., Davidson, S., Wilson, A., Keene, C.D., de al Iglesia, H., Jayadev, S., Garden, G.A. (2023). Microglia specific deletion of miR-155 in Alzheimer's disease mouse models reduces amyloid-β pathology but causes hyperexcitability and seizures. *Journal of Neuroinflammation*, Volume 20, Article number: 60 (2023). doi: 10.1186/s12974-023-02745-6

Amoroso, V.G., Zhao, A., Vargas, I., Park, T.J. (2023) Naked Mole-Rats Demonstrate Profound Tolerance to Low Oxygen, High Carbon Dioxide, and Chemical Pain. *Animals,* (2023)13(5), 819. doi: 10.3390/ani13050819

Anderson, L.L., Hawkins, N.A., Thompson, C.H., Kearney, J.A., & George, A.L., Jr. (2017). Unexpected efficacy of a novel sodium channel modulator in dravet syndrome. *Scientific Reports, 7*. doi: 10.1038/s41598-017-01851-9

Anderson, L.L., Thompson, C.H., Hawkins, N.A., Nath, R.D., Petersohn, A.A., Rajamani, S., Bush, W.S., Frankel, W.N., Vanoye, C.G., Kearney, J.A., George, A.L., Jr. (2014). Antiepileptic activity of preferential inhibitors of persistent sodium current. *Epilepsia, 55*(8), 1274-1283. doi: 10.1111/epi.12657

Andresen, L., Hampton, D., Taylor-Weiner, A., Morela, L., Yang, Y., Maguire, J., & Dulla, C. (2014). Gabapentin attenuates hyperexcitability in the freeze-lesion model of developmental cortical malformation. *Neurobiology of Disease, 71*, 305-316. doi: 10.1016/j.nbd.2014.08.022

Anderson, N.C., Van Zandt, M.A., Shrestha, S., Lawrence, D.B., Gupta, J., Chen, C.Y., Harrsch, F.A., Boyi, T., Dundes, C.E., Aaron, G., Naegele, J.R., Grabel, L. (2018). Pluripotent stem cell-derived interneuron progenitors mature and restore memory deficits but do not suppress seizures in the epileptic mouse brain. *Stem Cell Research*, doi.org/10.1016/j.scr.2018.10.007

Andreone, B.J., Lin, J., Tocci, J., Rook, M., Omer, A., Carito, L.M., Yang, C., Zhoba, H., DeJesus, C., Traore, M., Haruehanroengra, P., Prinzen, A., Miglis, G., Deninger, M., Li, M., Lynch, T., Howat, B., Rogers, K.A., Gallant-Behm, C.L., Kinberger, G.A., Yudowski, G., Chen, Q., Jackson, A.L., McDonough, S.I. (2025). Durable suppression of seizures in a preclinical model of KCNT1 genetic epilepsy with divalent small interfering RNA. *Epilepsia,* Volume 66, Issue, 5, May (2025). doi: 10.1111/epi.18278

Arain, F.M., Boyd, K.L., & Gallagher, M.J. (2012). Decreased viability and absence-like epilepsy in mice lacking or deficient in the $GABA_A$ receptor α1 subunit. *Epilepsia*, *53*(8), e161-e165. doi: 10.1111/j.1528-1167.2012.03596.x

Arain, F., Zhou, C., Ding, L., Zaidi, S., & Gallagher, M.J. (2015). The developmental evolution of the seizure phenotype and cortical inhibition in mouse models of juvenile myoclonic epilepsy. *Neurobiology of Disease, 82*, 164-175. doi: 10.1016/j.nbd.2015.05.016

Arshad, MN., Bope, C., Dengler, JS., Ng., SFJ., Smalley, J., Nishi, T., Zhong, Z., Moss, SJ., Davies, PA. (2025). Activation of KCC2 during development alleviates cognitive, behavioral, and neural excitability in adult CDKL5-deficient mice. *bioRxiv preprint,* 2025. doi: 10.1101/2025.02.26.640365

Armstrong, J.L., Saraf, T.S., Bhatavdekar, O., Canal, C.E. (2022) Spontaneous seizures in adult Fmr1 knockout mice: FVB.129P2-Pde6b+ Tyrc-ch Fmr1tm1Cgr/J. *Epilepsy Research,* Volume 182, 2022, 106891. doi: 10.1016/j.eplepsyres.2022.106891

Arnold, E.C., McMurray, C., Gray R., Johnston D. (2019) Epilepsy-Induced Reduction in HCN Channel Expression Contributes to an Increased Excitability in Dorsal, But Not Ventral, Hippocampal CA1 Neurons. *eNeuro*. Apr 2;6(2) doi: 10.1523/ENEURO.0036-19.2019

Arango-Lievano, M., Boussadia, B., Du Trieu De Terdonck, L., Gault, C., Fontanaud, P., Lafont, C., Mollard, P., Marchi, N., Jeanneteau, F. (2018). Topographic Reorganization of Cerebrovascular Mural Cells under Seizure Conditions. *Cell Reports*, *Volume 23, Issue 4*, April 2018. doi: 10.1016/j.celrep.2018.03.110

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Arranz, A.M., Perkins, K.L., Irie, F., Lewis, D.P., Hrabe, J., Xiao, F., Itano, N., Kimata, K., Hrabetova, S., Yamaguchi, Y. (2014). Hyaluronan deficiency due to Has3 knock-out causes altered neuronal activity and seizures via reduction in brain extracellular space. *Journal of Neuroscience*, *34*(18), 6164-6176. doi: 10.1523/JNEUROSCI.3458-13.2014

Arshad, MN., Naegele, JR. (2020). Induction of Temporal Lobe Epilepsy in Mice with Pilocarpine. *Bio-protocol 10(4):* e3533. doi: 10.21769/BioProtoc.3533.

Baker, E.M., Thompson, C.H., Hawkins, N.A., Wagnon, J.L., Wengert, E.R., Patel, M.K., George, A.L., Meisler, M.H., Kearney, J.A. (2018). The novel sodium channel modulator GS-458967 (GS967) is an effective treatment in a mouse model of *SCN8A* encephalopathy. *Epilepsia*. doi: 10.1111/epi.14196

Balzekas, I., Hernandez, J., White, J., & Koh, S. (2016). Confounding effect of EEG implantation surgery: Inadequacy of surgical control in a two hit model of temporal lobe epilepsy. *Neuroscience Letters*, *622*, 30-36. doi: 10.1016/j.neulet.2016.04.033

Baraban, S., Southwell, D.G., Estrada, R.C., Jones, D.L., Sebe, J.Y., Alfaro-Cervello, C., Garcia-Verdugo, J.M., Rubenstein, J.L., Alvarez-Buylla, A. (2009). Reduction of seizures by transplantation of cortical GABAergic interneuron precursors into Kv1.1 mutant mice. *Proceedings of the National Academy of Sciences USA, 106*(36), 15472-15477. doi: 10.1073/pnas.0900141106

Beckinghausen, J., Ortiz-Guzman, J., Lin, T., Bachman, B., Leon, L.E.S., Liu, Y., Heck, D.H., Arenkiel, B.R., Sillitoe, R.V.. (2023). The cerebellum contributes to generalized seizures by altering activity in the ventral posteromedial nucleus. *Communications Biology*, 6, 731 (2023). doi: 10.1038/s42003-023-05100-w

Bell, M.E. & Bialecki, R. (2009). Differences in electrographic ICTAL activity between C57BL/6 and BALB/c mouse strains. *Journal of Pharmacological Toxicological Methods, 60*(2), 229. doi: 10.1016/j.vascn.2009.04.089

Bergstrom, R.A., Choi, J.H., Manduca, A., Shin, H-S., Worrell, G.A., & Howe, C.L. (2013). Automated identification of multiple seizure-related and interictal epileptiform event types in the EEG of mice. *Scientific Reports*, *3*, 1483. doi: 10.1038/srep01483

Bleakley, L.E., McKenzie, C.E., Soh, M.S., Forster, I.C., Pinares-Garcia, P., Sedo, A., Kathirvel, A., Churilov, L., Jancovski, N., Maljevic, S., Scheffer, I.E., Petrou, S., Santoro, B., Reid, C.A. (2021). Cation leak underlies neuronal excitability in an HCN1 developmental and epileptic encephalopathy. *Brain,* 2021;, awab145. doi: 10.1093/brain/awab145

Bleakley, L.E., McKenzie, C.E., Zhao, D., Soh, M.S., Spyrou, J., Forster, I.C., Bui, B.V., Reid, C.A. (2024). A precision medicine approach for HCN1 Developmental and Epileptic Encephalopathy. *bioRxiv*, 2024.01.09.574555. doi: 10.1101/2024.01.09.574555

Botterill, J.J., Lu, Y.L., LaFrancois, J.J., Bernstein, H.L., Alcantara-Gonzalez, D., Jain, S., Leary, P., Scharfman, H.E. (2019) An Excitatory and Epileptogenic Effect of Dentate Gyrus Mossy Cells in a Mouse Model of Epilepsy. *Cell Rep.* Nov 26;29(9):2875-2889.e6. doi: 10.1016/j.celrep.2019.10.100.

Bouquier, N., Girard, B., Arias, J.A., Fagni, L., Bartaaso, F., Perroy, J. (2020). Gelatinase Biosensor Reports Cellular Remodeling During Epileptogenesis. *Front. Synaptic Neurosci.,* 21 April. **doi: 10.3389/fnsyn.2020.00015**

Briggs, S.W., Mowrey, W., Hall, C.B., & Galanopoulou, A.S. (2014). CPP-115, a vigabatrin analogue, decreases spasms in the multiple-hit rat model of infantile spasms. *Epilepsia, 55*(1), 94-102. doi: 10.1111/epi.12424

Brooks, J.M., Carrillo, G.L., Su, J., Lindsay, D.S., Fox, M.A., & Blader, I.J. (2015). *Toxoplasma gondii* infections alter GABAergic synapses and signaling in the central nervous system. *mBio*, *6*(6). doi: 10.1128/mBio.01428-15

Browning, J.L., Wilson, K.A., Shandra, O., Wei, X., Mahmutovic, D., Maharathi, B., Robel, S., VandeVord, P.J., Olsen, M.L. (2024). Applying Proteomics and Computational Approaches to Identify Novel Targets in Blast-Associated Post-Traumatic Epilepsy. *Int. J. Mol. Sci.*, 2024, 25(5), 2880. doi: 10.3390/ijms25052880

Buchanan, G.F., Murray, N.M., Hajek, M.A., & Richerson, G.B. (2014). Serotonin neurones have anticonvulsant effects and reduce seizure-induced mortality. *Journal of Physiology, 592*(19), 4395-4410. doi: 10.1113/jphysiol.2014.277574

Bugay, V., Gregory, S.R., Belanger-Coast, M.G., Zhao, R., Brenner, R. (2022) Effects of Sublethal Organophosphate Toxicity and Anti-cholinergics on Electroencephalogram and Respiratory Mechanics in Mice. *Frontiers in neuroscience*, vol. 16 866899. 2 May. 2022. doi: 10.3389/fnins.2022.866899

Bugay, V., Bozdemir, E., Vigil, F.A., Holstein, D.M., Chun, S.H., Elliot, W. Sprague, C. Cavazos, J.E., Zamora, D.O., Rule, G., Shapiro, M.S., Lechleiter, J.D., Brenner, R., (2019) A mouse model of repetitive blast traumatic brain injury reveals post-trauma seizures and increased neuronal excitability. *Journal of Neurotrauma* April doi: 10.1089/neu.2018.6333

Burbano, L. E., Li, M., Jancovski, N., Jafar-Nejad, P., Richards, K., Sedo, A., Soriano, A., Rollo, B., Jia, L., Gazina, E. V., Piltz, S., Adikusuma, F., Thomas, P. Q., Kopsidas, H., Rigo, F., Reid, C. A., Maljevic, S. & Petrou, S. (2022). Antisense oligonucleotide therapy for KCNT1 encephalopathy. JCI Insight, 7 (23), pp.e146090-. doi: 10.1172/jci.insight.146090

Cacciante, F., Gennaro, M., Sagona, G., Mazziotti, R., Lupori, L., Cerri, E., Putignano, E., Butt, M., Do, M-H. T., McKew, J.C., Alessandri, M.G., Battini, R., Cioni, G., Pizzorusso, T., Baroncelli, L. (2020). Cyclocreatine treatment ameliorates the cognitive, autistic and epileptic phenotype in a mouse model of Creatine Transporter Deficiency. *Scientific Reports, 10, Article number: 18361*. doi: 10.1038/s41598-020-75436-4

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Calderon, D.P., Fremont, R., Kraenzlin, F., & Khodakhah, K. (2011). The neural substrates of rapid-onset Dystonia-Parkinsonism. *Nature Neuroscience, 14*, 357-365. doi: 10.1038/nn.2753

Calhoun, J.D., Hawkins, N.A., Zachwieja, N.J., & Kearney, J.A. (2017). *Cacna1g* is a genetic modifier of epilepsy in a mouse model of Dravet syndrome. *Epilepsia, 58*(8), e111-e115. doi: 10.1111/epi.13811

Canet, G., Zub, E., Zussy, C., Hernandez, C., Blaquiere, M., Garcia, V., Vitalis, M., deBock, F., Moreno-Montano, M., Audinat, E., Desrumaux, C., Planel, E., Givalois, L., Marchi, N. (2022). Seizure activity triggers tau hyperphosphorylation and amyloidogenic pathways. *Epilepsia*, Volume 63, Issue 4, 2022. doi: 10.1111/epi.17186

Cao, W., Pavlinec, C., Gravenstein, N., Seubert, C.N., & Martynyuk, A.E. (2012). Roles of aldosterone and oxytocin in abnormalities caused by sevoflurane anesthesia in neonatal rats. *Anesthesiology*, *117*(4), 791-800. doi: 10.1097/ALN.0b013e318266c62d

Carter, B.M., Sullivan, B.J., Landers, J.R., & Kadam, S.D. (2018). Dose-dependent reversal of KCC2 hypofunction and phenobarbital-resistant neonatal seizures by ANA12. *Scientific Reports, 8*, Article 11987. doi: 10.1038/s41598-018-30486-7

Casalia, M.L., Howard, M.A., & Baraban, S.C. (2017). Persistent seizure control in epileptic mice transplanted with GABA progenitors. *Annals of Neurology, 82*(4), 530-542. doi: 10.1002/ana.25021

Castro e Silva, J., Lopes do Couto, L., de Oliveira Amaral, H., Maria, Medeiros Gomes, F., Avohay Alves Campos, G., Paulino, S.L., Renata Mortari, M. (2020). Neuropolybin: a new antiseizure peptide obtained from wasp venom. *Biochemical Pharmacology,* 23 June 2020, 114119. doi: 10.1016/j.bcp.2020.114119

Caulder, E.H., Riegle, M.A., & Godwin, D.W. (2014). Activation of group 2 metabotropic glutamate receptors reduces behavioral and electrographic correlates of pilocarpine induced status epilepticus. *Epilepsy Research, 108*(2), 171-181. doi: 10.1016/j.eplepsyres.2013.10.009

Celli, R., Striano, P., Citraro, R., Di Menna, L., Cannella, M., Imbriglio, T., Koko, M., EuroEPINOMICS-CoGIE Consortium, De Sarro, G., Monn, J.A., Battaglia, G., van Luijtelaar, G., Nicoletti, F., Russo, E., Leo, A. (2022) mGlu3 Metabotropic Glutamate Receptors as a Target for the Treatment of Absence Epilepsy: Preclinical and Human Genetics Data. *Current Neuropharmacology,* 2022 May 9. doi: 10.2174/1570159X20666220509160511

Chachua, T., Yum, M-S., Velíšková, J., & Velíšek, L. (2011). Validation of the rat model of cryptogenic infantile spasms. *Epilepsia*, *52*(9), 1666-1677. doi: 10.1111/j.1528-1167.2011.03220.x

Chen, Z-P., Wang, S., Zhao, X., Fang, W., Wang, Z., Ye, H., Wang, M-J., Ke, L., Huang, T., Lv, P. , Jiang, X., Zhang, Q., Li, L., Xie, S-T., Zhu, J-N., Hang, C., Chen, D., Liu, X., Yan, C. (2023). Lipid-accumulated reactive astrocytes promote disease progression in epilepsy. Nature Neuroscience, 26, pages 542–554 (2023). **doi: 10.1038/s41593-023-01288-6**

Chen, Z-P., Zhao, X., Wang, S., Cai, R., Liu, Q., Ye, H., Wang, M-J., Peng, S-Y., Xue, W-X., Zhang, Y-X., Li, W., Tang, H., Huang, T., Zhang, Q., Li, L., Gao, L., Zhou, H., Hang, C., Zhu, J-N., Li, X., Liu, X., Cong, Q., Yan, C. (2025). GABA-dependent microglial elimination of inhibitory synapses underlies neuronal hyperexcitability in epilepsy. *Nature Neuroscience,* 28, 1404–1417, 2025. doi: 10.1038/s41593-025-01979-2

Chen, W., Cai, Z.L., Chao, E.S., Chen, H., Longley, C.M., Hao, S. (2020). Stxbp1/Munc18-1 haploinsufficiency impairs inhibition and mediates key neurological features of STXBP1 encephalopathy. *eLife;* 9:e48705. doi: 10.7554/eLife.48705

Choudhary, A. (2023). Exploring the mechanism of action of the ketogenic diet as a therapeutic intervention for medically refractory infantile spasms. *Master's Thesis, University of Calgary,Calgary, Canada*. https://prism.ucalgary.ca.

Choudhary, A., Gavrilovici, C., Ng, A.C-H., Scantlebury, M.H. (2024). Protocol for continuous video-EEG/EMG recording to study brain function in neonatal rats. *STAR Protocols,* Volume 5, Issue 3, 20 September 2024, 103205. doi: 10.1016/j.xpro.2024.103205

Chung, W.K., Shin, M., Jaramillo, T.C., Leibel, R.L., LeDuc, C.A., Fischer, S.G., Tzilianos, E., Gheith, A.A., Lewis, A.S., Chetkovich, D.M. (2009). Absence epilepsy in apathetic, a spontaneous mutant mouse lacking the h channel subunit, HCN2. *Neurobiology of Disease, 33*(3), 499-508. doi: 10.1016/j.nbd.2008.12.004

Citraro, R., Bosco, F., Di Gennaro, G., Tallarico, M., Guarnieri, L., Gallelli, L., Rania, V., Siniscalchi, A., De Sarro, G., Leo, A.. (2023). An In Vivo Electroencephalographic Analysis of the Effect of Riluzole against Limbic and Absence Seizure and Comparison with Glutamate Antagonists. *Pharmaceutics 2023*, 15(7), 2006. doi: 10.3390/pharmaceutics15072006

Citraro, R., Leo, A., Marra, R., De Sarro, G., & Russo, E. (2015). Antiepileptic effects of the selective COX-2 inhibitor etoricoxib on the development of spontaneous absence seizures in WAG/Rij rats. *Brain Research Bulletin, 113*, 1-7. doi: 10.1016/j.brainresbull.2015.02.004

Citraro, R., Leo, A., De Caro, C., Nesci, V., Cantafio, M.E.G., Amodio, N., Raso, M.G. Lama, A., Russo, R., Calignano, A., Tallarico, M., Russo, E., De Sarro, G. (2019) Effects of Histone Deacetylase Inhibitors on the Development of Epilepsy and Psychiatric Comorbidity in WAG/Rij Rats. *Moecular Neurobiology* doi: 10.10007/s1203

Clasadonte, J., Morel, L., Barrios-Camacho, C.M., Chiang, M.S.R., Zhang, J., Iyer, L., Haydon, P.G., Yang, Y. (2016). Molecular analysis of acute and chronic reactive astrocytes in the pilocarpine model of temporal lobe epilepsy. *Neurobiology of Disease, 91*, 315-325. doi: 10.1016/j.nbd.2016.03.02

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Coughlin, GM., Borsos, M., Barcelona, BH., Appling, N., Mayfield, AMH., Mackey, ED., Eser, RA., Jackson, CR., Chen, X., Kumar, SR., Gradinaru, V. (2025). Spatial genomics of AAV vectors reveals mechanism of transcriptional crosstalk that enables targeted delivery of large genetic cargo. *Nature Biotechnology,* 2025. doi: 10.1038/s41587-025-02565-4

Cozart, M., Phelan, K., Wu, H., Mu, S., Birnbaumer, L., Rusch, N.J., .Zheng, F. (2020). Vascular smooth muscle TRPC3 channels facilitate the inverse hemodynamic response during status epilepticus. *Sci Rep* 10, 812. doi: 10.1038/s41598-020-57733-0

Cuaycong, M., Engel, M., Weinstein, S.L., Salmon, E., Perlman, J.M., Sunderam, S., & Vannucci, S.J. (2011). A novel approach to the study of hypoxia-ischemia-induced clinical and subclinical seizures in the neonatal rat. *Developmental Neuroscience, 33*. doi: 10.1159/000331646

Cui, Y., Yang, G., Li, H., Sun, J., Liu, X., Xia, X. (2024). Reduced expression of NUPR1 alleviates epilepsy progression via attenuating ER stress. *Biochemical and Biophysical Research Communications,* Volume 730, 20 October 2024, 150365. doi: 10.1016/j.bbrc.2024.150365

Cullen, E.R., Tariq, K., Shore, A.N., Luikart, B.W., Weston, M.C.. (2023). mTORC2 Inhibition Improves Morphological Effects of PTEN Loss, But Does Not Correct Synaptic Dysfunction or Prevent Seizures. *The Journal of Neuroscience*, 43 (5) 827-845. doi: 10.1523/JNEUROSCI.1354-22.2022

Das, A., Zhu, B., Xie, Y., Zeng, L., Pham, A., Neumann, J.C., MacGregor, G.R., Schutte, S., Hunt, R.F., O'Dowd, D. (2019). Interneuron dysfunction in a new knock-in mouse model of SCN1A GEFS+. *bioRxiv* 849240. doi: 10.1101/849240

Davies, P.A. (2017). Neurosteroids reverse tonic inhibition deficits in fragile X syndrome. *Report Prepared for U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012*. dtic.mil/get-tr-doc/pdf?AD=AD1043376

Deehan, M.A., Kothuis, J.M., Sapp, E., Chase, K., Ke, Y., Seeley, C., Iuliano, M., Kim, E., Kennington, L., Miller, R., Boudi, A., Shing, K., Li, X., Pfister, E., Anaclet, C., Brodsky, M., Kegel-Gleason, K., Aronin, N., DiFiglia, M. (2024). Nacc1 mutation in mice models rare neurodevelopmental disorder with underlying synaptic dysfunction. *Journal of Neuroscience,* 22 February 2024, e1610232024. doi: 10.1523/JNEUROSCI.1610-23.2024

de Ceglia, R., Ledonne, A., Litvin, D.G., Lind, B.L., Carriero, G., Latagliata, E.C., Bindocci, E., DiCastro, M.A., Savtchouk, I., Vitali, I., Ranjak, A., Congiu, M., Canonica, T., Wisden, W., Harris, K., Mameli, M., Mercuri, N., Telley, L., Volterra, A. (2023). Specialized astrocytes mediate glutamatergic gliotransmission in the CNS. *Nature*, 622, pages 120–129 (2023). doi: 10.1038/s41586-023-06502-w

de Freitas, M.L., Mello, F.K., de Souza, T.L., Grauncke, A.C.B., Fighera, M.R., Royes, L.F.F., Flavia Furian, A., Oliveira, M.S. (2018). Anticonvulsant-like effect of thromboxane receptor agonist U-46619 against pentylenetetrazol-induced seizures. *Epilepsy Research, 146*, 137-143. doi: 10.1016/j.eplepsyres.2018.08.003

de Oliveira, C.C., de Oliveira, C.V., Grigoletto, J., Ribeiro, L.R., Funck, V.R., Grauncke, A.C.B., & de Souza, T.L. (2016). Anticonvulsant activity of β-caryophyllene against pentylenetetrazol-induced seizures. *Epilepsy and Behavior*, *56*, 26-31. doi: 10.1016/j.yebeh.2015.12.040

Deodhar, M., Matthews, S.A., Thomas, B., Adamian, L., Mattes, S., Wells, T., Zieba, B., Simeone, K.A., Simeone, T.A. (2021) Pharmacoresponsiveness of spontaneous recurrent seizures and the comorbid sleep disorder of epileptic Kcna1-null mice. *European Journal of Pharmacology,* Volume 913, 15 December 2021, 174656. doi: 10.1016/j.ejphar.2021.174656

Desai, R., McNeal, C., Frasier, CR. (2025). Post-ictal AV block in a mouse model of post-traumatic epilepsy. *Department of Biomedical Sciences, East Tennessee State University, poster,* 2025. https://dc.etsu.edu/cgi/viewcontent.cgi?article=1159&context=boland-research-day

de Zorzi, V.N., Haupenthal, F., Cardoso, A.S., Cassol, G., Facundo, V.A., Balico, L.J., Lima, D.K.S., Santos, A.R.S, Furian, A.F., Oliveira, M.S., Royes, L.F.F, Fighera, M.R. (2019). Galangin prevents increased susceptibility to pentylenetetrazol-stimulated seizures by prostaglandin E2. *Neuroscience*, doi:10.1016/j.neuroscience.2019.06.002

Dinday, M.T., Girskis, K.M., Lee, S., Baraban, S.C., & Hunt, R.F. (2017). PAFAH1B1 haploinsufficiency disrupts GABA neurons and synaptic E/I balance in the dentate gyrus. *Scientific Reports, 7*, Article 8269. doi: 10.1038/s41598-017-08809-x

Ding, L. & Gallagher, M.J. (2016). Dynamics of sensorimotor cortex activation during absence and myoclonic seizures in a mouse model of juvenile myoclonic epilepsy. *Epilepsia, 57*(10), 1568-1580. doi: 10.1111/epi.13493

Dogra, D., Meza-Santoscoy, P.L., Gavrilovici, C., Rehak, R., de la Hoz, C.L.R., Ibhazehiebo, K., Rho, J.M., Kurrasch, D.M.. (2023). kcna1a mutant zebrafish model episodic ataxia type 1 (EA1) with epilepsy and respond to first-line therapy carbamazepine. *Epilepsia*,, May 2023. doi: 10.1111/epi.17659

Dong, H-W., Weiss, K., Baugh, K., Meadows, M.J., Niswender, C.M., Neul, J.L. (2024). Potentiation of the muscarinic acetylcholine receptor 1 modulates neurophysiological features in a mouse model of Rett syndrome. *Neurotherapeutics,* 15 June 2024, e00384. doi: 10.1016/j.neurot.2024.e00384

Dong, H-W., Weiss, K., Dickerson, JW., Meadows, MJ., Zagol-Ikapitte, I., Boutaud, O., Rook, JM., Neul, JL., Niswender, CM. (2025). Potentiation of group III metabotropic glutamate receptors positively affects neurophysiological features in a mouse model of Rett syndrome. *The Journal of Pharmacology and Experimental Therapeutics,* Volume 392, Issue 6, June 2025, 103602. doi: 10.1016/j.jpet.2025.103602

Dong, P., Zhang, Y., Hunanyan, A.S., Yang, H. (2022) Neuronal mechanism of a BK channelopathy in absence epilepsy and dyskinesia. *PNAS,* 119 (12) e2200140119. doi: 10.1073/pnas.2200140119

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Dong, H-W., Weiss, K., Baugh, K., Meadows, M.J., Niswender, C.M., Neul, J.L. (2024). Potentiation of the muscarinic acetylcholine receptor 1 modulates neurophysiological features in a mouse model of Rett syndrome. *Neurotherapeutics,* 15 June 2024, e00384. doi: 10.1016/j.neurot.2024.e00384

Dorgans, K., Salvi, J., Bertaso, F., Bernard, L., Lory, P., Doussau, F., & Mezghrani, A. (2017). Characterization of the dominant inheritance mechanism of Episodic Ataxia type 2. *Neurobiology of Disease, 106*, 110-123. doi: 10.1016/j.nbd.2017.07.004

Drumm, M.R. (2023). Defining and Altering the Natural Trajectories of Glioma: Seizures and Brainstem Infiltration. *Dissertation.* Northwestern University ProQuest Dissertations Publishing, 2023. 30488018. https://www.proquest.com/openview/3f0aa0d0be4a93a62a60e726de207ed9/1?pq-origsite=gscholar&cbl=18750&diss=y

Drumm, M.R., Wang, W., Sears, T.K., Bell-Burdett, K., Javier, R., Cotton, K.Y., Webb, B., Byrne, K., Unruh, D., Thirunavu, V., Walshon, J., Steffens, A., McCortney, K., Lukas, R.V., Phillips, J.J., Mohamed, E., Finan, J.D., Santana-Santos, L., Heimberger, A.B., Franz, C.K., Kurz, J., Templer, J.W., Swanson, G.T., Horbinski, C. (2023). Postoperative risk of IDH-mutant glioma–associated seizures and their potential management with IDH-mutant inhibitors. *J Clin Invest.,* 2023;133(12):e168035. doi: 10.1172/JCI168035.

Drysdale, N.D., Matthews, E., Schuetz, E., Pan, E., McNamara, J.O. (2021) Intravenous kainic acid induces status epilepticus and late onset seizures in mice. *Epilepsy Research,* Volume 178, December 2021, 106816. doi: 10.1016/j.eplepsyres.2021.106816

Duffy, A.M, Morales-Corraliza, J., Bermudez-Hernandez, K. M., Schaner M. J., Magagna-Poveda, A., Mathews, P. M., & Scharfman, H. E. (2015). Entorhinal cortical defects in Tg2576 mice are present as early as 2-4 months of age. *Neurobiology of Aging, 36*(1), 134-148. doi: 10.1016/j.neurobiolaging.2014.07.001

Dunn, R., Queenan, B.N., Pak, D.T.S., & Forcelli, P.A. (2018). Divergent effects of levetiracetam and tiagabine against spontaneous seizures in adult rats following neonatal hypoxia. *Epilepsy Research, 140*, 1-7. doi: 10.1016/j.eplepsyres.2017.12.006

Dutton, S.B.B., Dutt, K. Papale, L.A., Helmers, S., Goldin, A.L., & Escayg, A. (2017). Early-life febrile seizures worsen adult phenotypes in *Scn1a* mutants. *Experimental Neurology, 293*, 159-171. doi: 10.1016/j.expneurol.2017.03.026

Dutton, S.B., Makinson, C.D., Papale, L.A., Shankar, A., Balakrishnan, B., Nakazawa, K., & Escayg, A. (2013). Preferential inactivation of *Scn1a* in parvalbumin interneurons increases seizure susceptibility. *Neurobiology of Disease, 49,* 211-220. doi: 10.1016/j.nbd.2012.08.012

Edwards, D.A., Shah, H.P., Cao, W., Gravenstein, N., Suebert, C.N., & Martynyuk, A.E. (2010). Bumetanide alleviates epileptogenic and neurotoxic effects of sevoflurane in neonatal rat brain. *Anesthesiology, 112*(3), 567-575. doi: 10.1097/ALN.0b013e3181cf9138

Eshevarria-Cooper, D.M. (2023). Factors Modifying Neurodevelopmental Disorder-Related Phenotypes in Scn2aK1422E Mice. *Dissertation.* Northwestern University ProQuest Dissertations Publishing, 2023. 30313230. https://www.proquest.com/openview/eab060af1b5723357f1df8cbf6e2477e/1?pq-origsite=gscholar&cbl=18750&diss=y

Eun, B-L., Abraham, J., Misna, L., Kim, M.J., & Koh, S. (2015). Lipopolysaccharide potentiates hyperthermia-induced seizures. *Brain and Behavior, 5*(8). doi: 10.1002/brb3.348

Feinberg, P.A., Becker, S.C., Chung, L., Ferrari, L., Stellwagen, D., Anaclet, C., Duran-Laforet, V., Faust, T.E., Sumbria, R.K., Schafer, D.P. (2022) Elevated TNF-α leads to neural circuit instability in the absence of Interferon Regulatory Factor 8. *Journal of Neuroscience,* 5 July 2022, JN-RM-0601-22. doi: 10.1523/JNEUROSCI.0601-22.2022

Fernandez, A.M., Gutekunst, C-A., Grogan, D.P., Pedersen, N.P., Gross, R.E. (2022) Loss of efferent projections of the hippocampal formation in the mouse intrahippocampal kainic acid model. *Epilepsy Research,* Volume 180, February 2022, 106863. doi: 10.1016/j.eplepsyres.2022.106863

Fisher, D.W., Luu, P., Agarwal, N., Kurz, J.E., & Chetkovich, D.M. (2018). Loss of HCN2 leads to delayed gastrointestinal motility and reduced energy intake in mice. *PLoS ONE, 13*(2), e0193012. doi: 10.1371/journal.pone.0193012

Foley, J., Burnham, V., Tedoldi, M., Danial, N.N., & Yellen, G. (2018). BAD knockout provides metabolic seizure resistance in a genetic model of epilepsy with sudden unexplained death in epilepsy. *Epilepsia, 59*(1), e1-e4. doi: 10.1111/epi.13960

Fremont, R., Tewari, A., & Khodakhah, K. (2015). Aberrant Purkinje cell activity is the cause of dystonia in a shRNA-based mouse model of rapid onset Dystonia-Parkinsonism. *Neurobiology of Disease*, *82*, 200-212. doi: 10.1016/j.nbd.2015.06.004

Frey, L., Lepkin, A., Schickedanz, A., Huber, K., Brown, M.S., & Serkova, N. (2014). ADC mapping and T1-weighted signal changes on post-injury MRI predict seizure susceptibility after experimental traumatic brain injury. *Neurological Research, 36*(1), 26-37. doi: 10.1179/1743132813Y.0000000269 http://www.maneyonline.com/doi/abs/10.1179/1743132813Y.0000000269

Fruh, S., Boudkkazi, S., Koppensteiner, P., Sereikaite, V., Chen, L-Y., Fernandez-Fernandez, D., Rem, P.D., Ulrich, D., Schwenk, J., Chen, Z., Le Monnier, E.L., Fritzius, T., Innocenti, S.M., Besseyrias, V., Trovo, L., Stawarski, M., Argilli, E., Sherr, E.H., van Bon, B., Kamsteeg, E-J., Iascone, M., Pilotta, A., Cutri, M.R., Azamian, M.S., Hernandez-Garcia, A., Lalani, S.R., Rosenfeld, J.A., Zhao, X., Vogel, T.P., Ona, H., Scott, D.A., Scheiffele, P., Stromgaard, K., Tafti, M., Gassman, M., Fakler, B., Shigemoto, R., Bettler, B. (2024). Monoallelic de novo AJAP1 loss-of-function variants disrupt trans-synaptic control of neurotransmitter release. *Früh et al., Sci. Adv.,* 10, eadk5462 (2024). doi: 10.1126/sciadv.adk5462

Fu, C., Cawthon, B., Clinkscales, W., Bruce, A., Winzenburger, P., & Ess, K.C. (2012). GABAergic interneuron development and function is modulated by the Tsc1 gene. *Cerebral Cortex, 22*(9), 2111-2119. doi: 10.1093/cercor/bhr300

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Fulton, R.E., Pearson-Smith, J.N., Huynh, C.Q., Fabisiak, T., Liang, L-P., Aivazidis, S., High, B.A., Buscaglia, G., Corrigan, T., Valdez, R., Shimizu, T., Patel, M.N. (2021). Neuron-specific mitochondrial oxidative stress results in epilepsy, glucose dysregulation and a striking astrocyte response. *Neurobiology of Disease*, 8 August 2021, 105470. doi: 10.1016/j.nbd.2021.105470

Funada, M. & Takebayashi-Ohsawa, M. (2018). Synthetic cannabinoid AM2201 induces seizures: Involvement of cannabinoid CB_1 receptors and glutamatergic transmission. *Toxicology and Applied Pharmacology, 338*, 1-8. doi: 10.1016/j.taap.2017.10.007

Funck, V.R., Ribeiro, L.R., Pereira, L.M., de Oliveira, C.V., Grigoletto, J., Della-Pace, I.D., Fighera, MR., Royes, LFF., Furian, AF., Larrick, JW., Oliveira, M.S. (2015). Contrasting effects of Na+, K+-ATPase activation on seizure activity in acute versus chronic models. *Neuroscience, 298,* 171-179. doi: 10.1016/j.neuroscience.2015.04.031

Galanopoulou, A.S. (2008). Dissociated gender-specific effects of recurrent seizures on GABA signaling in CA1 pyramidal neurons: Role of $GABA_A$ receptors. *Journal of Neuroscience, 28*(7), 1557-1567. doi: 10.1523/JNEUROSCI.5180-07.2008

Galanopoulou, A.S. & Moshé, S.L. (2017). Infantile spasms. *Models of Seizures and Epilepsy,* (2), Chapter 66, 977-993. doi: 10.1016/B978-0-12-804066-9.00068-7

Ghirardini, E., Sagona, G., Marquez-Galera, A., Calugi, F., Navarron, C.M., Cacciante, F., Chen, S., Di Vetta, F., Dada, L., Mazziotti, R., Lupori, L., Putignano, E., Baldi, P., Lopez-Atalaya, J.P., Pizzorusso, T., Baroncelli, L. (2023) Cell-specific vulnerability to metabolic failure: the crucial role of parvalbumin expressing neurons in creatine transporter deficiency. *Acta Neuropathologica Communications,* 11, 34 (2023). doi: 10.1186/s40478-023-01533-w

Giménez-Cassina, A., Martínez-François, J.R., Fisher, J.K., Szlyk, B., Polak, K., Wiwczar, J., Tanner, G.R., Lutas, A., Yellen, G., Danial, N.N. (2012). BAD-dependent regulation of fuel metabolism and KATP channel activity confers resistance to epileptic seizures. *Neuron, 74*(4), 719-730. doi: 10.1016/j.neuron.2012.03.032

Girard, B., Tuduri, P., Moreno, M.P. Sakkaki, S., Barboux, C., Bouschet, T., Varrault, A., Vitre, J., McCort-Tranchepain, I., Dairou, J., Archer, F., Fagni, L., Marchi, N., Perroy, J., Bertaso, F. (2019) The mGlu7 receptor provides protective effects against epileptogenesis and epileptic seizures. (2019) bioRxiv. doi: 10.1101/514844

Glushakov, A. V., Glushakova, O. Y., Doré, S., Carney, P. R., & Hayes, R. L. (2016). Animal models of posttraumatic seizures and epilepsy. *Injury Models of the Central Nervous System: Methods in Molecular Biology, 1462*, 481-519. doi: 10.1007/978-1-4939-3816-2_27

Gong, L., Huang, X., Hu, Z., Chen, C., Zhang, Z., Liao, H., Xiao, Y., Fan, J., Zeng, L., Chen, S., Xie, Y. (2024). Altered functional connectivity after pilocarpine-induced seizures revealed by intrinsic optical signals imaging in awake mice. *Neurophotonics,* 015001-1, Jan-Mar 2024, Vol 11(1). https://www.spiedigitallibrary.org/journals/Neurophotonics

Gonzalez, E.A., Rindy, A.C., Guignet, M.A., Calsbeek, J.J., Bruun, D.A., Dhir, A., Andrew, P., Saito, N., Rowland, D.J., Harvey, D.J., Rogawski, M.A., Lein, P.J. (2020). The Chemical Convulsant Diisopropylfluorophosphate (DFP) Causes Persistent Neuropathology in Adult Male Rats Independent of Seizure Activity. *Arch Toxicol. 2020 Jun;* 94(6): 2149–2162.. doi: 10.1007/s00204-020-02747-w

Gonzalez, M.I., Grabenstatter, H.L., Cea-Del Rio, C.A., Del Angel, Y.C., Carlsen, J., Laoprasert, R.P., White, A.M., Huntsman, M.M., Brooks-Kayal, A. (2015). Seizure-related regulation of $GABA_A$ in spontaneously epileptic rats. *Neurobiology of Disease, 77*, 246-256. doi: 10.1016/j.nbd.2015.03.001

Goz, R.U., Silas, A., Buzel, S., LoTurco, J.J. (2019) BRAFV600E Expression in Mouse Neuroglial Progenitors Increase Neuronal Excitability, Cause Appearance of Balloon-like cells, Neuronal Mislocalization, and Inflammatory Immune response. doi.org/10.1101/544973

Grauncke, A.C.B., Souza, T.L., Ribeiro, L.R., Brant, F., Machado, F.S., & Oliveira, M.S. (2016). Increased susceptibility to pentylenetetrazol following survival of cerebral malaria in mice. *Epilepsia*, *57*(7), e140-e145. doi: 10.1111/epi.13425

Greenwood, J.S.F., Wang, Y., Estrada, R.C., Ackerman, L., Ohara, P.T., & Baraban, S.C. (2009). Seizures, enhanced excitation, and increased vesicle number in *Lis1* mutant mice. *Annals of Neurology, 66*(5), 644-653. doi: 10.1002/ana.21775

Gu, J., Ke, P-Y., Zhang, X-Y., Liu, C., Yang, Y., Yu, M-L., Xu, Z-Z., Zhang, C-X, Dong, W. (2026). Neurophysiological and neuroinflammatory adaptations to seizure activity in aging. *Theranostics,* 2026 Jan 1;16(6):2721–2747. doi: 10.7150/thno.122246

Guan, Q., Wang, Z., Zhang, K., Liu, Z., Zhou, H., Cao, D., Mao, X. (2024). CRISPR/Cas9-mediated neuronal deletion of 5-lipoxygenase alleviates deficits in mouse models of epilepsy. *Journal of Advanced Research,* Volume 63, September 2024, Pages 73-90. doi: 10.1016/j.jare.2024.07.018

Guignet, M. Dhakal, K., Flannery, B.M., Hobson, B.A., Zolkowska, D., Dhir, A., Bruun, D.A., Li, S., Wahab, A., Harvey, D.J., Silverman, J.L., Rogawski, M.A., Lein, P.J. (2019) Persistaent behavior deficits, neuroinflammation, and oxidative stress in a rat model of acute organoposphate intoxication. Neurobiology Disease doi.org/10.1016/j.nbd.2019.03.019

Guo, H., Zhang, H., Zhang, C., Shen, Y., Jiang, L., Yang, M., Zhang, Y., Zhang, N., Zhang, R., Yu, R., Yang, Y., Tian, X. (2025). Deletion of SH2D5 alleviates epileptic seizures and NMDAR expression via autophagic degradation of STAT1. *JCI Insight,* 2025; 10(16):e191347. doi: 10.1172/jci.insight.191347

Guo, Q., Gan, J., Wang, E-Z., Wei, Y-M., Xu, J., Xu, Y., Zhang, F-F., Cui, M., Jia, M-X., Kong, M-J., Tang, Q-Y., Zhang, Z. (2025). Electrophysiological characterization of human KCNT1 channel modulators and the therapeutic potential of hydroquinine and tipepidine in KCNT1 mutation-associated epilepsy mouse model. *Acta Pharmacologica Sinica,* 46, pages1190–1204 (2025). doi: 10.1038/s41401-024-01457-8

Guo, Q., Lv, N., Ji, J-L., Gao, C., Liu, S-Y., Liu, Z-Y., Lin, X-T., Liu, Z-D., Wang, Y. (2025). Circular RNA hsa_circ_0000288 protects against epilepsy in mice by binding to and stabilizing caprin1 protein. *Acta Pharmacologica Sinica,* 46, pages pages1592–1609 (2025). doi: 10.1038/s41401-025-01486-x

Hajek, M.A. & Buchanan, G.F. (2016). Influence of vigilance state on physiologic consequences of seizures and seizure-induced death in mice. *Journal of Neurophysiology, 115*(5), 2285-2293. doi: 10.1152/jn.00011.2016

Haile, M.T., Khoja, S., de Carvalho, G., Hunt, R.F., Chen, L.Y. (2023). Conditional deletion of Neurexin-2 alters neuronal network activity in hippocampal circuitries and leads to spontaneous seizures. *Translational Psychiatry,*13, Article number: 97 (2023). doi: 10.1038/s41398-023-02394-6

Halawa, I. (2017). Acute symptomatic seizures: Clinical and experimental studies. *DiVa, Uppsala University,* (Doctoral dissertation). diva2:1071723

Han, Z., Chen, C., Christiansen, A., Ji, S., Lin, Q., Anumonwo, C., Liu, C., Leiser, S.C., Aznarez, I., Liau, G., Isom, L.L. (2020). Antisense oligonucleotides increase Scn1a expression and reduce seizures and SUDEP incidence in a mouse model of Dravet syndrome. *Science Translational Medicine,* Aug, 2020, Vol.12, Issue 558, eaaz6100. doi: 10.1126/scitranslmed.aaz6100

Hawkins, N.A., Jurado, M., Thaxton, T.T., Duarte, S.E., Barse, L., Tatsukawa, T., Yamakawa, K., Nishi, T., Kondo, S., Miyamoto, M., Abrahams, B.S., During, M.J., Kearney, J.A. (2021) Soticlestat, a novel cholesterol 24-hydroxylase inhibitor, reduces seizures and premature death in Dravet syndrome mice. *Epilepsia.* 2021;00:1– 13. doi: 10.1111/epi.17062

Hawkins, N.A. & Kearney, J. A. (2016). *Hlf* is a genetic modifier of epilepsy caused by voltage-gated sodium channel mutations. *Epilepsy Research*, *119*, 20-23. doi: 10.1016/j.eplepsyres.2015.11.016

Hawkins, N.A., Lewis, M., Hammond, R.S., Doherty, J.J., & Kearney, J.A. (2017). The synthetic neuroactive steroid SGE-516 reduces seizure burden and improves survival in a Dravet syndrome mouse model. *Scientific Reports, 7*. doi: 10.1038/s41598-017-15609-w

Hawkins, N.A., Martin, M.S., Frankel, W.N., Kearney, J.A., & Escayg, A. (2011). Neuronal voltage-gated ion channels are genetic modifiers of generalized epilepsy with febrile seizures plus. *Neurobiology of Disease, 41*(3), 655-660. doi: 10.1016/j.nbd.2010.11.016

Hawkins N.A., Zachwieja N.J., Miller A.R., Anderson L.L., & Kearney J.A. (2016). Fine mapping of a dravet syndrome modifier locus on mouse chromosome 5 and candidate gene analysis by RNA-seq. *PLoS Genetics, 12*(10), e1006398. doi: 10.1371/journal.pgen.1006398

Hawkins, N.A., Misra, S.N., Jurado, M., Vierra, N.C., Nguyen, K., Wren, L., George, A.L., Trimmer, J.S., Kearney, J.A. (2019) Epilepsy and neurobehavioral abnormalities in mice with a KCNBI pathogenic variant that alters conducting and non-conducting functions of K 2.1. *bioRxiv 770206*; doi.org/10.1101/770206

Hawkins, N.A., Misra, S.N., Jurado, M., Kang, S.K., Vierra, N.C., Nguyen, K., Wren, L., George, A.L, Trimmer, J.S., Kearney, J.A. (2020) Epilepsy and neurobehavioral abnormalities in mice with a dominant-negative KCNB1 pathogenic variant. *Neurobiology of Disease, 105141*; doi: 10.1016/j.nbd.2020.105141

He, D. Xu, H. Zhang, H. Tang, R. Lan, Y., Xing, R. Li, S., Christian, E., Hou, Y., Lorello, P. Caldarone, B., Ding, J., Nguyen, L., Dionne, D., Thakore, P., Schnell, A., Huh, J.R., Rozenblatt-Rosen, O., Kuchroo, V.K. (2022) Disruption of the IL-33-ST2-AKT signaling axis impairs neurodevelopment by inhibiting microglial metabolic adaptation and phagocytic function. *Immunity,* Volume 55, Issue 1, December 2022, Pages 159-173.e9. doi: 10.1016/j.immuni.2021.12.001

Hedrick, T.P., Nobis, W.P., Foote, K.M., Ishii, T., Chetkovich, D.M., & Swanson, G.T. (2017). Excitatory synaptic input to hilar mossy cells under basal and hyperexcitable conditions. *eNeuro, 4*(6). doi: 10.1523/ENEURO.0364-17.2017

Henderson, K., Gupta, J., Tagliatela, S., Litvina, E., Zheng, X., Van Zandt, M., Woods, N., Grund, E., Lin, D., Royston, S., Yanagawa, Y., Aaron, G., Naegele, J. (2014). Long-term seizure suppression and optogenetic analyses of synaptic connectivity in epileptic mice with hippocampal grafts of GABAergic interneurons. *Journal of Neuroscience*, *34*(40), 13492-13504. doi: 10.1523/JNEUROSCI.0005-14.2014

Heuermann, R.J., Jaramillo, T.C., Ying, S-W., Suter, B.A., Lyman, K.A., Han, Y., Lewis, A.S., Hampton, T.G., Shepherd, G.M.G., Goldstein, P.A., Chetkovich, D.M. (2016). Reduction of thalamic and cortical I_h by deletion of TRIP8b produces a mouse model of human absence epilepsy. *Neurobiology of Disease*, *85*, 81-92. doi: 10.1016/j.nbd.2015.10.005

Heruye, SH., Matthews, SA, Iyer, SH., Deodhar, M., Warren, TJ., West, PJ., Simeone, KA., Simeone, TA. (2026). Targeted Reduction of Excessive Mitochondrial Superoxide by Mitoquinone Rescues Cognitive Impairment Without Affecting Spontaneous Recurrent Seizures in a Mouse Model of Temporal Lobe Epilepsy. *Antioxidants,* 2026, 15(2), 259. doi: 10.3390/antiox15020259

Hill, J.L., Jimenez, D.V., Mai, Y., Ren, M., Hallock, H.L., Maynard, K.R., Chen, H., Hardy, N.F., Schloesser, R.J., Maher, B.J., Yang, F., Martinowich, K. (2019) Cortistatin-expressing interneurons require TrkB signaling to suppress neural hyper-excitability. *Brain Struct Funct*. 224(1): 471-483 doi: 10.1007/s00429-018-1783-1

Hines, RM., Contreras, A. Carrillo, A., Paton, A., Tenorio, AJ., Maio, WA., Hines, D. (2025). Carvone derived cannabidiol enantiomers as novel anticonvulsants. *Neuropsychopharmacology,* 50, pages1970–1981 (2025). doi: 10.1038/s41386-025-02220-1

Hirano, T., Mikami, T. Yamada, S., Nagahama, H., Enatsu, R., Ookawa, S., Akiyama, Y., Mikuni, N. (2021). Pitfalls of Commonly Used Ischemic and Dementia Models Due to Early Seizure by Carotid Ligation. *Neurol Med Chir (Tokyo).* 2021 Mar 31. doi: 10.2176/nmc.oa.2020-0365

Hitt, B.D., Jaramillo, T.C., Chetkovich, D.M., & Vassar, R. (2010). BACE1$^{-/-}$ mice exhibit seizure activity that does not correlate with sodium channel level or axonal localization. *Molecular Neurodegeneration*, *5*(31). doi: 10.1186/1750-1326-5-31

Hobbib, RL., Vakilzadeh, G., Barriendos, DF., Del Angel, YC., Gonzalez, MI. (2025). Axon initial segment damage and hyperexcitability in a mutant mouse with increased calpain-dependent cleavage of αII-Spectrin. *Neurobiology of Disease,* Volume 217, December (2025). doi: 10.1016/j.nbd.2025.107156

Hoffman, P., Svalina, M.N., Flores, C., Brzezinski, C., Kushner, K., Staple, B., Franco, S., Alexander, A.L. (2023) Developmental Characterization of Neuronal Migration Anomalies and Axon Proliferation in mTOR pathway-associated Malformations of Cortical Development. *bioRxiv,* 2023.03.11.532231. doi: 10.1101/2023.03.11.532231

Hoffman, O.R., Patterson, A.M., Gohar, E.S., Coleman, E., Clemente Espina, J.E., Schoenike, B.A., Espinosa-Garcia, C., Paredes, F., Dingledine, R.J., Maguire, J.L., Roopra, A.S. (2023). Profound seizure suppression and disease modification by targeting JAK1, a key 2 driver of a pro-epileptogenic gene network.. *Preprint Department of Neuroscience, University of Wisconsin-Madison School of Medicine and Public Health*. doi: 10.21203/rs.3.rs-3932956/v1

Holden, K. & Hartman, A.L. (2018). D-Leucine: Evaluation in an epilepsy model. *Epilepsy & Behavior, 78*, 202-209. doi: 10.1016/j.yebeh.2017.09.003

Holmes, P.V., Reiss, J.I., Murray, P.S., Dishman, R.K., & Spradley, J.M. (2015). Chronic exercise dampens hippocampal glutamate overflow induced by kainic acid in rats. *Behavioural Brain Research*, *284*, 19-23. doi: 10.1016/j.bbr.2015.02.002

Hooper, A. (2017). Differential impact of hypothalamic and hippocampal corticotropin-releasing hormone neurons on stress, cognition, and seizure susceptibility. *ProQuest Dissertations Publishing, Tufts University,* (Doctoral dissertation). proquest.com/7b417a9d063695cf58cb4c9c6df53881

Hooper, A., Fuller, P.M., & Maguire, J. (2018). Hippocampal corticotropin-releasing hormone neurons support recognition memory and modulate hippocampal excitability. *PLoS ONE, 13*(1), e0191363. doi: 10.1371/journal.pone.0191363

Hooper, A., Paracha, R., & Maguire, J. (2018). Seizure-induced activation of the HPA axis increases seizure frequency and comorbid depression-like behaviors. *Epilepsy & Behavior, 78,* 124-133. doi: 10.1016/j.yebeh.2017.10.025

Howard, M.A., Rubenstein, J.L.R., & Baraban, S.C. (2013). Bidirectional homeostatic plasticity induced by interneuron cell death and transplantation *in vivo*. *Proceedings of the National Academy of Sciences of the United States of America, 111*(1), 492-497. doi: 10.1073/pnas.1307784111

Howe, C.L., LaFrance-Corey, R.G., Overlee, B.L., Johnson, R.K., Clarkson, B.D.S., Goddery, E.N. (2022) Inflammatory monocytes and microglia play independent roles in inflammatory ictogenesis. University of Kentucky. doi: 10.13023/etd.2021.442

Hsieh, L.S., Wen, J.H., Claycomb, K., Huang, Y., Harrsch, F.A., Naegele, J.R., Hyder, F., Buchanan, G.F., Bordey, A. (2016). Convulsive seizures from experimental focal cortical dysplasia occur independently of cell misplacement. *Nature Communications*, *7*. doi: 10.1038/ncomms11753

Hsieh, L.S., Wen, J.H., Nguyen, L., Zhang, L., Torres-Reveron, J., Spencer, D., Bordey, A. (2020). Ectopic HCN4 expression drives mTOR-dependent epilepsy. *bioRxiv* 853820. doi: 10.1101/853820

Hsieh, T-Y., Chang, Y., Wang, S-J. (2022) Piperine Provides Neuroprotection against Kainic Acid-Induced Neurotoxicity via Maintaining NGF Signalling Pathway. *Molecules,* 2022, 27(9), 2638. doi: 10.3390/molecules27092638

Hu, L., Liu, Y., Yuan, Z., Guo, H., Duan, R., Ke, P., Meng, Y., Tian, X., Xiao, F. (2024). Glucose-6-phosphate dehydrogenase alleviates epileptic seizures by repressing reactive oxygen species production to promote signal transducer and activator of transcription 1-mediated N-methyl-d-aspartic acid receptors inhibition. *Redox Biology,* 74, 2024. doi: 10.1016/j.redox.2024.103236

Hu, X., Zhou, X., He, W., Yang, J., Xiong, W., Wong, P., Wilson, C.G., Yan, R. (2010). BACE1 deficiency causes altered neuronal activity and neurodegeneration. *Journal of Neuroscience, 30*(26), 8819-8829. doi: 10.1523/JNEUROSCI.1334-10.2010

Hua, T. (2020). General Anesthetics Activate a Central Pain-Suppression Circuit in the Amygdala. *Department of Neurobiology, Duke University,* (Doctoral dissertation). https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/21450/Hua_duke_0066D_15805.pdf?sequence=1

Huang, X., McMahon, J., Yang, J., Shin, D., & Huang, Y. (2012). Rapamycin down-regulates KCC2 expression and increases seizure susceptibility to convulsants in immature rats. *Neuroscience*, *219*, 33-47. doi: 10.1016/j.neuroscience.2012.05.003

Huang, Y., Fan, L., Wong, MY., Lei, Z., Krishnamachary, B., Zhu, D., Cadiz, Nagiri, RK., Ye, P., Norman, K., Bhagwat, M., Lee, YJ., Zhu, J., Amin, S., Lauderdale, K., Chen, H., Luo, W., Gong, S., Liechty, BL., Palop, JJ., Sinha, SC., Wu, J., Zhao, M., Gan, L. (2026). cGAS-mediated IFN-I signaling contributes to disease progression in drug-refractory epilepsy. *Pre-print bioRxiv,* 2026.01.30.702860. doi: 10.64898/2026.01.30.702860

Hung, C-F., Chiu, W-C., Chen, J-C., Chuang, W-C., Wang, S-J. (2024). Taiwan Chingguan Yihau (NRICM101) prevents kainic acid-induced seizures in rats by modulating neuroinflammation and the glutamatergic system. *Preprint Research Square,* February 2024. doi: 10.21203/rs.3.rs-3932956/v1

Hunt, R.F., Girskis, K.M., Rubenstein, J.L., Alvarez-Buylla, A., & Baraban, S.C. (2013). GABA progenitors grafted into the adult epileptic brain control seizures and abnormal behavior. *Nature Neuroscience, 16*, 692-697. doi: 10.1038/nn.3392

Hyder, S.,K., Ghosh, A., Forcelli, P.A. (2022) Optogenetic activation of the superior colliculus attenuates spontaneous seizures in the pilocarpine model of temporal lobe epilepsy. *Epilepsia,* Nov 2022. doi: 10.1111/epi.17469

Ibhazehiebo, K., Gavrilovici, C., de la Hoz, C.L., Ma, S-C., Rehak, R., Kaushik, G., Santoscoy, PLM., Scott, L., Nath, N., Kim, DY., Rho, J.M., Kurrasch, D.M. (2018). A novel metabolism-based phenotypic drug discovery platform in zebrafish uncovers HDACs 1 and 3 as a potential combined anti-seizure drug target. *Brain, 141*(3), 744-761. doi: 10.1093/brain/awx364

Iffland, P.H. (2015). What doesn't kill you makes you stronger: The paradoxical effect of antibodies in epilepsy. *Kent State University,* (Doctoral dissertation). etd.ohiolink.edu/pg_10?0::NO:10:P10_ETD_SUBID:105042

Iffland, P.H., Everett, M.E., Cobb-Pitstick, K.M., Bowser, L.E., Barnes, A.E., Babus, J.K., Romanowski, A., Baybis, M., Puffenberger, E.G., Gonzaga-Jauregui, C., Poulopoulos, A., Carson, V.J., Crino, P.B. (2020) NPRL3: Direct Effects on Human Phenotypic Variability, mTOR Signaling, Subcellular mTOR Localization, Cortical Lamination, and Seizure Susceptibility. *bioRxiv* 2020.12.11.421214. doi: 10.1101/2020.12.11.421214

Iffland, II, P.H., Everett, M.E., Cobb-Pitstick, K.M., Bowser, L.E., Barnes, A.E., Babus, J.K., Romanowski, A.J., Baybis, M., Elziny, S., Puffenberger, E.G., Gonzaga-Jauregui, C., Poulopolos, A., Carson, V.J., Crino, P.B. (2022). NPRL3 loss alters neuronal morphology, mTOR localization, cortical lamination and seizure threshold. *Brain,* Volume 145, Issue 11, November 2022, Pages 3872–3885. doi: 10.1093/brain/awac044

Iyengar, S.S., LaFrancois, J.J., Friedman, D., Drew, L.J., Denny, C.A., Burghardt, N.S., Wu, M.V., Hsieh, J., Hen, R., Scharfman, H.E. (2015). Suppression of adult neurogenesis increases the acute effects of kainic acid. *Experimental Neurology, 264*, 135-149. doi: 10.1016/j.expneurol.2014.11.009

Iyer, SH., Matthews, SA., Hallgren, J., Netzel, L., Simeone, TA., Simeone, KA. (2026). A Longitudinal Study of the Effects of Ketogenic Diet on Seizures, Cardiorespiration, Sleep Architecture and Mortality in the Kv1.1 Knockout Mouse Model of Sudden Unexpected Death in Epilepsy (SUDEP). *Nutrients,* 2026, 18(5), 809. doi: 10.3390/nu18050809

Jain, S., LaFrancois, J.J., Gerencer, K., Botterill, J.J., Kennedy, M., Criscuolo, C., Scharfman, H.E. (2023). Increasing adult neurogenesis protects mice from epilepsy. *eLife,* 2023. doi: 10.7554/eLife.90893.1

Jain S., LaFrancois J.J., Botterill J.J., Alcantara-Gonzalez D., Scharfman H.E. (2019) Adult neurogenesis in the mouse dentate gyrus protects the hippocampus from neuronal injury following severe seizures. *Hippocampus.* doi:10.1002/hipo.23062.

Janicot, R., Shao, L.R., Stafstrom, C.E. (2020) 2-deoxyglucose and β-hydroxybutyrate fail to attenuate seizures in the betamethasone-NMDA model of infantile spasms. *Epilepsia,* Volume 7, Issue 1, 16 November. doi: 10.1002/epi4.12561

Janicot, R., Stafstrom, C.E., Shao, L.R.. (2020) 2-Deoxyglucose terminates pilocarpine-induced status epilepticus in neonatal rats. *Epilepsia,* 19 June. doi: 10.1111/epi.16583

Janicot, R., Stafstrom, C.E., Shao, L.R.. (2020) The efficacy of fructose-1,6-bisphosphate in suppressing status epilepticus in developing rats. *Epilepsy Research,* Volume 168. doi: 10.1016/j.eplepsyres.2020.106500

Janvier, A., Cresto, N., Nistreanu, C., Genin, A., Moujellil-Legagneur, T., Mathias, M., Vitalis, M., Fabene, P., Parrella, E., Zussy, C, Audinat, E., Givalois, L., Marchi, N. (2025). Neurophysiological and neuroinflammatory adaptations to seizure activity in aging. *Neurobiology of Disease,* Volume 217, December 2025, 107177. doi: 10.1016/j.nbd.2025.107177

Jarvis, R. Ng, S.F.J., Nathanson, A.J., Cardarelli, R.A., Abiraman, K., Wade, F., Evans-Strong, A., Fernandez-Campa, M.P., Deeb, T.Z., Smalley, J.L., Jamier, T., Gurrell, I.K., McWilliams, L., Kawatkar, A., Conway, L.C., Wang, Q., Burli, R.W., Brandon, N.J., Chessell, I.P., Goldman, A.J., Maguire, J.L., Moss, S.J. (2023) Direct activation of KCC2 arrests benzodiazepine refractory status epilepticus and limits the subsequent neuronal injury in mice. *Cell Reports Medicine,* 4, 100957. doi: 10.1016/j.xcrm.2023.100957

Jean, W-H., Huang, C-T., Hsu, J-H., Chiu, K-M., Lee, M-Y., Shieh, J-S., Lin, T-Y., Wang, S-J. (2022) Anticonvulsive and Neuroprotective Effects of Eupafolin in Rats Are Associated with the Inhibition of Glutamate Overexcitation and Upregulation of the Wnt/β-Catenin Signaling Pathway. *ACS Chem. Neurosci.* 2022, 13, 10, 1594–1603. doi: 10.1021/acschemneuro.2c00227

Joyal, KG., Boodhoo, NA., Buchanan, GF. (2025 MK-212 precipitates seizure-induced death in amygdala-kindled mice via a non-5-HT2C receptor-mediated mechanism. *Epilepsy & Behavior,* Volume 167, June 2025, 110385 (2025). doi: 10.1016/j.yebeh.2025.110385

Kadam, S.D. (2017). Compositions and methods for treating refractory seizures. *United States Patent Application 20170281579, Location: The John Hopkins University, Kennedy Krieger Institute, Inc.,* (US Patent). freepatentsonline.com/y2017/0281579

Kang, J., Kadam, S.D., Elmore, J.S., Sullivan, B.J., Valentine, H., Malla, A.P., Harraz, M.M., Rahmim, A., Kang, J.U., Loew, L.M., Baumann, M., Grace, A.A., Gjedde, A., Boctor, E.M., Wong, D.F. (2018). Transcranial photoacoustic imaging of NMDA-evoked focal circuit dynamics in rat forebrain. *bioRxiv*. doi: 10.1101/308585

Kang, J., Shen, W., Zhou, C., Xu, D., & Macdonald, R. (2015). The human epilepsy mutation *GABRG2*$^{+/Q390X}$ causes chronic subunit accumulation and neurodegeneration. *Nature Neuroscience*, *18*, 988-996. doi: 10.1038/nn.4024

Kang, J., Zhang, H.K., Kadam, S.D., Julie, F., Valentine, H., Yan, P., Harraz, M.M., Kang, J.U., Rahmim, A., Gjedde, A., Loew, L.M., Wong, D.F., Boctor, E.M. (2018). Transcranial *in vivo* recording of neural activity in the rodent brain with near-infrared photoacoustic voltage-sensitive dye imaging. *bioRxiv*. doi: 10.1101/202408

Kang, J., Zhang, H.K., Kadam, S.D., Fedorko, J., Valentine, H., Malla, A.P., Yan, P., Harraz, M.M., Kang, J.U., Rahmim, A., Gjedde, A., Loew, L.M., Wong, D.F., Boctor, E.M. (2019) Transcranial recording of electrophysiological neural activity in the rodent brain in vivo using functional photoacoustic imaging of near-infrared voltage-sensitive dye. *Front. Neurosci.* doi.org/10.3389/fnins.2019.00579

Kang, S.K., Ammanuel, S., Thodupunuri, S., Adler, D.A., Johnston, M.V., & Kadam, S.D. (2018). Sleep dysfunction following neonatal ischemic seizures are differential by neonatal age of insult as determined by qEEG in a mouse model. *Neurobiology of Disease, 116*, 1-12. doi: 10.1016/j.nbd.2018.04.012

Kang, S.K., Johnston, M.V., & Kadam, S.D. (2015). Acute TrkB-inhibition rescues phenobarbital-resistant seizures in a mouse model of neonatal ischemia. *European Journal of Neuroscience, 42*(10), 2792-2804. doi: 10.1111/ejn.13094

Kang, S.K., Markowitz, G.J., Kim, S.T., Johnston, M.V., & Kadam, S.D. (2015). Age- and sex-dependent susceptibility to phenobarbital-resistant neonatal seizures: Role of chloride co-transporters. *Frontiers in Cellular Neuroscience, 9*(173). doi: 10.3389/fncel.2015.00173

Kang, S.K., Ammanuel, S., Adler, D.A., Kadam, S.D. (2020) Rescue of PB-resistant neonatal seizures with single-dose of small-molecule TrkB antagonist show long-term benefits. *Epilepsy Res*. Jan;159:106249. doi:10.1016/j.eplepsyres.2019.106249

Kang, Y-J., Clement, E.M., Park, I-H., Greenfield Jr, L.J., Smith, B.N., Lee, S-H. (2021). Vulnerability of cholecystokinin-expressing GABAergic interneurons in the unilateral intrahippocampal kainate mouse model of temporal lobe epilepsy. *Experimental Neurology.* 342 (2021) 113724. doi: 10.1016/j.expneurol.2021.113724

Kasahara Y., Igata H, Sasaki, T., ,Ikegaya Y., Koyama, R., (2019) The pharmacological assessment of GABAA receptor activation in experimental febrile seizures in mice. *eNeuro*, doi: 10.1523/ENEURO.0429-18.2019

Kawano, S., Kouichi, I., Ishihara, Y. (2023). Suppressive Effects of Docosahexaenoic Acid Intake on Increased Seizure Susceptibility after Growth Due to Febrile Seizures in Infancy. *Biological and Pharmaceutical Bulletin,* 2023, Volume 46, Issue 9. doi: 10.1248/bpb.b23-00015

Kawano, S., Kouichi, I., Ishihara, Y. (2021). Maternal intake of docosahexaenoic acid decreased febrile seizure sensitivity by increasing estrogen synthesis in offspring. Epilepsy & Behavior, Volume 121, August 2021, Part A,108038. doi: 10.1016/j.yebeh.2021.108038

Keenan, R.J., Daykin, H., Metha, J., Cornthwaite-Duncan, L., Wright, D.K., Clarke, K., Oberrauch, S., Brian, M., Stephenson, S., Nowell, C.J., Allocca, G., Barnham, K.J., Hoyer, D., Jacobson, L.H. (2023). Factors Modifying Neurodevelopmental Disorder-Related Phenotypes in Scn2aK1422E Mice. *British Pharmacological Society,* 2023. doi: 10.1111/bph.16212

Kelley, M.R., Cardarelli, R.A., Smalley, J.L., Ollerhead, T.A., Andrew, P.M., Brandon, N.J., Deeb, T.Z., Moss, S.J. (2018). Locally reducing KCC2 activity in the hippocampus is sufficient to induce temporal lobe epilepsy. *EBioMedicine*. doi: 10.1016/j.ebiom.2018.05.029

Kharod, S.C., Carter, B.M., & Kadam, S.D. (2018). Pharmaco-resistant neonatal seizures: Critical mechanistic insights from a chemoconvulsant model. *Developmental Neurobiology*. doi: 10.1002/dneu.22634

Kharouf, Q., Phillips, A.M., Bleakley, L.E., Morrisroe, E., Oyrer, J., Jia, L., Ludwig, A., Jin, L., Nicolazzo, J.A., Cerbai, E., Romanelli, M.N., Petrou, S., Reid, C.A. (2020) The hyperpolarization-activated cyclic nucleotide-gated 4 channel as a potential anti-seizure drug target. *Br J Pharmacol. 2020;*177:3712–3729. doi: 10.1111/bph.15088

Kim, J.H., Chen, W., Chao, E.S., Rivera, A., Kaku, H.N., Jiang, K., Lee, D., Chen, H., Vega, J.M., Chin, T.V., Jin, K., Nguyen, K.T., Zou, S.S., Moin, Z., Nguyen, S., Xue, M. (2024). GABAergic/glycinergic and glutamatergic neurons mediate distinct neurodevelopmental phenotypes of STXBP1 encephalopathy. *The Journal of Neuroscience*, January 2023. doi: 10.1523/JNEUROSCI.1806-23.2024

Kim, M., Acharya, S., Botanas, C.J., Custodio, R.J., Lee, H.J., Sayson, L.V., Abiero, A., Lee, Y.S., Cheong, J.H., Kim, K.M., Kim, H.J. (2019) Catalpol and Mannitol, Two Components of Rehmannia glutinosa, Exhibit Anticonvulsant Effects Probably via GABA(A) Receptor Regulation. *Biomol Ther (Seoul).* Nov 18. doi: 10.4062/biomolther.2019.130

Kim, Y., Bravo, E., Thirnbeck, C.K., Smith-Mellecker, L.A., Kim, S.H., Gehlbach, B.K., Laux, L.C., Zhou, X., Nordli, D.R., Richerson, G.B. (2018). Severe peri-ictal respiratory dysfunction is common in Dravet syndrome. *Journal of Clinical Investigation, 128*(3), 1141-1153. doi: 10.1172/JCI94999

Kipnis, PA., Sullivan, BJ., Carter, BM., Kadam, S. (2020). TrkB-agonists prevent post-ischemic emergence of refractory neonatal 1seizures in mice. *Neuroscience Laboratory, Hugo Moser Research Institute at Kennedy Krieger; Baltimore, MD 21205, USA, Department of Neurology, Johns Hopkins University School of Medicine; Baltimore, MD 21205, USA*. doi: 10.1172/jci.insight.136007

Kirschen, G.W., Liu, H., Lang, T., Liang, X., Ge, S., & Xiong, Q. (2017). The radial organization of neuronal primary cilia is acutely disrupted by seizure and ischemic brain injury. *Frontiers in Biology, 12*(2), 124-138. doi: 10.1007/s11515-017-1447-1

Klaft, Z.-J., Duerrwald, L.M., Gerevich, Z., Dulla, C.G. (2020). The adenosine A1 receptor agonist WAG 994 suppresses acute kainic acid-induced status epilepticus in vivo. *Neuropharmacology, June*. doi: 10.1016/j.neuropharm.2020.108213

Klement, W., Garbelli, R., Zub, E., Rossini, L., Tassi, L., Girard, B., Blaquiere, M., Bertaso, F., Perroy, J., de Bock, F., Marchi, N. (2018). Seizure progression and inflammatory mediators promote pericytosis and pericyte-microglia clustering at the cerebrovasculature. *Neurobiology of Disease*. doi: 10.1016/j.nbd.2018.02.002

Klement, W., Blaquiere, M., Zub, E., deBock, F., Boux, F., Barbier, E., Audinat, E., Lerner-Natioli, M., Marchi, N. (2019) A pericyte-glia scarring develops at the leaky capillaries in the hippocampus during seizure activity. *Epilepsia*. doi: 10.1111/epi.16019

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Kruse S.W., Dayton K.G., Purnell B.S., Rosner J..I, Buchanan G.F. (2019). Effect of monoamine reuptake inhibition and α(1) blockade on respiratory arrest and death following electroshock-induced seizures in mice. *Epilepsia*. doi:10.1111/epi.14652

Lam, P.M., Carlsen, J., & Gonzalez, M.I. (2017). A calpain inhibitor ameliorates seizure burden in an experimental model of temporal lobe epilepsy. *Neurobiology of Disease*, *102*, 1-10. doi: 10.1016/j.nbd.2017.02.003

Larn, P.M.and Gonzalez, M.I. (2019) Calpain activation and neuronal death during early epileptogenesis. *Neurobiology Disease* 124: 141-151. doi.org/10.1016/j.nbd.2018.11.005

Lauková, M., Velíšková, J., Velíšek, L., & Shakarjian, M.P. (2018). Developmental and sex differences in tetramethylenedisulfotetramine (TMDT)-induced syndrome in rats. *Developmental Neurobiology*. doi: 10.1002/dneu.22582

Lazarini-Lopes, W., Campos-Rodriguez, C., Palmer, D., Gouemo, P.N., Garcia-Cairaco, N., Forcelli, P.A. (2021). Absence epilepsy in male and female WAG/Rij rats: A longitudinal EEG analysis of seizure expression. *Epilepsy Research*, Volume 176, October 2021,106693. doi: 10.1016/j.eplepsyres.2021.106693

Lee, K.L., Abiraman, K., Lucaj, C., Ollerhead, T.A., Brandon, N.J., Deeb, T.Z., Maguire, J. Moss, S.J. (2021) Inhibiting with-no-lysine kinases enhances K+/Cl− cotransporter 2 activity and limits status epilepticus. *Brain,* awab343. doi: 10.1093/brain/awab343

Lehnart, S.E., Mongillo, M., Bellinger, A., Lindegger, N., Chen, B-X., Hsueh, W., Reiken, S., Wronska, A., Drew, L.J., Ward, C.W., Lederer, W.J., Kass, R.S., Morley, G., Marks, A.R. (2008). Leaky Ca^{2+} release channel/ryanodine receptor 2 causes seizures and sudden cardiac death in mice. *Journal of Clinical Investigation, 118*(6), 2230-2245. doi: 10.1172/JCI35346

Leo, A., Citraro, R., Amodio, N., De Sarro, C., Cantafio, M.E.G., Constanti, A., De Sarro, G., Russo, E. (2017). Fingolimod exerts only temporary antiepileptogenic effects but longer-lasting positive effects on behavior in the WAG/Rij rat absence epilepsy model. *Neurotherapeutics*, 1-14. **doi: 10.1007/s13311-017-0550-y**

Leo, A., De Caro, C., Nesci, V., Palma, E., tallarico, M., Iannone, M., Constanti, A., De Sarro, G., Russo, E., Citraro, R. (2019) Antiepileptogenic effects of ethosuximide and levetiracetam in WAG/Rij rats are only temporary. *Pharmacological Rpts*. 71(5): 833-838 doi.org/10.1016/j.pharep.2019.04.017

Lewis, M.L., Kesler, M., Candy, S.A., Rho, J.M., & Pittman, Q.J. (2018). Comorbid epilepsy in autism spectrum disorder: Implications of postnatal inflammation for brain excitability. *Epilepsia, 59*(7), 1316-1326. doi: 10.1111/epi.14440

Li, H-T., Viskaitis, P., Bracey, E., Peleg-Raibstein, D., Burdakov, D. (2024). Transient targeting of hypothalamic orexin neurons alleviates seizures in a mouse model of epilepsy. *Nature Communications*, 15, Article number: 1249 (2024). doi: 10.1038/s41467-024-45515-5

Li, M., Jancovski, N., Jafar-Nejad, P., Burbano, L.E., Rollo, B., Richards, K., Drew, L., Sedo, A., Heighway, J., Pachernegg, S., Soriano, A., Jia, L., Blackburn, T., Roberts, B., Nemiroff, A., Dalby, K., Maljevic, S., Reid, C.A., Rigo, F., Petrou, S. (2021) Antisense oligonucleotide therapy reduces seizures and extends life span in an SCN2A gain-of-function epilepsy model. *J Clin Invest. 2021;131(23):e152079*. doi: 10.1172/JCI152079

Li, N., Xu, N., Lin, Y., Lei, L., Ju, L-S., Morey, T., Gravenstein, N., Zhang, J., Martynyuk, A. (2020). Roles of Testosterone and Estradiol in Mediation of Acute Neuroendocrine and Electroencephalographic Effects of Sevoflurane During the Sensitive Period in Rats. *Front. Endocrinol,* 30 September. doi: 10.3389/fendo.2020.545973

Li, P., Ji, X., Shan, M., Wang, Y., Dai, X., Yin, M., Liu, Y., Guan, L., Ye, L., Cheng, H. (2023). Melatonin regulates microglial polarization to M2 cell via RhoA/ROCK signaling pathway in epilepsy. *Immun Inflamm Dis.* (2023) Jun;11(6):e900. doi: 10.1002/iid3.900

Li, P., Fu, X., Smith, N.A., Ziobro, J., Curiel, J., Tenga, M.J., Martin, B., Freedman, S., Cea-Del Rio, C.A., Oboti, L., Tsuchida, T.N., Oluigbo, C., Yaun, A., Magge, S.N., O'Neill, B., Kao, A., Zelleke, T.G., Depositario-Cabacar, D.T., Ghimbovschi, S., Knoblach, S., Ho, CY., Corbin, J.G., Goodkin, H.P., Vicini, S., Huntsman, M.M., Gaillard, W.D., Valdez, G., Liu, J.S. (2017). Loss of CLOCK results in dysfunction of brain circuits underlying focal epilepsy. *Neuron, 96,* 387-401. doi: 10.1016/j.neuron.2017.09.044

Lin, Y., Lei, L., Ju, L-S., Xu, N., Morey, T.E., Gravenstein, N., Yang, J., Martynyuk, A.E. (2020). Neonatal exposure to sevoflurane expands the window of vulnerability to adverse effects of subsequent exposure to sevoflurane and alters hippocampal morphology via decitabine-sensitive mechanisms. *Neuroscience Letters,* Volume 735, September. doi: 10.1016/j.neulet.2020.135240

Lisgaras, C.P., Scharfman, H.E. (2022) Robust chronic convulsive seizures, high frequency oscillations, and human seizure onset patterns in an intrahippocampal kainic acid model in mice. *Neurobiology of Disease, May* 2022,105637. doi: 10.1016/j.nbd.2022.105637

Lisgaras, C.P., Scharfman, H.E. (2022) High-frequency oscillations (250–500 Hz) in animal models of Alzheimer's disease and two animal models of epilepsy. *Epilepsia 2022*. doi: 10.1111/epi.17462

Lisgaras, CP., Scharfman, HE. (2026). Opposing interictal dynamics in Alzheimer's disease and epilepsy. *Progress in Neurobiology,* Volume 256, January 2026, 102844. doi: 10.1016/j.pneurobio.2025.102844

Liu, J., Ke, P., Guo, H., Gu, J., Liu, Y., Tian, X., Wang, X., Xiao, F. (2023). Activation of TLR7-mediated autophagy increases epileptic susceptibility via reduced KIF5A-dependent GABAA receptor transport in a murine model. *Experimental & Molecular Medicine* (2023). doi: 10.1038/s12276-023-01000-5

Mao, M., Jancovski, N., Kushner, Y., Teasdale, L., Truong, P., Zhou, K., Reid, S., Jia, L., Aung, YH., Li, M., Reid, C.A., Byars, S., Scheffer, I., Petrou, S., Maljevic, S. (2024). Developmental dysfunction in a preclinical model of Kcnq2 developmental and epileptic encephalopathy. *Neurobiology of Disease,* 2024; 106782. doi: 10.1016/j.nbd.2024.106782

MacKenzie, G. & Maguire, J. (2015). Chronic stress shifts the GABA reversal potential in the hippocampus and increases seizure susceptibility. *Epilepsy Research*, 109, 13-27. doi: 10.1016/j.eplepsyres.2014.10.003

MacKenzie, G., O'Toole, K.K., & Maguire, J. (2016). Compromised GABAergic inhibition contributes to tumor-associated epilepsy. Epilepsy Research, 126, 185-196. doi: 10.1016/j.eplepsyres.2016.07.010

Mallmann, M.P., Mello, F.K., Neuberger, B., de Costa Sobral, K.G., Fighera, M.R., Freire Royes, L. F., Furian, A.F., Schneider Oliveira, M. (2022) Beta-caryophyllene attenuates short-term recurrent seizure activity and blood-brain-barrier breakdown after pilocarpine-induced status epilepticus in rats. *Brain Research. Volume 1784, 103838*. doi: 10.1016/j.brainres.2022.147883

Mao, R., Hu, M., Liu, X., Ye, L., Xu, B., Sun, M., Xu, S., Shao, W., Tan, Y., Xu, Y., Bai, F., Shu, S. (2024). Impairments of GABAergic transmission in hippocampus mediate increased susceptibility of epilepsy in the early stage of Alzheimer's disease. *Cell Communication and Signaling*, 22, Article number: 147 (2024). doi: 10.1186/s12964-024-01528-7

Marchi, N., Fan, Q., Ghosh, C., Fazio, V., Bertolini, F., Betto, G., Batra, A., Carlton, E., Najm, I., Granata, T., Janigro, D. (2009). Antagonism of peripheral inflammation reduces the severity of status epilepticus. *Neurobiology of Disease*, 33(2), 171-181. doi: 10.1016/j.nbd.2008.10.002

Marchi, N., Teng, Q., Ghosh, C., Fan, Q., Nguyen, M.T., Desai, N.K., Bawa, H., Rasmussen, P., Masaryk, T.K., Janigro, D. (2010). Blood-brain barrier damage, but not parenchymal white blood cells, is a hallmark of seizure activity. *Brain Research, 1353*, 176-186. doi: 10:1016/j.brainres.2010.06.051

Marincovich, A., Bravo, E., Dlouhy, B., Richerson, G.B. (2019) Amygdala lesions reduce seizure-induced respiratory arrest in DBA/1 mice. Epilepsy & Behavior, 106440, doi:10.1016/j.yebeh.2019.07.041

Marrocco, J., Mairesse, J., Ngomba, R.T., Silletti, V., Camp, G.V., Bouwalerh, H., Summa, M., Pittaluga, A., Nicoletti, F., Maccari, S., Morley-Fletcher, S. (2012). Anxiety-like behavior of prenatally stressed rats is associated with a selective reduction of glutamate release in the ventral hippocampus. *Journal of Neuroscience*, *32*(48), 17143-17154. doi: 10.1523/JNEUROSCI.1040-12.2012

Matthews, E.A., Harward, S., Marek, J., Drysdale, N.D., Schuetz, E., Krishnamurthy, K., McNamara, J.O. (2023). A simple, automated method of seizure detection in mouse models of temporal lobe epilepsy. *Epilepsy Research*, Volume 198, December 2023, 107256. doi: 10.1016/j.eplepsyres.2023.107256

Maugeri, A., Citraro, R., Leo, A., Russo, C., Navarra, M., De Sarro, G. (2025). GABAA Receptors Are Involved in the Seizure Blockage Prompted by a Polyphenol-Rich Extract of White Grape Juice in Rodents. *Pharmaceuticals,* 2025; 18(2), 186. doi: 10.3390/ph18020186

Mayengbam, S., Ellegood, J., Kesler, M., Reimer, R., Shearer, J., Murari, K., Rho, J.M., Lerch, J.P., Cheng, N. (2021) A ketogenic diet affects brain volume and metabolome in juvenile mice. *NeuroImage*,Volume 244,118542. doi: 10.1016/j.neuroimage.2021.118542

McMahon, J., Huang, X., Yang, J., Komatsu, M., Yue, Z., Qian, J., Zhu, X., Huang, Y. (2012). Impaired autophagy in neurons after disinhibition of mammalian target of rapamycin and its contribution to epileptogenesis. *Journal of Neuroscience, 32*(45), 15704-15714. doi: 10.1523/JNEUROSCI.2392-12.2012

McMahon, J., Yu, W., Yang, J., Feng, H., Helm, M., McMahon, E., Zhu, X., Shin, D., Huang, Y. (2015). Seizure-dependent mTOR activation in 5-HT neurons promotes autism-like behaviors in mice. *Neurobiology of Disease, 73*, 296-306. doi: 10.1016/j.nbd.2014.10.004

Melini, S., Trinchese, G., Lama, A., Cimmino, F., Del Piano, F., Comella, F., Opallo, N., Leo, A., Citraro, R., Trabace, L., Raso, G.M., Pirozzi, C., Mollica, M.P., Meli, R. (2024). Gender-Related Differences in Hepatic Inflammation, Lipid Metabolism and Mitochondrial Function Following Early Lipopolysaccharide Exposure in Epileptic WAG/Rij Rats. *Antioxidants,* 2024, 13(8), 957. doi: 10.3390/antiox13080957

Meng, Y., Wiseman, J.A., Nemtsova, Y., Moore, D.F., Guevarra, J., Reuhl, K., Banks, W.A., Daneman, R., Sleat, D.E., Lobel, P. (2017). A basic ApoE-based peptide mediator to deliver a therapeutic protein across the blood-brain barrier: long-term efficacy, toxicity and mechanism. *Molecular Therapy, 25*(7), 1531-1543. doi: 10.1016/j.ymthe.2017.03.037

Merker, HA., Betta, ID., Wilson, MA., Flores, FJ., Brown, EN. (2026). Time-frequency embedding with contrastive pre-training allows sub-second seizure detection. *Pre-print bioRxiv,* 2026.01.21.700017. doi: 10.64898/2026.01.21.700017

Mermer, F., Poliquin, S., Zhou, S., Wang, X., Ding, Y., Yin, F., Shen, W., Wang, J., Rigsby, K., Xu, D., Mack, T., Nwosu, G., Flamm, C., Stein, M., Kang, J-Q. (2022) Astrocytic GABA transporter 1 deficit in novel SLC6A1 variants mediated epilepsy: Connected from protein destabilization to seizures in mice and humans. *Neurobiology of Disease,* 2022,105810. doi: 10.1016/j.nbd.2022.105810

Mi, D.J., Dixit, S., Warner, T.A., Kennard, J.A., Scharf, D.A., Kessler, E.S., Moore, L.M., Consoli, D.C., Bown, C.W., Eugene, A.J., Kang, JQ., Harrison, F.E. (2018). Altered glutamate clearance in ascorbate deficient mice increases seizure susceptibility and contributes to cognitive impairment in *APP/PSEN1* mice. *Neurobiology of Aging*. doi: 10.1016/j.neurobiolaging.2018.08.002

Michela, M. (2024). Viral Delivery of Semaphorin 4D as an Emerging Treatment for Drug-Resistant Epilepsy. *Thesis, The Faculty of the Graduate School of Arts and Sciences, Brandeis University*. 2024. doi: 10.48617/etd.1233

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Miller, R., Paquette, J., Barker, A., Sapp, E., McHugh, N., Bramato, B. Yamada, N. Alterman, J., Echeveria, D., Yamada, K., Watts, J., Anaclet, C., DiFiglia, M., Khvorova, A., Aronin, N. (2024). Preventing acute neurotoxicity of CNS therapeutic oligonucleotides with the addition of Ca2+ and Mg2+ in the formulation. *bioRxiv [Preprint].* 2024 Jun 8:2024.06.06.597639. doi: 10.1101/2024.06.06.597639

Mistry, A.M., Thompson, C.H., Miller, A.R., Vanoye, C.G., George, A.L., & Kearney, J.A. (2014). Strain- and age-dependent hippocampal neuron sodium currents correlate with epilepsy severity in Dravet syndrome mice. *Neurobiology of Disease, 65*, 1-11. doi: 10.1016/j.nbd.2014.01.006

Mo, M., Ling, J., Wang, L, Deng, H., Su, Y., Wei, L., Tang, Y. (2025). Microglial P2Y12 Receptor Signaling Governs Epilepsy-Associated Neurogenesis via Bidirectional Regulation of Distinct Microglial Subpopulations. *Research Square,* 2025. doi: 10.21203/rs.3.rs-6558062/v1

Moore, Y.E., Deeb, T.Z., Chadchankar, H., Brandon, N.J., & Moss, S.J. (2018). Potentiating KCC2 activity is sufficient to limit the onset and severity of seizures. *Proceedings of the National Academy of Sciences*. doi: 010.1073/pnas.1810134115

Mortari, M.R., Cunha, A.O.S., dos Anjos, L.C., Amaral, H.O., Torres Quintanllha, M.V., Gelfuso, E.A., Homem-de-Mello, M., de Almeida, H., Rego, S., Maigret, B., Lopes, N.P., dos Santos, W.F. (2023) A new class of peptides from wasp venom: a pathway to antiepileptic/neuroprotective drugs. *Brain Communications 2023*. doi: 10.1093/braincomms/fcad016

Mu, C., Nikpoor, N. Tompkins, T.A., Rho, J.M., Scantlebury, M.H., Shearer, J. (2022) Probiotics counteract hepatic steatosis caused by ketogenic diet and upregulate AMPK signaling in a model of infantile epilepsy. *eBioMedicine. February 2022, 103838*. doi: 10.1016/j.ebiom.2022.103838

Mu, C., Choudhary, A., Mayenbam, S., Barrett, K.T. Rho, J.M., Shearer, J., Scantlebury, M.H. (2022) Seizure modulation by the gut microbiota and tryptophan-kynurenine metabolism in an animal model of infantile spasms. *eBioMedicine. 25 January 2022, 103833*. doi: 10.1016/j.ebiom.2022.103833

Mu, C., Nikpoor, N., Tompkins, T.A., Choudhary, A., Wang, M., Marks, W.N., Rho, J.M., Scantlebury, M.H., Shearer, J. (2022) Targeted gut microbiota manipulation attenuates seizures in a model of infantile spasms syndrome. *JCI insight,* June 2022, 7(12):e158521. doi: 10.1172/jci.insight.158521

Nathanson, A.J., Zhang, Y., Smalley, J.L. Ollerhead, T.A., Rodriguez-Santos, M.A., Andrews, P.M., Wobst, H.J., Moore, Y.E., Brandon, N.J., Hines, R.M., Davies, P.A., Moss, S.J. (2019) Identification of a Core Amino Acid Motif within the α Subunit of GABAARs that Promotes Inhibitory Synaptogenesis and Resilience to Seizures, *Cell Reports* 28(3) 670-681 doi: 10.1016/j.celrep.2019.06.014

Neuberger, E.J., Swietek, B., Corrubia, L., Prasanna, A., & Santhakumar, V. (2017). Enhanced dentate neurogenesis after brain injury undermines long-term neurogenic potential and promotes seizure susceptibility. *Stem Cell Reports, 9*(3), 972-984. doi: 10.1016/j.stemcr.2017.07.015

Nguyen, L., Mahadeo, T., Bordey, A. (2019). mTOR Hyperactivity Levels Influence the Severity of Epilepsy and Associated Neuropathology in an Experimental Model of Tuberous Sclerosis Complex and Focal Cortical Dysplasia. *Journal of Neuroscience* 3 April 2019, 39 (14) 2762-2773. doi: 10.1523/JNEUROSCI.2260-18.2019

Nguyen LH., Sharma, M., Bordey, A. (2023). 4E-BP1 expression in embryonic postmitotic neurons mitigates mTORC1-induced cortical malformations and behavioral seizure severity but does not prevent epilepsy in mice. *Front Neurosci,* 2023 Aug 23;17:1257056. doi: 10.3389/fnins.2023.1257056

Nguyen, L.H., Leiser, S.C., Song, D., Brunner, D., Roberds, S.L., Wong, M., Bordey, A. (2022) Inhibition of MEK-ERK signaling reduces seizures in two mouse models of tuberous sclerosis complex. *Epilepsy Research*, Volume 181,2022,106890. doi: 10.1016/j.eplepsyres.2022.106890

Nygaard, H.B., Kaufman, A.C., Sekine-Konno, T., Huh, L.L., Going, H., Feldman, S.J., Kostylev, M.A., Strittmatter, S.M. (2015). Brivaracetam, but not ethosuximide, reverses memory impairments in an Alzheimer's disease mouse model. *Alzheimer's Research and Therapy, 7*(1), 25. doi: 10.1186/s13195-015-0110-9

Obot, P., Velisek, L., Veliskova, J., Scemes, E. (2021). The contribution of astrocyte and neuronal Panx1 to seizures is model and brain region dependent. *bioRxiv,* 2021.01.12.426355. doi: 10.1101/2021.01.12.426355

Oliveira, C., de Oliveira, C.V., Grigoletto, J., Ribeiro, L.R., Funck, V.R., Grauncke, A.C., Lopes de Souza, T., Schiefelbein Souto, N., Flavia Furian, A., Alencar Menezes, I.R., Oliveira, M.S. (2016). Anticonvulsant activity of β-caryophyllene against pentylenetetrazol-induced seizures. *Epilepsy and Behavior*, *56*, 26-31. doi: 10.1016/j.yebeh.2015.12.040

Ono, T., Moshé, S.L., & Galanopoulou, A.S. (2011). Carisbamate acutely suppresses spasms in a rat model of symptomatic infantile spasms. *Epilepsia*, *52*(9), 1678-1684. doi: 10.111/j.1528-1167.2011.03173.x

Ou-Yang, M.H., Kurz, J.E., Nomura T., Popovic J., Rajapaksha T.W., Dong H., Contractor A., Chetkovich D.M., Tourtellotte W.G., & Vassar R. (2018) Axonal organization defects in the hippocampus of adult conditional BACE1 knockout mice. *Science Translational Medicine*. Sep 19;10(459). doi: 10.1126/scitranslmed.aao5620

O'Toole, K.K., Hooper, A., Wakefield, S., & Maguire, J. (2014). Seizure-induced disinhibition of the HPA axis increases seizure susceptibility. *Epilepsy Research, 108*(1), 29-43. doi: 10.1016/j.eplepsyres.2013.10.013

Palmer, D.D. (2024). Monitoring and Modulating the Substantia Nigra Pars Reticulata and Superior Colliculus in a Rat Model of Genetic Absence Epilepsy. *Dissertation, Graduate School of Arts and Sciences, Georgetown University,* 2024. https://www.proquest.com/openview/ac9b963a8f941b155844cba896c9a292/1?pq-origsite=gscholar&cbl=18750&diss=y

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Panthi, S. and Leitch, B. (2019) The impact of silencing feed-forward parvalbumin-expressing inhibitory interneurons in the cortico-thalamocortical network on seizure generation and behavior. *Neurobiology Disease* doi.org/10.1016/j.nbd.2019.104610

Papendorp, CM., Nolan, E., Higashimori, H., Goicouria, L., Pieplow, CA., Whitely, K., Elacio, J., Nie, D., Kavanaugh, B., Best, CR., Lizarraga, SB., Liu, JS. (2025). Mutations in ASH1L cause a neurodevelopmental disorder with sex differences in epilepsy and autism. *bioRxiv preprint,* 2025. doi: 10.1101/2025.02.21.639570

Park, S.M., Roache, C.E., Iffland II, P.H., Moldenhauer, H.J., Matychak, K.K., Plante, A.E., Lieberman, A.G., Crino, P.B., Meredith, A.L. (2022) BK channel properties correlate with neurobehavioral severity in three KCNMA1-linked channelopathy mouse models. *bioRxiv. 2022.02.15.478992*. doi: 10.1101/2022.02.15.478992

Pawlik, M.J., Obara-Michlewska, M., Popek, M.P., Czarnecka, A.M., Czuczwar, S.J., Luszczki, J., Kolodziej, M., Acewicz, A., Wierzba-Bobrowicz, T., Albrecht, J. (2021) Pretreatment with a glutamine synthetase inhibitor MSO delays the onset of initial seizures induced by pilocarpine in juvenile rats. *Brain Research, 147253*. doi: 10.1016/j.brainres.2020.147253

Pearson, J.N. (2016). Targeting oxidative damage to attenuate cognitive deficits associated with epileptogenesis. *University of Colorado Anschutz,* (Doctoral dissertation). hdl.handle.net/10968/1593

Pearson, J.N., Rowley, S., Liang, L-P., White, A.M., Day, B.J., & Patel, M. (2015). Reactive oxygen species mediate cognitive deficits in experimental temporal lobe epilepsy. *Neurobiology of Disease, 82*, 289-297. doi: 10.1016/j.nbd.2015.07.005

Pearson, J.N., Warren, E., Liang, L-P., Roberts, L.J., & Patel, M. (2017). Scavenging of highly reactive gamma-ketoaldehydes attenuates cognitive dysfunction associated with epileptogenesis. *Neurobiology of Disease*, *98*, 88-99. doi: 10.1016/j.nbd.2016.11.011

Peters, S., Fahrenkopf, A., Choquette, J., Vermilyea, S., Lee, M. Vossel, K. (2020). Ablating Tau Reduces Hyperexcitability and Moderates Electroencephalographic Slowing in Transgenic Mice Expressing A53T Human α-Synuclein. *frontiers in Neurology*, *2020.06.19*. doi: 10.3389/fneur.2020.00563

Petrucci, A.N., Jones, A.R., Kreitlow, B.L., Buchanan, G.F. (2024). Peri-ictal activation of dorsomedial dorsal raphe serotonin neurons reduces mortality associated with maximal electroshock seizures. Brain Communications, Volume 6, Issue 2, 2024, fcae052. doi: 10.1093/braincomms/fcae052

Petrucci, A., Joyal, K., Chou, J., Li, R., Vencer, K., Buchanan, G. (2020). Post-ictal generalized EEG suppression and seizure-induced mortality are reduced by enhancing dorsal raphe serotonergic neurotransmission. *bioRxiv*, *2020.06.28.172460*. doi: 10.1101/2020.06.28.172460

Petrucci, A.N., Joyal, K.G., Chou, J.W., Li, R., Vencer, K.M., Buchanan, G.F. (2020). Post-ictal Generalized EEG Suppression is reduced by Enhancing Dorsal Raphe Serotonergic Neurotransmission. *Neuroscience,* November. doi: 10.1016/j.neuroscience.2020.11.029

Pfammatter, J.A., Maganti, R.K., & Jones, M.V. (2019) An automated, machine learning-based detection algorithm for spike-wave discharges (SWDs) in a mouse model of absence epilepsy. *Epilepsia Open*. doi: 10.1002/epi4.12303

Phelan, K.D., Shwe, U.T., Abrabowitz, J., Bimbaumer, L., & Zheng, F. (2014). Critical role of canonical transient receptor potential channel 7 in initiation of seizures. *PNAS, 111*(31). doi: 10.1073/pnas.1411442111

Phelan, K.D., Shwe, U.T., Cozart, M.A., Wu, H., Mock, M.M., Abramowitz, J., Birnbaumer, L., Zheng, F. (2016). TRPC3 channels play a critical role in the theta component of pilocarpine-induced status epilepticus in mice. *Epilepsia*, *58*(2). doi: 10.1111/epi.13648

Phelan, K.D., Shwe, U.T., Williams, D.K., Greenfield, L.J., & Zheng, F. (2015). Pilocarpine-induced status epilepticus in mice: A comparison of spectral analysis of electroencephalogram and behavioral grading using the Racine scale. *Epilepsy Research, 117*, 90-96. doi: 10.1016/j.eplepsyres.2015.09.008

Pirone, A., Alexander, J., Lau, L. A., Hampton, D., Zayachkivsky, A., Yee, A., Yee, A., Jabob, M.H., Dulla, C.G. (2017). APC conditional knock-out mouse is a model of infantile spasms with elevated neuronal β-catenin levels, neonatal spasms, and chronic seizures. *Neurobiology of Disease*, *98*, 149-157. doi: 10.1016/j.nbd.2016.11.002

Potesta, CV., Cargile, MS., Yan, A., Xiong, S., Macdonald, RL., Gallagher, MJ., Zhou, C. (2025). Preoptic area influences sleep-related seizures in a genetic epilepsy mouse mode. *Cerebral Cortex,* Volume 35, Issue 7, July 2025, bhaf187, 2025. doi: 10.1093/cercor/bhaf187

Purnell, B.S., Hajek, M.A., & Buchanan, G.F. (2017). Time of day influences on respiratory sequelae following maximal electroshock induced seizures in mice. *Journal of Neurophysiology, 118*(5), 2592-2600. doi: 10.1152/jn.00039.2017

Purnell, B.S., Petrucci, A.N., Li, R., Buchanan, G.F. (2024). Effect of adenosinergic manipulations on amygdala-kindled seizures in mice: Implications for sudden unexpected death in epilepsy. *Epilepsia,* Volume 65, Issue 9 p. 2812-2826. doi: 10.1111/epi.18059

Radzicki, D., Yau, H-J., Pollema-Mays, S.L., Mlsna, L., Cho, K., Koh, S., & Martina, M. (2013). Temperature-sensitive Cav1.2 calcium channels support intrinsic firing of pyramidal neurons and provide a target for the treatment of febrile seizures. *Journal of Neuroscience*, *33*(24), 9920-9931. doi: 10.1523/JNEUROSCI.5482-12.2013

Qu, S., Catron, M., Zhou, C., Janve, V., Shen, W., Howe, R., Macdonald, R. (2020). GABAAreceptorb3 subunit mutation D120Ncauses Lennox–Gastaut syndrome in knock-inmice. *Brain Communications*. doi:10.1093/braincomms/fcaa028

Qu, S., Jackson, L.G., Zhou, C., Shen, D., Shen, W., Nwosu, G., Howe, R., Caltron, M., Flamm, C., Biven, M., Kang, J-Q., Macdonald, R.L. (2022) Heterozygous GABAA receptor β3 subunit N110D knock-in mice have epileptic spasms. *Epilepsia,* December 2022. doi: 10.1111/epi.17470

Raffo, E., Coppola, A., Ono, T., Briggs, S.W., & Galanopoulou, A.S. (2011). A pulse rapamycin therapy for infantile spasms and associated cognitive decline. *Neurobiology of Disease*, *43*(2), 322-329. doi: 10.1016/j.nbd.2011.03.021

Rajdev, P., Ward, M., & Irazoqui, P. (2011). Effect of stimulus parameters in the treatment of seizures by electrical stimulation in the kainate animal model. *International Journal of Neural Systems*, *21*(2), 151-162. doi: 10.1142/S0129065711002730

Ray, A., Canal, C.E., Ehlen, C., Rice, K.C., Murnane, K.S. (2019) M100907 and BD 1047 Attenuate the Acute Toxic Effects of Methamphetamine. *Neurotoxicology* doi:10.1016/j.neuro.2019.05.011

Ranasinghe, S., Or, G., Wang, E.Y., Ievins, A., McLean, M.A., Niell, C.M., Chau, V., Wong, PKH., Glass, H.C., Sullivan, J., McQuillen, P.S. (2015). Reduced cortical activity impairs development and plasticity after neonatal hypoxia ischemia. *Journal of Neuroscience*, *35*(34), 11946-11959. doi: 10.1523/jneurosci.2682-14.2015

Rakotomamonjy, J. Sabetfakhri, N.P., McDermott, S.L., Guemez-Gamboa, A. (2020). Characterization of seizure susceptibility in Pcdh19 mice. *Epilepsia*, *00:1–8*. doi: 10.1111/epi.16675

Richards, K.L., Milligan, C.J., Richardson, R.J., Jancovski, N., Grunnet, M., Jacobson, L.H., Undheim, EAB., Mobli, M., Chow, CY., Herzig, V., Csoti, A., Panyi, G., Reid, C.A., King, G.F., Petrou, S. (2018). Selective $Na_V1.1$ activation rescues Dravet syndrome mice from seizures and premature death. *Proceedings of the National Academy of Sciences USA*. doi: 10.1073/pnas.1804764115

Rivero-Echeto, M.C., Perissinotti, P.P., Gonzalez-Inchauspe, C., Kargieman, L., Bisagno, V., Urbano, F.J. (2020). Simultaneous administration of cocaine and caffeine dysregulates HCN and T-type channels. *Psychopharmacology,* November. doi: 10.1007/s00213-020-05731-5

Rodriguez, C.C., Palmer, D., Forcelii, P.A. (2023). Optogenetic stimulation of the superior colliculus suppresses genetic absence seizures. *Brain*, awad166. doi: 10.1093/brain/awad166

Rogawski, MA., Dhir, A. (2020). Mitigation of CNS disorders by combination therapy using neurosteroids, and AMPA blockers. *The Regents of the University of California (Oakland, CA, US)* 20200030304. freepatentsonline.com/y2020/0030304

Rogawski, M.A., Loya, C.M., Reddy, K., Zolkowska, D., & Lossin C. (2013). Neuroactive steroids for the treatment of status epilepticus. *Epilepsia, 54*(6), 93-98. doi: 10.1111/epi.12289

Rossignol, E., Kobow, K., Simonato, M., Loeb, J.A., Grisar, T., Gilby, K.L., Vinet, J., Kadam, S.D., Becker, A.J. (2014). WONOEP appraisal: New genetic approaches to study epilepsy. *Epilepsia, 55*(8), 1170-1186. doi: 10.1111/epi.12692

Royes, L.F.F, Gabbi, P., Ribeiro, L.R., Della-Pace, I.D., Rodrigues, F.S., de Oliveira Ferreira, A.P., Porto da Silveira Junior, ME., Hart da Silva, LR., Araujo Grisolia, AB., Braga, DV., Dobracinski, R., Oliveira da Silva, AMH., Antunes Soares, FA., Marchesan, S., Flavia Furian, A., Schneider Oliveira, M., Fighera, M.R. (2016). A neuronal disruption in redox homeostasis elicited by ammonia alters the glycine/glutamate (GABA) cycle and contributes to MMA-induced excitability. *Amino Acids, 48*(6), 1373-1389). doi: 10.1007/s00726-015-2164-1

Rulhe, C., Thirardi, S., Arias, J.A., Makrini, L., Fauvelle, F., Beyne, E., Dauve, A., Bouschet, T., Valjent, E., Bertaso, F. (2025). Daily intermittent fasting is an effective multiscale treatment in preclinical models of absence epilepsy. *bioRxiv preprint,* 2025. doi: 10.1101/2025.01.21.634091

Runtz, L., Girard, B., Toussenot, M., Espallergues, J., Fayd'Herbe De Maudave, A., Milman, A., Marchi, N. (2017). Hepatic and hippocampal cytochrome P450 enzyme overexpression during spontaneous recurrent seizures. *Epilepsia, 59*(1), 123-134. doi: 10.1111/epi.13942

Russell, J.F., Steckley, J.L, Coppola, G., Hahn, A.F.G., Howard, M.A., Kornberg, Z., Huang, A., Mirsattari, SM., Merriman, B., Klein, E., Choi, M., Lee, HY., Kirk, A., Nelson-Williams, C., Gibson, G., Baraban, S.C., Lifton, R.P., Geschwind, D.H., Fu, YH., Ptáček, L.J. (2012). Familial cortical myoclonus with a mutation in *NOL3*. *Annals of Neurology*, *72*(2), 175-183. doi: 10.1002/ana.23666

Santana-Coelho, D., Rogerio Souza-Monteiro, J., Paraense, R.S.O., Busanello, G.L., Arrifano, G.P.F., Mendonça, J.R., Silveira-Junior, MEP., Royes, LFF., Crespo-López, M.E. (2016). Antidepressant drugs in convulsive seizures: Pre-clinical evaluation of duloxetine in mice. *Neurochemistry International*, *99*, 62-71. doi: 10.1016/j.neuint.2016.06.001

Santhakumar, V., Subramanian, D., Eisenberg, C., Huang, A., Baek, J., Naveed, H., Komatireddy, S., Shiflett, M., Tran, T. (2024). Dysregulation of Neuropilin-2 Expression in Inhibitory Neurons Impairs Hippocampal Circuit Development Leading to Autism-Epilepsy Phenotype. *Preprint Research Square*, February 2024. doi: 10.21203/rs.3.rs-3922129/v1

Santos, A.C., Temp, F.R., Marafiga, J.R., Pillat, M.M., Hessel, A.T., Ribeiro, L.R., Miyazato, LG., Schneider Oliveira, M., Mello, C.F. (2017). EP2 receptor agonist ONO-AE1-259-01 attenuates pentylenetetrazole- and pilocarpine-induced seizures but causes hippocampal neurotoxicity. *Epilepsy & Behavior, 73*, 180-188. doi: 10.1016/j.yebeh.2017.03.033

Santos, V.R., Kobayashi, I., Hammack, R., Danko, G., Forcelli, P.A. (2018) Impact of strain, sex, and estrous cycle on gamma butyrolactone-evoked absence seizures in rats. *Epilepsy Research, 147*, 62-70. doi: 10.1016/j.eplepsyres.2018.09.007

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Saraf, T.S., McGlynn, R.P., Bhatavdekar, O.M., Booth, R.G., Canal, C.E. (2022) FPT, a 2-Aminotetralin, Is a Potent Serotonin 5-HT1A, 5-HT1B, and 5-HT1D Receptor Agonist That Modulates Cortical Electroencephalogram Activity in Adult Fmr1 Knockout Mice. *ACS Chemical Neuroscience 2022.* doi: 10.1021/acschemneuro.2c00574

Scantlebury, M.H., Galanopoulou, A.S., Chudomelova, L., Raffo, E., Betancourth, D., & Moshe, S.L. (2010). A model of symptomatic infantile spasms syndrome. *Neurobiology of Disease*, *37*(3), 604-612. doi: 10.1016/j.nbd.2009.11.011

Scemes E., Velíšek L., Velíšková J. (2019) Astrocyte and Neuronal Pannexin1 Contribute Distinctly to Seizures. *ASN Neuro*. 11:1759091419833502. doi: 10.1177/1759091419833502

Sebe, J.Y. & Baraban, S.C. (2010). The promise of an interneuron-based cell therapy for epilepsy. *Developmental Neurobiology*, *71*(1), 107-117. doi: 10.1002/dneu.20813

Seubert, C.N., Zhu, W., Pavlinec, C., Gravenstein, N., & Martynyuk, A.E. (2013). Developmental effects of neonatal isoflurane and sevoflurane exposure in rats. *Anesthesiology, 119*(2), 358-364. doi: 10.1097/ALN.0b013e318291c04e

Seybold, B.A., Stanco, A., Cho, K.K.A., Potter, G.B., Kim, C., Sohal, V.S., Rubenstein, J.L.R., & Schreiner, C.E. (2012). Chronic reduction in inhibition reduces receptive field size in mouse auditory cortex. *Proceedings of the National Academy of Sciences of the United States of America, 109*(34). doi: 10.1073/pnas.1205909109

Shakarjian, M.P., Ali, M.S., Veliskova, J., Stanton, P.K., Heck, D.E., & Velisek, L. (2015). Combined diazepam and MK-801 therapy provides synergistic protection from tetramethylenedisulfotetramine-induced tonic-clonic seizures and lethality in mice. *NeuroToxicology, 48*, 100-108. doi: 10.1016/j.neuro.2015.03.007

Shandra O., Robel, S. (2020) Inducing Post-Traumatic Epilepsy in a Mouse Model of Repetitive Diffuse Traumatic Brain Injury. *J. Vis. Exp.* (156), e60360. doi:10.3791/60360

Shandra O., Winemiller A.R., Heithoff B.P., Munoz-Ballester C., George K., Benko M.J., Zuidhoek I., Besser M.N., Curley D.E., Edwards G.F. 3rd, Mey A., Harrington A.N., Kitchen J.P., Robel S. (2019) Repetitive Diffuse Mild Traumatic Brain Injury Causes an Atypical Astrocyte Response and Spontaneous Recurrent Seizures. *J Neurosci*. doi: 10.1523/JNEUROSCI.1067-18.2018

Shao, L-R., Gao, F., Chinnasamy, V., Kazuki, Y., Oshimura, M., Reeves, R.H., Stafstrom, C.E.. (2023). Increased propensity for infantile spasms and altered neocortical excitation-inhibition balance in a mouse model of down syndrome carrying human chromosome 21. *Neurobiology of Disease*, Volume 184, 2023. doi: 10.1016/j.nbd.2023.106198

Shao, C., Chen, Z-P., Yan, C., Qian, Y. (2022) 3D tracking of ferrous iron in the epileptic mouse brain and screening of iron homeostasis regulators with a two-photon fluorescent probe. *STAR Protocols,* Volume 3, Issue 3, 16 September 2022, 101522. doi: 10.1016/j.xpro.2022.101522

Shao, C. Liu, Y., Chen, Z., Qin, Y., Wang, X., Wang, X., Yan, C., Zhu, H-L., Zhao, J., Qian, Y. (2021) 3D two-photon brain imaging reveals dihydroartemisinin exerts antiepileptic effects by modulating iron homeostasis. *Cell Chemical Biology. 2021; ISSN 2451-9456*. doi: 10.1016/j.chembiol.2021.12.006

Shearer, J., Scantlebury, M.H., Rho, J.M., Tompkins, T.A., Mu, C. (2023). Intermittent vs continuous ketogenic diet: Impact on seizures, gut microbiota, and mitochondrial metabolism. *Epilepsia*, Volume 64, Issue 8, August 2023. doi: 10.1101/2023.12.10.570964

Shih, A.Y., Driscoll, J.D., Drew, P.J., Nishimura, N., Schaffer, C.B., & Kleinfeld, D. (2012). Two-photon microscopy as a tool to study blood flow and neurovascular coupling in the rodent brain. *Journal of Cerebral Blood Flow and Metabolism, 32*(7), 1277-1309. doi: 10.1038/jcbfm.2011.196

Shin, M., Brager, D., Jaramillo, T.C., Johnston, D., & Chetkovich, D.M. (2008). Mislocalization of h channel subunits underlies h channelopathy in temporal lobe epilepsy. *Neurobiology of Disease, 32*(1), 26-36. doi: 10.1016/j.nbd.2008.06.013

Silayeva, L., Deeb, T.Z., Hines, R.M., Kelley, M.R., Munoz, M.B., Lee, H.H.C., Brandon, N.J., Dunlop, J., Maguire, J., Davies, P.A., Moss, S.J. (2015). KCC2 activity is critical in limiting the onset and severity of status epilepticus. *Proceedings of the National Academy of Sciences, 112*(11), 3523-3528. doi: 10.1073/pnas.1415126112

Simeone, K.A., Matthews, S.A., Samson, K.K., & Simeone, T.A. (2014). Targeting deficiencies in mitochondrial respiratory complex I and functional uncoupling exerts anti-seizure effects in a genetic model of temporal lobe epilepsy and in a model of acute temporal lobe seizures. *Experimental Neurology, 251*, 84-90. doi: 10.1016/j.expneurol.2013.11.005

Simeone, T.A., Matthews, S.A., Samson, K.K., & Simeone, K.A. (2017). Regulation of brain PPARγ2 contributes to ketogenic diet anti-seizure efficacy. *Experimental Neurology, 287*(1), 54-64. doi: 10.1016/j.expneurol.2016.08.006

Soars Lopes, K., Torres Quintanilha, M.V., Barros de Souza, A.C., Zamudio-Zuniga, F., Domingos Possani, L, Renata Mortari, M. (2021). Antiseizure potential of peptides from the venom of social wasp Chartergellus communis against chemically-induced seizures. *Toxicon,* Volume 194, 30 April 2021, Pages 23-36. doi: 10.1016/j.toxicon.2021.02.009

Soh, MS., Hu, A., Kuanyshbek, A., Syazwan, ESM., Lee, HM., McKenzie, CE., Phillips, AM., Bleakley, LE., Semsarian, C., Scheffer, IE., Berkovic, SF., Reid, CA. (2025). Atenolol rescues premature mortality in genetic mouse models of sudden unexpected death in epilepsy. *Epilepsia,* 2025. doi: 10.1111/epi.18642

Song, X., Xia, Z., Martinez, D., Xu, B., Spritzer, Z., Zhang, Y., Nugent, E., Ho, Y., Terzic, B., Zhou, Z. (2025). Independent genetic strategies define the scope and limits of CDKL5 deficiency disorder reversal. *Cell Reports Medicine,* Volume 6, Issue 2, 101926. doi: 10.1016/j.xcrm.2024.101926

Soper, C., Wicker, E., Kulick, C.V., N'Gouemo, P., & Forcelli, P.A. (2016). Optogenetic activation of superior colliculus neurons suppresses seizures originating in diverse brain networks. *Neurobiology of Disease*, *87*, 102-115. doi: 10.1016/j.nbd.2015.12.012

Spyrou, J., Aung, K.P., Vanyai, H., Leventer, R.J., Maljevic, S., Lockhart, P.J., Howell, K.B., Reid, C.A. (2024). Slc35a2 mosaic knockout impacts cortical development, dendritic arborisation, and neuronal firing. *Neurobiology of Disease,* Volume 201, 15 October 2024, 106657. doi: 10.1016/j.nbd.2024.106657

Stawarski, M., Ulrich, D., Reinartz, S., Schwenk, J., Chen, L-Y., Fernandez-Fernandez, D., Frycz, BA, Tafti, M., Jeon, Y., Lee, H., Seong, JK., Choi, M., Lutjens, R., Gassmann, M., Fakler, B., Barkat, TR., Bettler, B. (2025). Normalization of network activity in an epilepsy model with 2 a constitutively active GABBR2 variant. *Brain,* 2025. doi: 10.1093/brain/awaf356

Stein, R.E., Kaplan, J.S., Li, J., Catterall, W.A. (2019) Hippocampal deletion of NaV1.1 channels in mice causes thermal seizures and cognitive deficit characteristic of Dravet Syndrome. *PNAS* doi: 10.1073/pnas.1906833116

Sterpka, A., Yang, J., Strobel, M., Zhou, Y., Pauplis, C., Chen, X. (2020). Diverged morphology changes of astrocytic and neuronal primary cilia under reactive insults. *Molecular Brain, 13, Article number: 28*. doi: 10.1186/s13041-020-00571-y

Su, J., Chen, J., Lippold, K., Monavarfeshani, A., Carrillo, G.L., Jenkins, R., & Fox, M.A. (2016). Collagen-derived matricryptins promote inhibitory nerve terminal formation in the developing neocortex. *Journal of Cell Biology*, *212*, 721-736. doi: 10.1083/jcb.201509085

Sullivan, B.J., Kadam, S.D. (2021). Protocol for Drug Screening with Quantitative Video-Electroencephalography in a Translational Model of Refractory Neonatal Seizures. In: Vohora D. (eds) Experimental and Translational Methods to Screen Drugs Effective Against Seizures and Epilepsy. Neuromethods, vol 167. Humana, New York, NY. doi. 10.1007/978-1-0716-1254-5_11

Sun, X., Wang, L., Wei, C., Sun, M., Li, Q., Meng, H., Yue, W., Zhang, D., Li, J. (2021). Dysfunction of Trio GEF1 involves in excitatory/inhibitory imbalance and autism-like behaviors through regulation of interneuron migration. *Molecular Psychiatry* (2021). doi: 10.1038/s41380-021-01109-x

Tadic, VP., Stamenic, TT., Todorovic, SM. (2025). CaV2.3 channels in the mouse central medial thalamic nucleus are essential for thalamocortical oscillations and spike wave discharges. *Scientific Reports,* 15, Article number: 4966. doi: 10.1038/s41598-025-87795-x

Tamura, S. (2021) Development of a CRISPR activation-based approach for the treatment of SCN2A haploinsufficiency in Autism Spectrum Disorder. Dissertation, UCSF, UC San Francisco Electronic Theses and Dissertations. https://escholarship.org/uc/item/55d6b9cm

Tamura, S., Nelson, AD, Spratt, PWE., Hamada, EC., Zhou, X., Kyoung, H., Li, Z., Arnould, C., Barskyi, V., Krupkin, B., Young, K., Zhao, J., Holden, S.S., Sahagun, A., Keeshen, CM., Lu, C., Ben-Shalom, R., Taloma, SE., Schamiloglu, S., Li, YC., Min, L, Jenkins, PM., Pan, JQ, Paz, JT., Sanders, SJ., Matharu, N., Ahituv, N., Benders, KJ. (2025). CRISPR activation for SCN2A-related neurodevelopmental disorders. *Nature,* 646, pages983–991 (2025). doi: 10.1038/s41586-025-09522-w

Tanenhaus, A., Stowe, T. Young, A., McLaughlin, J., Aeran, R., Lin, W., Li, J., Hosur, R., Chen, M., Leedy, J. Chou, T., Pillay, S., Candida Vila, M., Kearney, J.A., Moorhead, M., Belle, A., Tagliatela, S. (2022) Cell-selective AAV-mediated *SCN1A* Gene Regulation Therapy Rescues Mortality and Seizure Phenotypes in a Dravet Syndrome Mouse Model and is Well Tolerated in Non-human Primates. *Human Gene Therapy*. doi: 10.1089/hum.2022.037

Tang, S., Terzic, B., I-Ting, J.W., Sarmiento, N., Sizov, K., Cui, Y., Takano, H., Marsh, E.D., Zhou, Z., Coulter, D.A. (2019) Altered NMDAR signaling underlies autistic-like features in mouse models of CDKL5 deficiency disorder. *Nature Communications* 10, 2655 doi:10.1038/s41467-019-10689-w

Tao, H., Zhao, J., Liu, T., Cai, Y., Zhou, X., Xing, H., Wang, Y., Yin, M., Zhong, W., Liu, Z., Li, K., Zhao, B., Zhou, H., Cui, L. (2017). Intranasal delivery of miR-146a mimics delayed seizure onset in the lithium-pilocarpine mouse model. *Mediators of Inflammation*, *2017*. doi: 10.1155/2017/6512620

Taraschenko, O., Fox, H.S., Eldridge, E., Heliso, P., Al-Saleem, F., Dessain, S., Casale, G., Willcockson, G., Anderson, K., Wang, W., Dingledine, R. (2024). MyD88-mediated signaling is critical for the generation of seizure responses and cognitive impairment in a model of anti-N-methyl-D-aspartate receptor encephalitis. *Epilepsia*, 2024. doi: 10.1111/epi.17931

Taraschenko O., Fox H.S., Pittock S.J., Zekeridou A., Gafurova M., Eldridge E., Liu J., Dravid S.M., Dingledine R. (2019) A mouse model of seizures in anti-N-methyl-d-aspartate receptor encephalitis. *Epilepsia*. doi: 10.1111/epi.14662.

Taraschenko, O., Fox, H.S., Zekeridou, A., Pittock, S.J., Eldridge, E., Farukhuddin, F., Al-Saleem, F., Devi Kattala, C., Dessain, S.K., Casale, G, Willcockson, G., Dingledine, R. (2021). Seizures and memory impairment induced by patient-derived anti-N-methyl-D-aspartate receptor antibodies in mice are attenuated by anakinra, an interleukin-1 receptor antagonist. *Epilepsia,* 2021;62:671–682. doi: 10.1111/epi.16838

Tassin, V., Girard, B., Chotte, A., Fontanaud, P., Rigault, D., Kalinichev, M., Perroy, J., Acher, F., Fagni, L., Bertaso, F. (2016). Phasic and tonic mGlu7 receptor activity modulates the thalamocortical network. *Frontiers in Neural Circuits*, *10*(31). doi: 10.3389/fncir.2016.00031

Terzic, B., Cui, Y., Edmondson, A.C., Tang, S., Sarmiento, N., Zaitseva, D., Marsh, E.D, Coulter, D.A., Zhou, Z. (2020) X-linked cellular mosaicism underlies age-dependent occurrence of seizure-like events in mouse models of CDKL5 deficiency disorder. *Neurobiology of Disease* 105176 doi: 10.1016/j.nbd.2020.105176

Theilmann, W., Gericke, B., Schidlitzki, A., Anjum, S., Borsdorf, S., Harries, T., Roberds, S., Aguiar, D., Brunner, D., Leiser, S., Song, D., Fabbro, D., Hillmann, P., Wymann, M., Loscher, W. (2020). Novel brain permeant mTORC1/2 inhibitors are as efficacious as rapamycin or everolimus in mouse models of acquired partial epilepsy and tuberous sclerosis complex. *Neuropharmacology,* September. doi: 10.1016/j.neuropharm.2020.108297

Tian, D-S., Peng, J., Murugan, M., Feng. L., Liu, J-L., Eyo, U.B., Zhou, LJ., Mogilevsky, R., Wang, W., Wu, L-J. (2017). Chemokine CCL2-CCR2 signaling induces neuronal cell death via STAT3 activation and IL-1β production after status epilepticus. *Journal of Neuroscience, 37*(33), 7878-7892. doi: 10.1523/JNEUROSCI.0315-17.2017

Toyo-oka, K., Wachi, T., Hunt, R., Baraban, S., Taya, S., Ramshaw, H., Kaibuchi, K., Schwarz, Q.P., Lopez, A.F., Wynshaw-Boris, A. (2014). 14-3-3ε and ζ regulate neurogenesis and differentiation of neuronal progenitor cells in the developing brain. *Journal of Neuroscience*, *34*(36), 12168-12181. doi: 10.1523/JNEUROSCI.2513-13.2014

Tyulmenkova, A., Mendoza, G.G., Zwick, A., Nicolas, S.A., Isgor, C. (2022) Sleep-seizure associations in cortical EEG in a transgenic mouse model of progressive epilepsy: implications for morphological changes in cortico-limbic and brainstem structures. *Preprint paper, not peer reviewed*. doi: 10.2139/ssrn.4212092

Um, J.W., Nygaard, H.B., Heiss, J.K., Kostylev, M.A., Stagi, M., Vortmeyer, A., Wisniewski, T., Gunther, E.C., Strittmatter, S.M. (2012). Alzheimer amyloid-β oligomer bound to postsynaptic prion protein activates Fyn to impair neurons. *Nature Neuroscience, 15*(9), 1227-1235. doi: 10.1038/nn.3178

Van Gompel, J.J., Bower, M.R., Worrell, G.A., Stead, M., Chang, S-Y., Goerss, S.J., Kim, I., Bennet, K.E., Meyer, F.B., Marsh, W.R., Blaha, C.D., Lee, K.H. (2014). Increased cortical extracellular adenosine correlates with seizure termination. *Epilepsia,* Jan 2014. doi: 10.1111/epi.12511

Velíšek, L., Shang, E., Velíšková, J., Chachua, T., Macchiarulo, S., Maglakelidze, G., Wolgemuth, D.J., Greenberg, D. (2011). GABAergic neuron deficit as an idiopathic generalized epilepsy mechanism: The role of BRD2 haploinsufficiency in juvenile myoclonic epilepsy. *PLoS ONE, 6*(8), e23656. doi: 10.1371/journal.pone.0023656

Vermudez, SAD., Lin, R., McGinty, GE., Choe, Y., Liebhardt, A., Hui, B., Lubbers, E., Dhamne, SC., Hameed, MQ., Rotenberg, A. (2025). Sex differences in seizure presentation in a Dravet syndrome mouse model. *Neuro Report,* 36(8):p 383-388, May 14, 2025. doi: 10.1097/WNR.0000000000002159

Vien, T.N., Modgil, A., Abramian, A.M., Jurd, R., Walker, J., Brandon, N.J., Terunuma, M., Rudolph, U., Maguire, J. Davies, P.A., Moss, S.J. (2015). Compromising the phosphodependent regulation of the $GABA_AR$ β3 subunit reproduces the core phenotypes of autism spectrum disorders. *PNAS, 112*(48), 14805-14810. doi: 10.1073/pnas.1514657112

Vito, S., Austin, A., Banks, C., Inceoglu, B., Bruun, D., Zolkowska, D., Tancredi, D.J., Rogawski, M.A., Hammock, B.D., Lein, P. (2014). Post-exposure administration of diazepam combined with soluble epoxide hydrolase inhibition stops seizures and modulates neuroinflammation in a murine model of acute TETS intoxication. *Toxicology and Applied Pharmacology, 281*(2), 185-194. doi: 10.1016/j.taap.2014.10.001

Vogel, K.R., Ainslie, G.R., Schmidt, M.A., Wisor, J.P., & Gibson, K.M. (2017). mTOR inhibition mitigates molecular and biochemical alterations of vigabatrin-induced visual field toxicity in mice. *Pediatric Neurology, 66,* 44-52.e1. doi: 10.1016/j.pediatrneurol.2016.09.016

Vogt, D.L., Thomas, D., Galvan, V., Bredesen, D.E., Lamb, B.T., & Pimplikar, S.W. (2011). Abnormal neuronal networks and seizure susceptibility in mice overexpressing the APP intracellular domain. *Neurobiology of Aging, 32*(9), 1725-1729. doi: 10.1016/j.neurobiolaging.2009.09.002

Vyas, P., Chaturvedi, I., Hwang, Y., Scafidi, J., Kadam, S.D., Stafstrom, C.E. (2024). High Doses of ANA12 Improve Phenobarbital Efficacy in a Model of Neonatal Post-Ischemic Seizures. *Int. J. Mol. Sci.*, 2024, 25(3), 1447. doi: 10.3390/ijms25031447

Wallace, E., Wright, S., Schoenike, B., Roopra, A., Rho, J.M., & Maganti, R.K. (2018). Altered circadian rhythms and oscillation of clock genes and sirtuin 1 in a model of sudden unexpected death in epilepsy. *Epilepsia*. doi: 10.1111/epi.14513

Wang, L., Wang, K., Chen, Y., Zhang, X., Xu, W., Dong, Z., Wang, Y. (2024). NLRP3 Inflammasome Inhibition After Pilocarpine-Induced Status Epilepticus Attenuates Chronic Inflammation in Epileptic Mice. *Journal of Inflammation Research, 6143-6158.* doi: 10.2147/JIR.S469451

Wang, L., Xu, W., Wang, K., Yang, J., Li, H., Wang, Q., Dong, Z., Zhang, X., Meng, Q., Lu, F., Lei, J., Yang, Y., Wang, K., Feng, L, Wang, F. (2025). Chronic 40 Hz light flicker mitigates epileptogenesis through a visual pathway associated with the dorsal lateral geniculate nucleus shell. *Nature Communications,* 16, Article number: 9228 2025. doi: 10.1038/s41467-025-64269-2

Wang, Q. de Prisco, N. Tang, J., Gennarino, V.A. (2022) Protocol for recording epileptiform discharges of EEG and behavioral seizures in freely moving mice. *STAR Protocols,* Volume 3, Issue 2, 2022. doi: 10.1016/j.xpro.2022.101245

Wang, Q., Qu, T., Sun, Q., Li, R., Dong, J., Du, Y., Xuan, Z., Wang, L., Li, H., Sun, J., Chen, F., Liu, J., Yang, Z., Lei, J., Yang, Q., Wang, B., Zhou, Z., Wang, Y. (2026). Microglial GPR35 Ameliorates Epileptogenesis and Neuroinflammation via PDGFA Domain 2 Signaling. *Advanced Science,* 2026; 0:e19642. doi: 10.1002/advs.202519642

Wang, Q., Tang, B., Tang, J. (2021). Protocol for deep brain stimulation in the fimbria-fornix of freely moving mice. *STAR Protocols*, Volume 3, Issue 1, 18 March 2022, 101054. doi: 10.1016/j.xpro.2021.101054

Wang, Y., Yang, H., Li, N., Wang, L., Guo, C., Ma, W., Liu, S., Peng, C., Chen, J., Song, H., Chen, H., Ma, X., Yi, J. Lian, J., Kong, W., Dong, J., Tu, X., Shah, M., Tian, X., Huang, Z. (2024). A Novel Ubiquitin Ligase Adaptor PTPRN Suppresses Seizure Susceptibility through Endocytosis of NaV1.2 Sodium Channels. *Adv. Sci. 2024,* 2400560, 2024. doi: 10.1002/advs.202400560

Warner, T.A., Kang, J-Q., Kennard, J.A., & Harrison, F.E. (2015). Low brain ascorbic acid increases susceptibility to seizures in mouse models of decreased brain ascorbic acid transport and Alzheimer's disease. *Epilepsy Research, 110*, 20-25. doi: 10.1016/j.eplepsyres.2014.11.017

Warner, T.A., Liu, Z., Macdonald, R.L., & Kang, J-Q. (2017). Heat induced temperature dysregulation and seizures in Dravet Syndrome/GEFS+ *Gabrg2*$^{+/Q390X}$ mice. *Epilepsy Research, 134*, 1-8. doi: 10.1016/j.eplepsyres.2017.04.020

Webb, BT., Trinh, H., Breach, EA., Foote, KM., Binelli, E., Swanson, GT. (2026). Pathological gain-of-function human variants in the GRIK2 kainate receptor gene cause wide-ranging behavioral dysfunction and seizures in mouse models. *Neurobiology of Disease,* Volume 218, January 2026, 107226. doi: 10.1016/j.nbd.2025.107226

Whitebirch, A.C., LaFrancois, J.J., Jain, S., Leary, P., Santoro, B., Siegelbaum, S.A., Scharfman, H.E. (2022) Enhanced excitability of the hippocampal CA2 region and its contribution to seizure generation in a mouse model of temporal lobe epilepsy. *bioRxiv. 2022.02.02.478736*. doi: 10.1101/2022.02.02.478736

Whitmire, L.E., Ling, L., Bugay, V., Carver, C.M., Timilsina, S., Chuang, H-H., Jaffe, D.B., Shapiro, M.S., Cavazos, J.E., Brenner, R. (2017). Downregulation of *KCNMB4* expression and changes in BK channel subtype in hippocampal granule neurons following seizure activity. *PLoS ONE, 12*(11), e0188064. doi: 10.1371/journal.pone.0188064

Wicker, E. (2019) Direct and Indirect inhibition of the mediodorsal thalamus affects seizure propagation and cognition. *Georgetown University*, Graduate Theses and Dissertations - Pharmacology. http://hdl.handle.net/10822/1056021

Wicker, E. & Forcelli, P. A. (2016). Chemogenetic silencing of the midline and intralaminar thalamus blocks amygdala-kindled seizures. *Experimental Neurology, 283*(Part A), 404-412. doi: 10.1016/j.expneurol.2016.07.003

Willis, J., Zhu, W., Perez-Downes, J., Tan, S., Xu, C., Seubert, C., Gravenstein, N., Martynyuk, A. (2015). Propofol-induced electroencephalographic seizures in neonatal rats: The role of corticosteroids and γ-aminobutyric acid type A receptor-mediated excitation. *Anesthesia and Analgesia, 120*(2), 433-439. doi: 10.1213/ANE.0000000000000529

Wilson, C.D., Zheng, F. & Fantegrossi, W.E. (2022) Convulsant doses of abused synthetic cannabinoid receptor agonists AB-PINACA, 5F-AB-PINACA, 5F-ADB-PINACA and JWH-018 do not elicit electroencephalographic (EEG) seizures in male mice. *Psychopharmacology*. doi: 10.1007/s00213-022-06205-6

Wright, S., Wallace, E., Youngdeok, H., & Maganti, R. (2016). Seizure phenotypes, periodicity, and sleep-wake pattern of seizures in *Kcna-1* null mice. *Epilepsy and Behavior*, *55*, 24-29. doi: 10.1016/j.yebeh.2015.11.028

Wu, W., Li, Y., Wei, Y., Bosco, D.B., Xie, M., Zhao, M.G., Richardson, J.R., Wu, LJ. (2020). Microglial depletion aggravates the severity of acute and chronic seizures in mice. *Brain, Behavior, and Immunity,* July. doi: 10.1016/j.bbi.2020.06.028

Wu, Y., Zhang, D., Liu, J., Jiang, J., Xie, K., Wu, L., Leng, Y., Liang, P., Zhu, T., Zhou, C. (2024). Activity of the sodium leak channel maintains the excitability of paraventricular thalamus glutamatergic neurons to resist anesthetic effects of sevoflurane in mice. *Anesthesiology,* 2024. doi: 10.1097/ALN.0000000000005015

Xu, M., Shi, Y., Mu, X., Su, C., Wei, P., Wang, Q., Zhang, Y., Ji, S., Fu, C., Tian, J., Li, C. (2026). Role of microtubule affinity-regulating kinases in epilepsy: A novel therapeutic strategy. *British Journal of Clinical Pharmacology,* 2026. doi: 10.1111/bph.70354

Xu, Y., Li, J., Wang, Z., Lu, R., Liu, Y., Wang, M., Li, H., Zhao, R., Feng, W. (2025). Ablation of dysmorphic neurons is a safe and effective treatment for focal cortical dysplasia II. *Molecular Therapy,* Volume 33, Issue 9, 3 September 2025, Pages 4414-4430. doi: 10.1016/j.ymthe.2025.05.023

Yaghouby, F. (2015). Experimental-computational analysis of vigilance dynamics for applications in sleep and epilepsy. *University of Kentucky,* (Doctoral dissertation). uknowledge.uky.edu/cbme_etds/32/

Yang, C., Li, C., Sun, J., Lu, X. (2019) Role of estradiol in mediation of etomidate-caused seizure-like activity in neonatal rats. *Int J Developmental Neuroscience*. doi.org/10.1016/j.ijdevneu.2019.06.002

Yang, L., Cheng, C., Miao, W., Liao, Z., Huang, W., Zhang, Q., Zhu, Y., Sun, J., Shao, J. (2026). Astrocyte S1P1 regulates mitochondrial autophagy in inflammation and neuronal injury after epilepsy. *Neurological Research,* 1–16. doi: 10.1080/01616412.2025.2602687

Ye, H., Wan, Y., Wang, X., Wang, S., Zhao, X., Wang, X., Yu, T., Yan, C., Tian, X., Chen, X-P., Liu, X. (2025). Cannabidiol Protects Against Neurotoxic Reactive Astrocytes-Induced Neuronal Death in Mouse Model of Epilepsy. *Journal of Neurochemistry,* Volume169, Issue3, March 2025. doi: 10.1111/jnc.70038

Yu, J., Proddutur, A., Swietek, B., Elgammal, F.S., & Santhakumar, V. (2016). Functional reduction in cannabinoid-sensitive heterotypic inhibition of dentate basket cells in epilepsy: Impact on network rhythms. *Cerebral Cortex, 26*(11), 4299-4314. doi: 10.1093/cercor/bhv199

Yu, J., Swietek, B., Proddutur, A., & Santhakumar, V. (2016). Dentate cannabinoid-sensitive interneurons undergo unique and selective strengthening of mutual synaptic inhibition in experimental epilepsy. *Neurobiology of Disease*, *89*, 23-35. doi: 10.1016/j.nbd.2016.01.013

Yu, J.T., Liu, Y., Dong, P., Cheng, R.E., Ke, S.X., Chen, K.Q., Wang, J.J., Shen, Z.S., Tang, Q.Y. & Zhang, Z. (2019). Up-regulation of antioxidative proteins TRX1, TXNL1 and TXNRD1 in the cortex of PTZ kindling seizure model mice. *PLoS One.* Jan 24;14(1):e0210670. doi: 10.1371/journal.pone.0210670.

Zhang, C-Q., Catron, M.A., Ding, L., Hanna, C.M., Gallagher, M.J., Macdonald, R.L., Zhou, C. (2020). Impaired state-dependent potentiation of GABAergic synaptic currents triggers seizures in an idiopathic generalized epilepsy model. *bioRxiv 2020.05.10.087114*. doi: 10.1101/2020.05.10.087114

Zhang, J., Zhu, H., Liu, S., Quintero, M., Zhu, T., Xu, R., Cai, Y., Han, Y., Li, H. (2022) Deficiency of murine UFM1-specific E3 ligase causes microcephaly and inflammation. *Preprint, Molecular Neurobiology*. doi: 10.21203/rs.3.rs-1559583/v2

Zhang, J., Xu, C., Puentes, D.L., Seubert, C.N., Gravenstein, N., & Martynyuk, A.E. (2016). Role of steroids in hyperexcitatory adverse and anesthetic effects of sevoflurane in neonatal rats. *Neuroendocrinology, 103*(5), 440-451. doi: 10.1159/000437267

Zhang, L., Huang, T., Teaw, S., Nguyen, L., Hsieh, L., Gong, X., Burns, L., Bordey, A. (2020). Filamin A inhibition reduces seizure activity in a mouse model of focal cortical malformations. *Science Translational Medicine,* Vol. 12, Issue 531, eaay0289. doi: 10.1126/scitranslmed.aay0289

Zhang, Q., Forster-Gibson, C., Bercovici, E., Bernardo, A., Ding, F., Shen, W., Langer, K., Rex, T., Kang, J-Q. (2023). Epilepsy plus blindness in microdeletion of GABRA1 and GABRG2 in mouse and human. *Experimental Neurology*, Volume 369, November 2023, 114537. doi: 10.1016/j.expneurol.2023.114537

Zhang, T., Yu, F., Xu, H., Chen, M., Chen, X., Guo, L., Zhou, C., Xu, Y., Wang, F., Yu, J., Wu, B. (2021). Dysregulation of REV-ERBα impairs GABAergic function and promotes epileptic seizures in preclinical models. *Nature Communications,* volume 12, Article number: 1216 (2021). doi: 10.1038/s41467-021-21477-w

Zhang, X., Yu, X., Tuo, M., Zhao, Z., Wang, J., Jiang, T., Zhang, M., Wang, Y., Sun, Y. (2023). Parvalbumin neurons in the anterior nucleus of thalamus control absence seizures. *Epilepsia*, Volume 8, Issue 3, September 2023. doi: 10.1002/epi4.12771

Zhang, Y., Cheng, X., Wu, L., Li, J., Liu, C., Wei, M., Zhu, C., Huang, H., Lin, W. (2023). Pharmacological inhibition of S6K1 rescues synaptic deficits and attenuates seizures and depression in chronic epileptic rats. *CNS Neurosci Ther*, 2023;00:1–13. doi: 10.1111/cns.14475

Zhao, C., Rollo, B., Shahid Javaid, M., Huang, Z., He, W., Xu, H., Kwan, P., Zhang, C. (2023). An integrated in vitro human iPSCs-derived neuron and in vivo animal approach for preclinical screening of anti-seizure compounds. *Journal of Advanced Research*, November 2023. doi: 10.1016/j.jare.2023.11.022

Zheng, F., Phelan, K.D., Shwe, U.T. (2023). Increased Susceptibility to Pilocarpine-Induced Status Epilepticus and Reduced Latency in TRPC1/4 Double Knockout Mice. *Neurol. Int*, 2023, 15(4), 1469-1479. doi: 10.3390/neurolint15040095

Zhou, Xu., Chen, J., Tao, H., Cai, Y., Huang, L., Zhou, H. (2020). Intranasal Delivery of miR-155-5p Antagomir Alleviates Acute Seizures Likely by Inhibiting Hippocampal Inflammation. *Neuropsychiatr Dis Treat.* 2020;16:1295-1307. doi: 10.2147/NDT.S247677

Zhu, Q., Mishra, A., Park, J.S., Liu, D., Le, D.T., Gonzalez, S.Z., Anderson-Crannage, M., Park, J.M., Park, G-H., Tarbay, L., Daneshvar, K., Brandenburg, M., Signoretti, C., Zinski, A., Gardner, E-J., Zheng, K.L., Abani, C.P., Hu, C., Beaudreault, C.P., Zhang, X-L., Stanton, P.K., Cho, J-H., Verlisek, L., Veliskova, J., Javed, S., Leonard, C.S., Kim, H-Y., Chung, S. (2023) Human cortical interneurons optimized for grafting specifically integrate, abort seizures, and display prolonged efficacy without over-inhibition. *Neuron,* March 2023. doi: 10.1016/j.neuron.2022.12.014

Zions, Michael. (2020) A Neural Mechanism for Capnotaxis in the Naked Mole-Rat. *The City University of New York,(Doctoral Dissertation)*. https://academicworks.cuny.edu/cgi/viewcontent.cgi?article=4650

Zions, M., Meehan, E., Kress, M., Thevalingam, D., Jenkins, E., Kaila, K., Puskarjov, M., McCloskey, D. (2020) Nest Carbon Dioxide Masks GABA-Dependent Seizure Susceptibility in the Naked Mole-Rat. *Current Biology,* Volume 30, Issue 11. doi: 10.1016/j.cub.2020.03.071

Zub, E., Canet, G., Garbelli, R., Blaquiere, M., Rossin,i L., Pastori, C., Sheikh, M., Reutelingsperger, C., Klement, W., de Bock, F., Audinat, E., Givalois, L., Solito, E., Marchi, N. (2019) The GR-ANXA1 pathway is a pathological player and a candidate target in epilepsy. *FASEB J.* Dec;33(12):13998-14009. doi:10.1096/fj.201901596R

Sleep

Aguilar, D.D., Strecker, R.E., Basheer, R., McNally, J.M. Alterations in sleep, sleep spindle, and EEG power in mGluR5 knockout mice. (2020) *J Neurophysiol*. Jan 1;123(1):22-33. doi:10.1152/jn.00532.2019

Ahnaou, A., Raeymaekers, L., Steckler, T., & Drinkenbrug, W.H.I.M. (2015). Relevance of the metabotropic glutamate receptor (mGluR5) in the regulation of NREM-REM sleep cycle and homeostasis: Evidence from mGluR5 (-/-) mice. *Behavioural Brain Research, 282*, 218-226. doi: 10.1016/j.bbr.2015.01.009

Ajwad, A.A. (2018) Sleep and Thermoregulation: A Study of Ambient Temperature on Mouse Sleep Architecture. University of Kentucky, Theses and Dissertations--Biomedical Engineering. 54. uknowledge.uky.edu/cbme_etds/54

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Ajwad, A., Huffman, D., Yaghouby, F., Ohara, B.F., & Sunderam, S. (2018) Sleep Depth Enhancement Through Ambient Temperature Manipulation in Mice. Conf Proc IEEE Eng Med Biol Soc. 2018 Jul;2018:1392-1395. doi:10.1109/EMBC.2018.8512557

Alfonsa, H., Burman, R.J., Brodersen, P.J.N., Newey, S.E., Mahfooz, K., Yamagata, T., Panayl, M.C., Bannerman, D.M., Vyazovskly, V.V., Akerman, C.J. (2022) Intracellular chloride regulation mediates local sleep pressure in the cortex. *Nature neuroscience*, 2022. doi: 10.3390/diagnostics13010093

Alonso, IP., Cohen, SR., Migovich, VM., Espana, RA. (2026). Restoration of Rapid-Eye Movement Sleep During Cocaine Abstinence Reduces Incubation of Cocaine Seeking and Normalizes Dopamine Transporter Function. *Pre-print bioRxiv*, 2026.01.12.697196. doi: 10.64898/2026.01.12.697196

Altimus, C.M., Guler, A.D., Villa, K.L., McNeill, D.S., LeGates, T.A., & Hattar, S. (2008). Rods-cones and melanopsin detect light and dark to modulate sleep independent of image formation. *Proceedings of the National Academy of Sciences USA, 105*(50), 19998-20003. doi: 10.1073/pnas.0808312105

Ammanuel, S., Chan, W.C., Adler, D.A., Lakshamanan, B.M., Gupta, S.S., Ewen, J.B., Johnston, M.V., Marcus, C.L., Naidu, S., Kadam, S.D. (2015). Heightened delta power during slow-wave-sleep in patients with Rett Syndrome associated with poor sleep efficiency. *PLoS ONE*, *10*(10). doi: 10.1371/journal.pone.0138113

Amorim, M.R., Wang, X., Aung, O., Bevans-Fonti, S., Anokye-Danso, F., Ribeiro, C., Escobar, J., Freire, C., Pho, H., Dergacheva, O., Branco, L.G.S., Ahima, R.S., Mendelowitz, D., Polotsky, V.Y. (2023). Leptin signaling in the dorsomedial hypothalamus couples breathing and metabolism in obesity. *Cell Reports,* 42, December 2023, 113512. doi: 10.1016/j.celrep.2023.113512

Anaclet, C., De Luca, R., Venner, A., Malyshevskaya, O., Lazarus, M., Arrigoni, E., & Fuller, P.M. (2018). Genetic activation, inactivation and deletion reveal a limited and nuanced role for somatostatin-containing basal forebrain neurons in behavioral state control. *Journal of Neuroscience*. doi: 10.1523/JNEUROSCI.2955-17.2018

Anaclet, C., Griffith, K., & Fuller, P.M. (2018). Activation of the GABAergic parafacial zone maintains sleep and counteracts the wake-promoting action of the psychostimulants armodafinil and caffeine. *Neuropsychopharmacology, 43,* 415-425. doi: 10.1038/npp.2017.152

Anaclet, C., Lin, J., Vetrivelan, R., Krenzer, M., Vong, L., Fuller, P.M., & Lu, J. (2012). Identification and characterization of a sleep-active cell group in the rostral medullary brainstem. *Journal of Neuroscience*, *32*(50), 17970-17976. doi: 10.1523/JNEUROSCI.0620-12.2012

Anaclet, C., Pedersen, N.P., Ferrari, L.L., Venner, A., Bass, C.E., Arrigoni, E., & Fuller, P.M. (2015). Basal forebrain control of wakefulness and cortical rhythms. *Nature Communications, 6*(8744). doi: 10.1038/ncomms9744

Anaclet, C., Pedersen, N.P., Fuller, P.M., & Lu, J. (2010). Brainstem circuitry regulating phasic activation of trigeminal motoneurons during REM sleep. *PLoS ONE, 5*(1), e8788. doi: 10.1371/journal.pone.0008788

Ando, R., Choudhury, M.E., Yamanishi, Y., Kyaw, W.T., Kubo, M., Kannou, M., Nishikawa, N., Tanaka, J., Nomoto, M., Nagai, M. (2018). Modafinil alleviates levodopa-induced excessive nighttime sleepinessand restores monoaminergic systems in a nocturnal animal model of Parkinson's disease. *Journal of Pharmacological Sciences, 136*(4), 266-271. doi: 10.1016/j.jphs.2018.03.005

Ang, G., McKillop, L.E., Purple, R., Blanco-Duque, C., Peirson, S.N., Foster, R.G., Harrison, P.J., Sprengel, R., Davies, K.E., Oliver, P.L., Bannerman, D.M., Vyazovskiy, V.V. (2018). Absent sleep EEG spindle activity in GluA1 (Gria1) knockout mice: Relevance to neuropsychiatric disorders. *Translational Psychiatry, 8*, Article 154. doi: 10.1038/s41398-018-0199-2

Arai, M., Kent, B.A. (2025). The Effects of Acute Trazodone Administration on Sleep in Mice. *SLEEP Advances*, Volume 6, Issue 2, April 2025, zpaf031. doi: 10.1093/sleepadvances/zpaf031

Asan, AS., Kozhemiako, N., Goble, N., Yau, T., Zhu, TT., Simmons, SK., Haywood, N., Wang, Y., Kim, S., Guo, Z., Yu, E., Choi, S., Yang, L., Levin, JZ., Huang, H., Purcell, SM., Lin, R., Pan, JQ. (2026). Disrupted Sleep-Dependent Neural Oscillations and Transcriptomic Changes in the Cacna1g Loss-of-Function Mouse Model Implicated in Schizophrenia. *Pre-print bioRxiv*, 2026.02.04.703851. doi: 10.64898/2026.02.04.703851

Atrooz, F., Alrousan, G., Hassan, A., Salim, S. (2022). Early-Life Sleep Deprivation Enhanced Alcohol Consumption in Adolescent Rats. *Frontiers Neuroscience,* Volume 16, April 2022. doi: 10.3389/fnins.2022.856120

Atrooz, F., Alkadhi, K., Salim, S. (2021). Understanding stress: Insights from rodent models. Current Research in Neurobiology, Volume 2, 100013, 2021. doi: 10.1016/j.crneur.2021.100013

Atrooz F., Liu H. Kochi C., Salim S. (2019) Early Life Sleep Deprivation:Role of Oxidio-Inflammatory Processes, *Neuroscience*. doi: 10.1016/j.neuroscience.2019.02.021

Barnes, A.K., Koul-Tiwari, R., Garner, J.M., Geist, P.A., & Datta, S. (2016). Activation of BDNF-TrkB signaling in the pedunculopontine tegmental nucleus (PPT): A novel mechanism for the homeostatic regulation of REM sleep. *Journal of Neurochemistry, 141*(1), 111-123. doi: 10.1111/jnc.13938

Beck, AI., Caldart, CS., Hamo, MB., Weil, TA., Perez, JG., Kalume, F., Brunton, BW., de la Iglesia, HO., Sanchez, REA. (2025). Sleep Identification Enabled by Supervised Training Algorithms (SIESTA): An Open-Source Platform for Automatic Sleep Staging of Rodent Electrocorticographic and Electromyographic Data. *Journal of Biological Rhythms*, 2025;40(4):330-346 (2025). doi: 10.1177/07487304251336649

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Bedont, J.L., LeGates, T.A., Buhr, E., Bathini, A., Ling, J.P., Bell, B., Wu, M.N., Wong, P.C., Van Gelder, R.N., Mongrain, V., Hattar, S., Blackshaw, S. (2016). An LHX1-regulated transcriptional network controls sleep/wake coupling and thermal resistance of the central circadian clockworks. *Current Biology*, *27*(1). doi: 10.1016/j.cub.2016.11.008

Bell, B.J., Liu, Q., Kim, D.W., Lee, S., Liu, Q., Blum, I., Wang, A., Bedont, J., Chang, A., Issa, H., Cohen, J., Blackshaw, S., Wu, M.N. (2020) A Clock-Driven Neural Network Critical for Arousal. *bioRxiv* 2020.03.12.989921. doi: 10.1101/2020.03.12.989921

Berger, S., Pho, H., Fleury-Curado, T., Bevans-Fonti, S., Younas, H., Shin, M.K., Jun J.C., Anokye-Danso, F., Ahima, R.S., Enquist, L.W., Mendelowitz, D., Schwartz, A.R., Polotsky, V.Y. (2018). Intranasal Leptin Relieves Sleep Disordered Breathing in Mice with Diet Induced Obesity. *American Journal of Respiratory Critical Care Medicine*. Oct 12. doi: 10.1164/rccm.201805-0879OC

Bernstein, D.L., Badve, P.S., Barson, J.R., Bass, C.E., & España, R.A. (2017). Hypocretin receptor 1 knockdown in the ventral tegmental area attenuates mesolimbic dopamine signaling and reduces motivation for cocaine. *Addiction Biology*. doi: 10.1111/adb.12553

Blanco-Duque, C., Bond, S.A., Krone, L.B., Dufour, J-P., Gillen, E.C.P., Purple, R.J., Kahn, M.C., Bannerman, D.M., Mann, E.O., Achermann, P., Olbrich, E., Vyazovskiy, V.V. (2024). Oscillatory-Quality of sleep spindles links brain state with sleep regulation and function. *Sci. Adv.,* 10, eadn6247 (2024). doi: 10.1126/sciadv.adn6247

Bleakley, L.E., Keenan, R.J., Graven, R.D., Metha, J.A., Ma, S., Daykin, H., Cornthwaite-Duncan, L., Hoyer, D., Reid, C.A., Jacobson, L.H. (2023) Altered EEG power spectrum, but not sleep-wake architecture, in HCN1 knockout mice. *Behavioural Brain Research*, Volume 437, 2023,114105. doi: 10.1016/j.bbr.2022.114105

Blokhina, I., Adushkina, V., Zlatogosrkaya, D., Ilyukov, E., Telnova, V., Evsyukova, A., Terskov, A., Myagkov, D., Tuktarov, D., Tzoy, M., Dubrovsky, A., Dmitrenko, A., Manzhaeva, M., Krupnova, V., Tuzhilkin, M., Elizarova, I., Navolokin, N. (2024). Method for real-time optical brain monitoring in freely moving mice during wakefulness and natural sleep. *Eur. Phys. J. Spec. Top.,* 2024. doi: 10.1140/epjs/s11734-023-01081-3

Blokhina, I.A., Koronovskii, A.A., Dmitrenko, A.V., Elizarova, I. V., Moiseikina, T.V., Tuzhilkin, M.A., Semyachkina-Glushkovskaya, O.V., Pavlov, A. N. (2023) Characterization of Anesthesia in Rats from EEG in Terms of Long-Range Correlations. *Diagnostics*, 2023, 13, 426. doi: 10.3390/diagnostics13030426

Bocchio, M., Fisher, S.P., Unal, G., Ellender, T.J., Vyazovskiy, V.V., & Capogna, M. (2016). Sleep and serotonin modulate paracapsular nitric oxide synthase expressing neurons of the amygdala. *eNeuro, 3*(5). doi: 10.1523/ENEURO.0177-16.2016

Bormate, K.J., Lee, B.K., Kim, T-H., Custodio, R.J.P., Cheong, J.H., Kim, H.J., Shim, S.H., Pil, G.B., Kim, H.J., Son, R.H., Yeon, S.H., Park, J.W., Lee, C-K., Jung, Y-S. (2024). Astrocytic metabolic control of orexinergic activity in the lateral hypothalamus regulates sleep and wake architecture. *Journal of Functional Foods,* Volume 120, September 2024, 106345. doi: 10.1016/j.jff.2024.106345

Bowers, S.J., Summa, K.C., Thompson, R.S., Gonzalez, A., Vargas, F., Olker, C., Jiang, P., Lowry, C.A., Dorrestein, P.C., Knight, R., Wright Jr., K.P., Fleshner, M., Turek, F.W., Vitaterna, M.H. (2022 A Prebiotic Diet Alters the Fecal Microbiome and Improves Sleep in Response to Sleep Disruption in Rats. *Front. Neurosci.,*16:889211. doi: 10.3389/fnins.2022.889211

Bowers, S.J., Lambert, S., He, S., Lowry, C.A., Fleshner, M., Wright, Jr, K.P., Turek, F.W., Vitaterna, M.H. (2020) Immunization with a heat-killed bacterium, Mycobacterium vaccae NCTC 11659, prevents the development of cortical hyperarousal and a PTSD-like sleep phenotype after sleep disruption and acute stress in mice. *Sleep*, zsaa271. doi: 10.1093/sleep/zsaa271

Bowers, SJ., Lambert, S., He, S., Lowry, C., Fleshner, M., Wright, K.P., Turek, F.W., Vitaterna, M. (2020). Immunization with Mycobacterium vaccae NCTC 11659 prevents the development of PTSD-like sleep and behavioral phenotypes after sleep disruption and acute stress in mice. *bioRxiv* 2020.05.07.082859. doi: 10.1101/2020.05.07.082859

Bowers, SJ., Vargas, F., Gonzalez, A., He, S., Jiang, P., Dorrestein, P., Knight, R., Wright, K.P., Lowry, C.A., Fleshner, M., Vitaterna, M.H., Turek, F. (2020). Repeated sleep disruption in mice leads to persistent shifts in the fecal microbiome and metabolome. *PLoS ONE 15(2): e0229001*. doi: 10.1371/journal.pone.0229001

Braga, A., Chiacchiaretta, M., Pellerin, L., Kong, D., Haydon, P.G. (2024). Astrocytic metabolic control of orexinergic activity in the 2 lateral hypothalamus regulates sleep and wake architecture. *PrePrint bioRxiv, Department of Neuroscience, Tufts University School of Medicine, Boston, Massachusetts.,* 2024. doi: 10.1101/2024.03.27.586959

Brager, A.J., Ehlen, J.C., Castanon-Cervantes, O., Natarajan, D., Delisser, P., Davidson, A.J., & Paul, K.N. (2013). Sleep loss and the inflammatory response in mice under chronic environmental circadian disruption. *PLoS ONE, 8*(5), e63752. doi: 10.1371/journal.pone.0063752

Brager, A.J., Yang, T., Ehlen, J.C., Simon, R.P., Meller, R., & Paul, K.N. (2016). Sleep is critical for remote preconditioning-induced neuroprotection. *SLEEP, 39*(11). doi: 10.5665/sleep.6238

Brock, O., Gelegen, C.E., Salgarella, I., Sully, P., Jager, P., Menage, L., Mehta, I., Jeczmien-Lazur, J., Djama, D., Strother, L., Coculla, A., Vernon, A., Brickley, S., Holland, P., Cooke, S., Delogu, A. (2022). A role for thalamic projection GABAergic neurons in circadian responses to light. *bioRxiv* 2022.02.24.481804. doi: 10.1101/2022.02.24.481804

Broglia, G. (2024). Neural circuits and mechanisms of transitions in vigilance states. *Thesis, University of Lausanne,* 2024. https://serval.unil.ch/

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Broglia, G., Corsi, G., Prouvost Bouvier, P-H., Tafti, M., Bandarabadi, M. (2024). Hypothalamic control of noradrenergic neurons stabilizes sleep. *PrePrint bioRxiv, Department of Biomedicial Sciences, University of Lausanne, Lausanne, Switzerland.,* 2024. doi: 10.1101/2023.10.22.563502

Burgdorf, J.S., Vitaterna, M.H., Olker, C.J., Song, E.J., Christian, E.P., Sørensen, L., Turek, F.W., Madsen, T.M., Khan, M.A., Kroes, R.A., Moskal, J.R. (2019) NMDAR activation regulates the daily rhythms of sleep and mood. *Sleep*, zsz135, doi:10.1093/sleep/zsz135

Bush, B.J., Donnay, C., Andrews, E-J.A., Lewis-Sanders, D., Gray, C.L., Qiao, Z., Brager, A.J., Johnson, H., Brewer, H.CS., Sood, S., Saafir, T., Benveniste, M., Paul, K.N., Ehlen, J.C. (2022). Non-rapid eye movement sleep determines resilience to social stress. *eLife 11:e80206*. doi: 10.7554/eLife.80206

Bushana, P.N., Schmidt, M.A., Chang, K.M., Vuong, T., Sorg, B.A., Wisor, J.P. (2023). Effect of N-Acetylcysteine on Sleep: Impacts of Sex and Time of Day. *Antioxidants 2023*, 12, 1124.doi: 10.3390/antiox12051124

Caballero-Eraso, C., Shin, M.K., Pho, H., Kim, L.J., Pichard, L.E., Wu, Z., Gu, C., Berger, S., Pham, L., Yeung, H.B., Shirahata, M., Schwartz, A.R., Tang, W.W., Sham, J.S.K., Polotsky, V.Y. (2018). Leptin acts in the carotid bodies to increase minute ventilation during wakefulness and sleep and augment the hypoxic ventilatory response. *Journal of Physiology,* Oct 4. doi: 10.1113/JP276900

Carroll, C.M., Stanley, M., Raut, R.V., Constantino, N.J., Irmen, R.E., Mitra, A., Snipes, J.A., Raichle, M.E., Holtzman, D.M., Gould, R.W., Kishida, K.T., Macauley, S.L. (2022) Acute hyper- and hypoglycemia uncouples the metabolic cooperation between glucose and lactate to disrupt sleep. bioRxiv, 2022, 09.15.507967. **doi: 10.1101/2022.09.15.507967**

Carroll C., Hsiang H., Snyder S., Forsberg J., Dash M.B. (2019) Cortical zeta-inhibitory peptide injection reduces local sleep need. *Sleep,* Volume 42, Issue 5, May 2019, zsz028. doi:10.1093/sleep/zsz028

Carson, R.P., Fu, C., Winzenburger, P., & Ess, K.C. (2013). Deletion of Rictor in neural progenitor cells reveals contributions of mTORC2 signaling to tuberous sclerosis complex. *Human Molecular Genetics, 22*(1), 140-152. doi: 10.1093/hmg/dds414

Catron, M.A., Howe, R.K. Besing, G-L.K., St. John, E.K., Victoria Potesta, C., Gallagher, M.J., Macdonald, R.L., Zhou, C. (2022). Sleep slow-wave oscillations trigger seizures in a genetic epilepsy model of Dravet syndrome. Preprint, *bioRxiv 2022*.01.04.474940. doi: 10.1101/2022.01.04.474940

Chiem, E., Zhao, K., Stark, G., Ghiani, C.A., Colwell, C.S., Paul, K.N. (2024). Sex differences in sleep architecture in a mouse model of Huntington's disease. *J Neurosci Res,* 2024, 102:e25290. doi: 10.1002/jnr.25290

Cho, J.R., Treweek, J.B., Robinson, J.E., Xiao, C., Bremmer, L.R., Greenbaum, A., & Gradinaru, V. (2017). Dorsal raphe dopamine neurons modulate arousal and promote wakefulness by salient stimuli. *Neuron, 94*(6), 1205-1219.e8. doi: 10.1016/j.neuron.2017.05.020

Cho, S., Park, J-H., Pae, A.N., Han, D., Kim, D., Cho, N-C., Tai No, K., Yang, H., Yoon, M., Lee, C., Shimizu, M., Baek, N-I. (2012). Hypnotic effects and GABAergic mechanism of licorice (Glycyrrhiza glabra) ethanol extract and its major flavonoid constituent glabrol. *Bioorganic and Medicinal Chemistry, 20(*11), 3493-3501. doi: 10.1016/j.bmc.2012.04.011

Cho, S., Yoon, M., Kim, D., Kim, J-S., Yang, H., Lee, C-H., Kim, IH., Shimizu, M., Han, D. (2012). Effect of the licorice flavonoid isoliquiritigenin on the sleep architecture and profile in mice. *Food Science and Biotechnology, 21*(4), 1221-1225. doi: 10.1007/s10068-012-0160-8

Cho, S., Yoon, M., Pae, A.N., Jin, Y-H., Cho, N-C., Takata, Y., Urade, Y., Kim, S., Kim, JS., Yang, H., Kim, J., Kim, J., Han, JK., Shimizu, M., Huang, Z-L. (2014). Marine polyphenol phlorotannins promote non-rapid eye movement sleep in mice via the benzodiazepine site of the $GABA_A$ receptor. *Psychopharmacology*, *231*(14), 2825-2837. doi: 10.1007/s00213-014-3445-1

Cho, SM., UM, MY., Yoon, MS., Yang, HJ., Lee, JK., Jung,, JH. (2020). Compositions for ameliorating, preventing or treating somnipathy including phloroglucinol as active ingredient and compositions for suppressing tolerance to or alleviating side effects of agonist at benzodiazepine binding site of Gaba-A receptor including phloroglucinol as active ingredient. *United States KOREA FOOD RESEARCH INSTITUTE (Jeollabuk-do, KR) United States Patent Application 20200113848*. http://www.freepatentsonline.com/y2020/0113848.html

Choudhury, M.E., Miyanishi, K., Takeda, H., Islam, A., Matsuoka, N., Kubo, M., Matsumoto, S., Kunieda, T., Nomoto, M., Yano, H., Tanaka, J. (2019) Phagocytic elimination of synapses by microglia during sleep. *Glia*. 1– 16. doi:10.1002/glia.23698

Chopra, S., Polotsky, V.Y., & Jun, J.C. (2015). Sleep apnea research in animals: Past, present, and future. *American Journal of Respiratory Cell and Molecular Biology, 53*(3). doi: 10.1165/rcmb.2015-0218TR

Clasadonte, J., Scemes, E., Wang, Z., Boison, D., & Haydon, P.G. (2017). Connexin 43-mediated astroglial metabolic networks contribute to the regulation of the sleep-wake cycle. *Neuron, 95*(6), 1365-1380.e5. doi: 10.1016/j.neuron.2017.08.022

Cordeira, J., Kolluru, S.S., Rosenblatt, H., Kry, J., Strecker, R.E., McCarlet, R.W. (2018). Learning and memory are impaired in the object recognition task during metestrus/diestrus and after sleep deprivation. *Behavioural Brain Research, 339*, 124-129. doi: 10.1016/j.bbr.2017.11.033

Coulter, I., Timic Stamenic, T., Eggan, P., Fine, B.R., Corrigan, T., Covey, D.F., Yang, L., Pan, J.Q., Todorovic, S.M. (2021). Different roles of T-type calcium channel isoforms in hypnosis induced by an endogenous neurosteroid epipregnanolone. *Neuropharmacology*, Volume 197, 1 October 2021, 108739. doi: 10.1016/j.neuropharm.2021.108739

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Cui, H., Singh, U., Toth, B., Jiang, J., Dickey, J., Saito, K., Davis, K., Aklan, I., Yavuz, Y., Sayar-Atasoy, N., Li, R., Pumell, B., Mustafa, O., Deng, G., Deng, Y., Kim, Y., Atasoy, D., Buchanan, G. (2024). Leptin engages the lateral hypothalamus to ventral tegmental area circuit to modulate sleep-wake behavior. *Preprint Research Square,* 2024. doi: 10.21203/rs.3.rs-3934916/v1

Cumpana, L., Zanoletti, O., Kankanamge, D., Copits, B., Sandi, C., Astori, S. (2025). Corticotropin-releasing hormone modulates NREM sleep consolidation through the thalamic reticular nucleus. *Nature Communications*, 16, Article number: 7720 (2025). doi: 10.1038/s41467-025-63118-6

Curado, T.F., Pho, H., Berger, S., Caballero-Eraso, C., Shin, M-K., Sennes, L.U., Pham, L., Schwartz, A.R., Polotsky, V.Y. (2018). Sleep-disordered breathing in C57BL/6J mice with diet-induced obesity. *SLEEP, 41*(8). doi: 10.1093/sleep/zsy089

Damarla, M., Suresh, K., Zheng, L., Carino, K., Turner, M., Rosario, OD., D'Alessio, F., Villabona-Rueda, A., Aggarwal, N., Mukandan, A., D'Alessio, A., Skandan, N., Murray, S., Gour, N., Lajoie, S., Davis, KM., Shimoda, LA., Punjabi, NM. (2025). Development of a preclinical model of ICU-associated sleep fragmentation and effects on pneumonia recovery in mice. *Am J Physiol Lung Cell Mol Physiol*, 328: L650–L660, 2025 (2025). doi: 10.1152/ajplung.00210.2024

Datta, S. & Oliver, M.D. (2017). Cellular and molecular mechanisms of REM sleep homeostatic drive: A plausible component for behavioral plasticity. *Frontiers in Neural Circuits*. doi: 10.3389/fncir.2017.00063

Dash. M.B., Bellesi, M., Tononi, G., Cirelli, C. (2012) Sleep/wake dependent changes in cortical glucose concentrations. *Journal of Neurochemistry, 124, 79-89*. doi: 10.1111/jnc.12063

Dash. M.B. (2019) Infraslow Coordination of Slow Wave Activity through Altered Neuronal Synchrony. *Sleep* doi: 10.1093/sleep/zsz170

Decoeur, F., Benmamar-Badel, A., Leyrolle, Q., Persillet, M., Layé, S., Nadjar, A. (2019) Dietary N-3 PUFA deficiency affects sleep-wake activity in basal condition and in response to an inflammatory challenge in mice. *Brain, Behavior & Immunity* doi: 10.1016/j.bbi.2019.05.016

Dong, Q., Ptacek, L.J., Fu, Y-H. (2023) Mutant β1-adrenergic receptor improves REM sleep and ameliorates tau accumulation in a mouse model of tauopathy. PNAS, 2023, Volume 120, 15, e2221686120. **doi: 10.1073/pnas.2221686120**

Dong, H.W., Erickson, K., Lee, J.R., Merritt, J., Fu, C., Neul, J. (2020) Detection of neurophysiological features in female R255X MeCP2 mutation mice. *Neurobiology of Disease*, September 2020. doi: 10.1016/j.nbd.2020.105083

Drew, V.J., Park, M., Kim, T. (2023) GABA-Positive Astrogliosis in Sleep-Promoting Areas Associated with Sleep Disturbance in 5XFAD Mice. *Int. J. Mol. Sci*, 2023, 24, 9695. doi: 10.3390/ijms24119695

Egebjerg, C., Kolmos, MG., Lemcke, R., Abelson, K., Kornum, BR. (2025). Introduction of novel objects to the home cage of mice repeatedly disturbs sleep for seven days with minimal stress induction. *npj Biological Timing and Sleep*, 2, Article number: 7 (2025). doi: 10.1038/s44323-025-00027-3

Ehlen, J.C., Brager, A.J., Baggs, J., Pinckney, L., Gray, C.L., DeBruyne, J.P., Esser, K.A., Takahashi, J.S., Paul, K.N. (2017). *Bmal1* function in skeletal muscle regulates sleep. *eLife, 6*. doi: 10.7554%2FeLife.26557

Ehlen, J.C., Hesse, S., Pinckney, L., & Paul, K.N. (2013). Sex chromosomes regulate nighttime sleep propensity during recovery from sleep loss in mice. *PLoS ONE, 8*(5). doi: 10.1371/journal.pone.0062205

Ehlen, J.C., Jones, K.A., Pinckney, L., Gray, C.L., Burette, S., Weinberg, R.J., Evans, J.A., Brager, A.J., Zylka, M.J., Paul, K.N., Philpot, B.D., DeBruyne, J.P. (2015). Maternal *Ube3a* loss disrupts sleep homeostasis but leaves circadian rhythmicity largely intact. *Journal of Neuroscience*, *35*(40), 13587-13598. doi: 10.1523/JNEUROSCI.2194-15.2015

Ellen, J.G., Dash, M.B. (2021). An artificial neural network for automated behavioral state classification in rats. *PeerJ 9:e12127*. doi:10.7717/peerj.12127

Enomoto, T., Yamashita, A., Torigoe, K., Horiuchi, H., Hirayama, S., Nakahara, K., Yanase, M., Sakai, H., Ikegami, D., Nagase, H., Suzuki, T., Iseki, M., Inada, E., Narita, M. (2012). Effects of mirtazapine on sleep disturbance under neuropathic pain-like state. *Synapse, 66*(6), 483-488. doi: 10.1002/syn.21532

Erickson, E.T.M., Ferrari, L.L., Gompf, H.S., Anaclet, C. (2019). Differential Role of Pontomedullary Glutamatergic Neuronal Populations in Sleep-Wake Control. *Front. Neurosci.,* 30 July. doi: 10.3389/fnins.2019.00755

Evans, J.A., Suen, T-C., Callif, B.L., Mitchell, A.S., Castanon-Cervantes, O., Baker, K.M., Kloehn, I., Baba, K., Teubner, BJW., Ehlen, C., Paul, K.N.., Bartness, T.J., Tosini, G., Leise, T., Davidson, A.J. (2015). Shell neurons of the master circadian clock coordinate the phase of tissue clocks throughout the brain and body. *BMC Biology, 13*(43). doi: 10.1186/s12915-015-0157-x

Felipo, V., Piedrafita, B., Barios, J.A., Agusti, A., Ahabrach, H., Romero-Vives, M., Barrio, L.C., Rey, B., Gaztelu, J.M., Llansola, M. (2015). Rats with minimal hepatic encephalopathy show reduced cGMP-dependent protein kinase activity in hypothalamus correlating with circadian rhythms alterations. *Chronobiology International, 32*(7), 966-979. doi: 10.3109/07420528.2015.1057640

Ferrari, L.L., Ogbeide-Latario, O.E., Gompf, H.S., Anaclet, C. (2022). Validation of DREADD agonists and administration route in a murine model of sleep enhancement. *Journal of Neuroscience Methods*, Volume 380, 2022,109679. doi: 10.1016/j.jneumeth.2022.109679

Feseha, S., Timic Stamenic, T., Wallace, D., Tamag, C., Yang, L., Pan, J.Q., Todorovic, S.M. (2020) Global genetic deletion of CaV3.3 channels facilitates anaesthetic induction and enhances isoflurane-sparing effects of T-type calcium channel blockers. *Scientific Reports*, 10, Article number: 21510 (2020). doi: 10.1038/s41598-020-78488-8

Fine-Raquet, B., Manzella, F.M., Joksimovic, S.M., Dietz, R.M., Orfila, J.E., Sampath, D., Tesic, V., Atluri, N., Covey, D.F., Raol, Y.H., Jevtovic-Todorovic, V., Herson, P.S., Todorovic, S.M. (2023) Neonatal exposure to a neuroactive steroid alters low-frequency oscillations in the subiculum. *Experimental Biology and Medicine*, 2023;248(7):578-587. doi: 10.1177/15353702231177009

Fisher, S.P., Black, S.W., Schwartz, M.D., Wilk, A.J., Chen, T-M., Lincoln, W.U., Liu, H.W., Kilduff, T.S., Morairty, S.R. (2013). Longitudinal analysis of the electroencephalogram and sleep phenotype in the R6/2 mouse model of Huntington's disease. *Brain, 136*(7), 2159-2172. doi: 10.1093/brain/awt132

Fisher, S.P., Cui, N., McKillop, L.E., Gemignani, J., Bannerman, D.M., Oliver, P.L., Peirson, S.N., Vyazovskiy, V.V. (2016). Stereotypic wheel running decreases cortical activity in mice. *Nature Communications*, *7*, Article 13138. doi: 10.1038/ncomms13138

Fisher, S.P., Schwartz, M.D., Wurts-Black, S., Thomas, A.M., Chen, T-M., Miller, M.A., Palmerston, J.B., Kilduff, T.S., Morairty, S.R. (2016). Quantitative electroencephalographic analysis provides an early-stage indicator of disease onset and progression in the zQ175 knock-in mouse model of huntington's disease. *SLEEP, 39*(2), 379-391. doi: 10.5665/sleep.5448

Foley, J., Blutstein, T., Lee, S.Y., Erneux, C., Halassa, M.M., & Haydon, P. (2017). Astrocytic IP_3/Ca^{2+} signaling modulates theta rhythm and REM sleep. *Frontiers in Neural Circuits, 11*(3). doi: 10.3389/fncir.2017.00003

Frolinger T., Sims S., Smith C., Wang J., Cheng H., Faith J., Ho L., Hao K., Pasinetti G.M., (2019) The gut microbiota composition affects dietary polyphenols-mediated cognitive resilience in mice by modulating the bioavailability of phenolic acids. *Scientific Reports*, 9(3546). doi:10.1038/s41598-019-39994-6

Gamble, M., Katsuki, F., McCoy, J., Strecker, R., McKenna, J.T. (2020). The dual orexinergic receptor antagonist DORA-22 improves the sleep disruption and memory impairment produced by a rodent insomnia model. *Sleep,* Volume 43, Issue 3, March 2020, zsz241. doi: 10.1093/sleep/zsz241

Gao, V., Turek, F., & Vitaterna M. (2016). Multiple classifier systems for automatic sleep scoring in mice. *Journal of Neuroscience Methods*, *264*, 33-39. doi: 10.1016/j.jneumeth.2016.02.016

Gelegen, C., Cash, D., Ilic, K., Sander, M., Kim, E., Simmons, C., Bernanos, M., Lama, J., Randall, K., Brown, J.T., Kalanj-Bognar, S., Cooke, S., Chaudhuri, K.R., Ballard, C., Francis, P., Rosenweig, I. (2021). Dispersed Sleep Microstates and Associated Structural Changes in GBA1 Mouse: Relevance to Rapid Eye Movement Behavior Disorder. Journal of Neuroscience Methods, Volume 360, August 2021, 109224. doi: 10.1101/2021.05.26.445845

Gentry, N.W., McMahon, T., Yamazaki, M., Webb, J., Arnold, T.D., Rosi, S., Ptacek, L.J., Fu, Y-H. (2022). Microglia are involved in the protection of memories formed during sleep deprivation. *Neurobiology of Sleep and Circadian Rhythms*, Volume 12, May 2022, 100073. doi: 10.1016/j.nbscr.2021.100073

Gerashchenko, D., Pasumarthi, R.K., & Kilduff, T.S. (2017). Plasticity-related gene expression during eszopiclone-induced sleep. *SLEEP, 40*(7). doi: 10.1093/sleep/zsx098

Gerashchenko, D., Wisor, J.P., Burns, D., Reh, R.K., Shiromani, P.J., Sakurai, T., de la Iglesia, H., Kilduff, T.S. (2008). Identification of a population of sleep-active cerebral cortex est. *Proceedings of the National Academy of Sciences USA, 105*(29), 10227-10232. doi: 10.1073/pnas.0803125105

Goldstein, N., Levine, B.J., Loy, K.A., Duke, W.L., Meyerson, O.S., Jamnik, A.A., & Carter, M.E. (2018). Hypothalamic Neurons that Regulate Feeding Can Influence Sleep/Wake States Based on Homeostatic Need. *Current Biology*. Nov 6. doi:10.1016/j.cub.2018.09.055

Grady, F.S., Graff, S.A., Resch, J.M., Geerling, J.C. (2023). Combined treatment with naloxone and the alpha2 adrenoceptor antagonist atipamezole reversed brain hypoxia induced by a fentanyl-xylazine mixture in a rat model. *Journal of Neurophysiology*, Vol. 129, No. 2, Jan 2023. doi: 10.1152/jn.00318.2022

Grønli, J., Glegern, W.C., Schmidt, M.A., Nemri, R.S., Rempe, M.J., Gallitano, A.L., & Wisor, J.P. (2016). Sleep homeostatic and waking behavioral phenotypes in Egr3-deficient mice associated with serotonin receptor 5-HT2 deficits. *SLEEP, 39*(12). doi: 10.5665/sleep.6324

Grønli, J., Rempe, M.J., Clegern, W.C., Schmidt, M., & Wisor, J.P. (2016). Beta EEG reflects sensory processing in active wakefulness and homeostatic sleep drive in quiet wakefulness. *Journal of Sleep Research, 25*(3), 257-268. doi: 10.1111/jsr.12380

Grønli, J., Schmidt, M.A., & Wisor, J.P. (2018). State-dependent modulation of visual evoked potentials in a rodent genetic model of electroencephalographic instability. *Frontiers in Systems Neuroscience*. doi: 10.3389/fnsys.2018.00036

Guo, B., Liu, T., Choi, S., Mao, H., Wang, W., Xi, K., Jones, C., Hartley, N.D., Feng, D., Chen, Q., Liu, Y., Wimmer, R.D., Xie, Y., Zhao, N., Ou, J., Arias-Garcia, M.A., Malhotra, D., Liu, Y., Lee, S., Pasqualoni, S., Kast, R.J., Fleishman, M., Halassa, M.M., Wu, S., Fu, Z. (2024). Restoring thalamocortical circuit dysfunction by correcting HCN channelopathy in Shank3 mutant mice. *Cell Reports Medicine,* 2024. doi: 10.1016/j.xcrm.2024.101534

Guo L., Cen H., Weng J., He Y., Guo X., He D., Liu K., Duan S., Yang J., Zhang X., Qin Z., Wan Y., Chen Z., Wu B. (2023). PER2 integrates circadian disruption and pituitary tumorigenesis. *Theranostics*. 2023 Apr 29;13(8):2657-2672. doi: 10.7150/thno.82995

Guo, L., Cen, H., Huang, Y., Li, Z., Zeng, K., Wu, Z., Weng, J., Guo, X., He, D., Liu, X., Yang, Z., Xu, H., Hao, T., Wei, B., Diao, X., Wu, B. (2026). Impact of NPAS2 on mPFC dopamine synthesis and nap behavior. *Nat. Commun.,* 2026. doi: 10.1038/s41467-026-70424-0

Guo, L., Xiao, Y., Li, Z., Huang, Y., Cen, H., Wu, Z., Wang, H., Liu, X., Yang, Z., Zhao, C., Hao, T., Chen, H., Jin, M., Lu, D., Chen, M., Wu, B. (2025). Intestinal clock shapes sleep-wake cycle via sustaining glutamine homeostasis. *Cell Metabolism,* Volume 37, Issue 12p2423-2437.e6. https://www.cell.com/action/showCitFormats?doi=10.1016%2Fj.cmet.2025.10.010&pii=S1550-4131%2825%2900444-9

Guyo, G.A., Pavlova, O.N., Pavlov, A.N. (2024). Short-term sleep deprivation: considering brain rhythm coordination in the context of an integrated neural network. *Eur. Phys. J. Spec. Top,* 2024. doi: 10.1140/epjs/s11734-024-01286-0

Hablitz L.M., Vinitsky H.S., Sun Q., Stæger F.F., Sigurdsson B., Mortensen K.N., Lilius T.O., Nedergaard M. (2019) Increased glymphatic influx is correlated with high EEG delta power and low heart rate in mice under anesthesia. *Sci Adv*. doi: 10.1126/sciadv.aav5447

Haddar, M., Tzanoulinou, S., Chen, L-Y., Tafti, M., Vassalli, A. (2025). Solriamfetol enhances alertness and cognitive performance in mice. *Preprint-bioRxiv*, 631072. doi: 10.1101/2025.01.02.631072

Harkness, J.H., Bushana, P.N., Todd, R.P., Clegern, W.C., Sorg, B.A., Wisor, J.P. (2018) Sleep disruption elevates oxidative stress in parvalbumin-positive cells of the rat cerebral cortex. *Sleep*. 2018 Oct 27. doi: 10.1093/sleep/zsy201

Harris, J.J., Kollo, M., Erskine, A., Schaefer, A., Burdakov, D. (2022). Natural VTA activity during NREM sleep influences future exploratory behavior. *iScience*. doi: 10.1016/j.isci.2022.104396

Hayashi, Y., Mitsuaki, K., Yasuda, K., Ando, R., Kanuka, M., Sakai, K., & Itohara, S. (2015). Cells of a common developmental origin regulate REM/non-REM sleep and wakefulness in mice. *Science, 350*(6263), 957-961. doi: 10.1126/science.aad1023

He, J., Hsuchou, H., He, Y., Kastin, A., Wang, Y., & Pan, W. (2014). Sleep restriction impairs blood-brain barrier function. *Journal of Neuroscience*, *34*(44) 14697-14706. doi: 10.1523/JNEUROSCI.2111-14.2014

He, J., Kastin, A., Wang, Y., & Pan, W. (2015). Sleep fragmentation has differential effects on obese and lean mice. *Journal of Molecular Neuroscience, 55*(3), 644-652. doi: 10.1007/s12031-014-0403-7

He, J., Wang, Y., Kastin, A.J., & Weihong, P. (2014). Increased sleep fragmentation in experimental autoimmune encephalomyelitis. *Brain, Behavior, and Immunity, 38*, 53-58. doi: 10.1016/j.bbi.2014.02.005

Heiss, J.E., Yamanaka, A., & Kilduff, T.S. (2018). Parallel arousal pathways in the lateral hypothalamus. *eNeuro*. doi: 10.1523/ENEURO.0228-18.2018

Hernandez, A.B., Kirkness, J.P., Smith, P.L., Schneider, H., Polotsky, M., Richardson, R.A., Hernandez, WC., Schwartz, A.R. (2012). Novel whole body plethysmography system for the continuous characterization of sleep and breathing in a mouse. *Journal of Applied Physiology*, *112*(4), 671-680. doi: 10.1152/japplphysiol.00818

Hill, J.L., Hardy, N.F., Jimenez, D.V., Maynard, K.R., Kardian, A.S., Pollock, C.J., Schloesser, RJ., Martinowich, K. (2016). Loss of promoter IV-driven BDNF expression impacts oscillatory activity during sleep, sensory information processing and fear regulation. *Translational Psychiatry, 6*, e873. doi: 10.1038/tp.2016.153

Hill, J.L., Jimenez, D.V., Mai, Y., Ren, M., Hallock, H.L., Maynard, K.R., Chen, H.Y., Hardy, N.F., Schloesser, R.J., Maher, B.J., Yang, F., Martinowich, K. (2019) Cortistatin-expressing interneurons require TrkB signaling to suppress neural hyper-excitability. *Brain Struct Funct*. Jan;224(1):471-483. doi:10.1007/s00429-018-1783-1

Hines, D.J., Schmitt, L.I., Hines, R.M., Moss, S.J., & Haydon, P.G. (2013). Antidepressant effects of sleep deprivation require astrocyte-dependent adenosine mediated signaling. *Translational Psychiatry, 3*, e212. doi: 10.1038/tp.2012.136

Ho, A., Lee, S-J., Drew, V.J., Jung, J., Kang, J., Cheong, C., Kim, T. (2024). Sleep disturbance correlated with severity of neuropathic pain in sciatic nerve crush injury model. *Journal of Sleep Research,* 2024. doi: 10.1111/jsr.14137

Honda, K., Tsuneki, H., Ito, H., Mori, K., Yoshida, M., Wada, T., Sasaoka, T. (2025). Sleep-promoting effects of preproorexin C-terminal peptide in mice. *Biochemical and Biophysical Research Communications*, Volume 787, 1 November 2025, 152760. doi: 10.1016/j.bbrc.2025.152760

Hong, J., Ha, GE., Kwak, H., Lee, Y., Jeong, H. (2020). Destabilization of light NREM sleep by thalamic PLCβ4 deletion impairs sleep-dependent memory consolidation. *Scientific Reports (Nature Publisher Group);* London Vol. 10, Iss. 1. doi: /10.1038/s41598-020-64377-7

Hsu, Y-W.A., Gile, J.J., Perez, J.G., Morton, G., Ben-Hamo, M., Turner, E.E., & de la Iglesia, H.O. (2017). The dorsal medial habenula minimally impacts circadian regulation of locomotor activity and sleep. *Journal of Biological Rhythms, 32*(5). doi: 10.1177/0748730417730169

Hu, Y., Korovaichuk, A., Astiz, M., Schroeder, H., Islam, R., Barrenetxea, J., Fischer, A., Oster, H., Bringmann, H. (2020). Functional Divergence of Mammalian TFAP2a and TFAP2b Transcription Factors for Bidirectional Sleep Control. Genetics *Early online August 7, 2020*. doi: 10.1534/genetics.120.303533

Huang, L., Chen, X., Tao, Q., Wang, X., Huang, X., Fu, Y., Yang, Y., Deng, S., Lin, S., So, K-F., Song, X., Ren, C. (2023) Bright light treatment counteracts stress-induced sleep alterations in mice, via a visual circuit related to the rostromedial tegmental nucleus. *PLoS Biol*, 21(9): e3002282 (2023). doi: 10.1371/journal.pbio.3002282

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Huang, W-C., Mandell, KP., Aryal, S., Song, BJ., Valle-Tojeiro, A., Goble, N., Geng, C., Asan, AS., Liu, X-M., Dennis, C., Dailey, L., Deik, A., Inunciaga, L., Mashin, E., Farsi, Z., Wang, Y., Pan, JQ., Clish, CB., Keshishian, H., Carr, SA., Sheng, M. (2025). Epigenetic changes, neuronal dysregulation and metabolomic abnormalities in Zmym2 mutant mice, a genetic model of schizophrenia and neurodevelopmental disorders. *bioRxiv preprint,* 2025. doi: 10.1101/2025.02.18.638656

Hue, Y. Bringmann, H. (2023) Tfap2b acts in GABAergic neurons to control sleep in mice. *Scientific Repots*, 3, 8026 (2023). doi: 10.1038/s41598-023-34772-x

Ingiosi, A.M., Hayworth, C.R., Harvey, D.O., Singletary, K.G., Rempe, M.J., Wisor, J.P., Frank, M.G. (2019). A role for astroglial calcium in mammalian sleep. *bioRxiv* 728931. doi: 10.1101/728931

Ingiosi, A.M., Hayworth, C.R., Harvey, D.O., Singletary, K.G., Rempe, M.J., Wisor, J.P., Frank, M.G. (2020). A Role for Astroglial Calcium in Mammalian Sleep and Sleep Regulation. *Current Biology*. doi: 10.1016/j.cub.2020.08.052

Irmen, RE., Turner, SM., Snipes, JA., Schloss, KH., Wang, X., Williams, HC., Velmurugan, GV., Hunt, JB., Li, J., Sullivan, PG., Lee, DC., Bauer, AQ., Johnson, LA., Macauley, SL. (2026). Tau pathology reprograms glucose metabolism to support cortical hyperexcitability, excitatory/inhibitory imbalance, and sleep loss. *Npj Dementia,* 2026, 2, Article number: 6 (2026). doi: 10.1038/s44400-025-00054-8

Ito, H., Navratilova, E., Vagnerova, B., Watanabe, M., Kopruszinski, C., Moreira de Souza, L.H., Yue, X., Ikegami, D., Moutal, A., Patwardhan, A., Khanna, R., Yamazaki, M., Guerrero, M., Rosen, H., Roberts, E., Neugebauer, V., Dodick, D.W., Porreca, F. (2022) Chronic pain recruits hypothalamic dynorphin/kappa opioid receptor signalling to promote wakefulness and vigilance. *Brain,* awac153. doi: 10.1093/brain/awac153

Ito, H., Tusneki, H., Sasaoka, T., Toyooka, N., Yamazaki, M. (2021) Influences of Suvorexant and Mirtazapine on Chronic Pain-related Sleep Disorder in Neuropathic Pain Model Mice. *12 April 2021, PREPRINT (Version 1)* available at Research Square. doi: 10.21203/rs.3.rs-383177/v1

Ito, H., Takemura, Y., Aoki, Y., Hattori, M., Horikawa, H., Yamazaki, M. (2020) Analysis of the effects of a tricyclic antidepressant on secondary sleep disturbance induced by chronic pain in a preclinical model. *PloS* on vol. 15, 12 e0243325. doi: 10.1371/journal.pone.0243325

Ito, H., Yanase, M., Yamashita, A., Kitabatake, C., Hamada, A., Suhara, Y., Narita, M., Ikegami, D., Sakai, H., Yamazaki, M., Narita, M. (2013). Analysis of sleep disorders under pain using an optogenetic tool: Possible involvement of the activation of dorsal raphe nucleus-serotonergic neurons. *Molecular Brain*, *6*(59). doi: 10.1186/1756-6606-6-59

Ito, H., Tsuneki, H., Sasaoka, T., Toyooka, N., Matsuo, M., Yamazaki, M. (2022 Suvorexant and mirtazapine improve chronic pain-related changes in parameters of sleep and voluntary physical performance in mice with sciatic nerve ligation. *PLoS ONE*, 17(2): e0264386. doi: 10.1371/journal.pone.0264386

Ito, H., Kawakami, M., Yoshida, M., Sugimoto, S., Takazawa, T. (2025). Effects of a kappa opioid receptor antagonist on delayed postoperative pain recovery in a novel mouse sleep disorder model. *Front. Pain Res,* Volume 6, 2025. doi: 10.3389/fpain.2025.1516935

Iyer, V. (2018). Nicotine administration and withdrawal and its effect on sleep latency, relevant sleep variables, and endogenous corticosterone levels in mice. *University of Colorado Boulder, (Undergraduate honors thesis)*. https://scholar.colorado.edu/honr_theses/1654

Jaaro-Peled, H., Altimus, C., LeGates, T., Cash-Padgett, T., Zoubovsky, S., Hikida, T., Ishizuka, K., Hattar, S., Mongrain, V., Sawa, A. (2016). Abnormal wake/sleep pattern in a novel gain-of-function model of DISC1. *Neuroscience Research, 112*, 63-69. doi: 10.1016/j.neures.2016.06.006

Janke, E., Zhang, M., Eun Ryu, S., Bhattarai, J.P., Schreck, M.R., Moberly, A.H., Luo, W., Ding, L., Wesson, D.W., Ma, M. (2022) Machine learning-based clustering and classification of mouse behaviors via respiratory patterns. iScience. 25, 105625. **doi: 10.1016/j.isci.2022.105625**

Jefferson, F., Ehlen, J., Williams, N., Montemarano, J., & Paul, K. (2014). A dopamine D2-receptor agonist attenuates the ability of stress to alter sleep in mice. *Endocrinology, 155*(11), 4411-4421. doi: 10.1210/en.2014-1134

Jia, C., Tian, L., Cheng, C., Zhang, J., Al-Nusaif, M., Li, T., Yang, H., Lin, Y., Li, S., Le, W. (2024) α-Synuclein reduces acetylserotonin O-methyltransferase mediated melatonin biosynthesis by microtubule-associated protein 1 light chain 3 beta-related degradation pathway. *Cell. Mol. Life Sci*, *81, 61 (2024)*. doi: 10.1007/s00018-023-05053-7

Jia, L., Yin, J., Liu, T., Qi, W., Du, T., Li, Q., Ma, K., Si, J., Yin, J., Li, Y. (2023) Dopaminergic Neurons in the Ventral Tegmental Area to the Parabrachial Nucleus Promote the Emergence of Rats from Propofol Anesthesia. *Neurochemical Research Preprint*, *Version 1 Nov 2023*. doi: 10.21203/rs.3.rs-3535919/v1

Jiang, P., Scarpa, J.R., Fitzpatrick, K., Losic, B., Gao, V.D., Hao, K., Summa, K.C., Yang, HS., Zhang, B., Allada, R., Vitaterna, M.H., Turek, F.W., Kasarskis, A. (2015). A systems approach identifies networks and genes linking sleep and stress: Implications for neuropsychiatric disorders. *Cell Reports*, *11*(5), 835-848. doi: 10.1016/j.celrep.2015.04.003

Jiang-Xie, L,F., Yin, L, Zhao, S., Prevosto, V., Han, B.X., Dzirasa, K., Wang, F., (2019) A Common Neuroendocrine Substrate for Diverse General Anesthetics and Sleep. *Neuron*. Apr 5. S0896-6273(19)30296-X. doi: 10.1016/j.neuron.2019.03.033

Jiang-Xie, L,F., (2019) A Shared Neural Substrate for Diverse General Anesthetics and Sleep. *Duke University, Department of Neurobiology, (Doctoral Dissertation)*. https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/19858/JiangXie_duke_0066D_15334.pdf

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Joksimovic, S.M., Sampath, D., Krishnan, K., Covey, D.F., Jevtovic-Todorovic, V., Raol, Y.H., Todorovic, S.M. (2021). Differential effects of the novel neurosteroid hypnotic (3β,5β,17β)-3-hydroxyandrostane-17-carbonitrile on electroencephalogram activity in male and female rats. *British Journal of Anaesthesia*, (2021). doi: 10.1016/j.bja.2021.03.029

Joshi, S. (2017). Identification of novel sleep related genes from large scale phenotyping experiments in mice. *University of Kentucky,* (Doctoral dissertation). uknowledge.uky.edu/biology_etds/42/

Joyal, K.G., Petrucci, A.N., Littlepage-Saunders, M.V., Wendt, L.H., Buchanan, G.F. (2023) Selective Serotonin Reuptake Inhibitors and 5-HT2 Receptor Agonists Have Distinct, Sleep-state Dependent Effects on Postictal Breathing in Amygdala Kindled Mice. *Neuroscience*, Volume 512, March 2023. doi: 10.1016/j.neuroscience.2023.01.016

Jung, J., Kang, J., Kim, T. (2023) Attenuation of homeostatic sleep response and rest-activity circadian rhythm in vitamin D deficient mice. *Chronobiology International,* 40:8, 1097-1110, 2023. doi: 10.1080/07420528.2023.2253299

Kahn, M., Krone, L.B., Blanco-Duque, C., Guillaumin, M.C.C., Mann, E.O., Vyazovskiy, V.V. (2022). Neuronal-spiking-based closed-loop stimulation during cortical ON and OFF states in freely moving mice. *bioRxiv*, 2022.02.28.482319. doi: 10.1101/2022.02.28.482319

Kam, K. (2017). On neuronal hyperexcitability in a mouse model of β-amyloid neuropathology. *ProQuest Dissertations Publishing, New York University,* (Doctoral dissertation). proquest.com/1880197489

Kam, K., Duffy, A.M., Moretto, J., LaFrancois, J.J., & Scharfman, H. (2016). Interictal spikes during sleep are an early defect in the Tg2576 mouse model of β-amyloid neuropathology. *Nature*, *6*(20119). doi: 10.1038/srep20119

Kam, K, Pettibone, W.D., Shim, K., Chen, R.K., Varga A.W. (2019) Dynamics of sleep spindles and coupling to slow oscillations following motor learning in adult mice. *Neurobiol Learn Mem*. Dec;166:107100. doi: 10.1016/j.nlm.2019.107100

Kam, K., Kang, M., Eren, C.Y., Pettibone, W.D., Bowling, H., Taveras, S., Ly, A., Chen, R.K., Berryman, N.V,, Klann, E., Varga, A.W. (2019) Interactions Between Sleep Disruption, Motor Learning, and p70 S6 Kinase 1 Signaling. *Sleep,* Volume 43, Issue 3, March 2020, zsz244. doi:10.1093/sleep/zsz244

Kam, K. Rapoport, D.M., Parekh, A., Ayappa, I., Varga, A.W. (2021). WaveSleepNet: An interpretable deep convolutional neural network for the continuous classification of mouse sleep and wake. Journal of Neuroscience Methods, Volume 360, August 2021, 109224. doi: 10.1016/j.jneumeth.2021.109224

Kang, J., Park, M., Oh, C-M., Kim, T. (2023) High-fat diet-induced dopaminergic dysregulation induces REM sleep fragmentation and ADHD-like behaviors. *Psychiatry Research*, Volume 327, 2023, 115412. doi: 10.1016/j.psychres.2023.115412

Kantor, S., Varga, J., Kulkarni, S., & Morton, A.J. (2017). Chronic paroxetine treatment prevents the emergence of abnormal electroencephalogram oscillations in huntington's disease mice. *Neurotherapeutics,* 1-14. doi: 10.1007/s13311-017-0546-7

Kantor, S., Varga, J., & Morton, A.J. (2016). A single dose of hypnotic corrects sleep and EEG abnormalities in symptomatic Huntington's disease mice. *Neuropharmacology*, *105*, 298-307. doi: 10.1016/j.neuropharm.2016.01.027

Kárpáti, A., Yoshikawa, T., Naganuma, F., Matsuzawa, T., Kitano, H., Yamada, Y., Yokoyama, M., Futatsugi, A., Mikoshiba, K., Yanai, K.. (2019) Histamine H(1) receptor on astrocytes and neurons controls distinct aspects of mouse behaviour. *Nature Sci Rep*. Nov 11;9(1):16451. doi:10.1038/s41598-019-52623-6

Katsuki, F., Spratt, T.J., Brown, R.E., Basheer, R., Uygun, D.S. (2024). Sleep-Deep-Learner is taught sleep–wake scoring by the end-user to complete each record in their style. *Sleep Advances,* 2024, 5, zpae022. doi: 10.1093/sleepadvances/zpae022

Kaur, S., Lynch, N., Sela, Y., Lima, J., Thomas, R., Bandaru, S., Saper, C. (2023) Lateral parabrachial FoxP2 neurons regulate respiratory responses to hypercapnia. *Nature porfolio*, 2023. doi: 10.21203/rs.3.rs-2865756/v1

Kaur, S., Pedersen, N.P., Yokota, S., Hur, E.E., Fuller, P.M., Lazarus, M., Chamberlin, N.L., Saper, C.B. (2013). Glutamatergic signaling from the parabrachial nucleus plays a critical role in hypercapnic arousal. *Journal of Neuroscience*, *33*(18), 7627-7640. doi: 10.1523/JNEUROSCI.0173-13.2013

Kaur, S., Wang, J.L., Ferrari, L., Thankachan, S., Kroeger, D., Venner, A., Lazarus, M., Wellman, A., Arrigoni, E., Fuller, P.M., Saper, C.B. (2017). A genetically defined circuit for arousal from sleep during hypercapnia. *Neuron, 96*(5), 1153-1167.e5. doi: 10.1016/j.neuron.2017.10.009

Kaur, S., De Luca, R., Khanday, MA., Bandaru, SS., Renner, CT. (2020). Role of serotonergic dorsal raphe neurons in hypercapnia-induced arousals. *Nat Commun* 11, 2769. doi: 10.1038/s41467-020-16518-9

Keenan, R.J., Daykin, H., Chu, J., Cornthwaite-Duncan, L., Allocca, G., Hoyer, D., Jacobson, L.H. (2022). Differential sleep/wake response and sex effects following acute suvorexant, MK-1064 and zolpidem administration in the rTg4510mouse model of tauopathy. *British Journal of Pharmacology: Research Paper*, February 2022. doi: 10.1111/bph.15813

Kent, B.A., Strittmatter, S.M., & Nygaard, H. (2018). Sleep and EEG power spectral analysis in three transgenic mouse models of Alzheimer's disease: APP/PS1, 3xTgAD, and Tg2576. *Journal of Alzheimer's Disease*. doi: 10.3233/JAD-180260

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Kent A., Michalik M., Marchant E.G., Yau K.W., Feldman H.H., Mistlberger R.E. Nygaard H.B.(2019) Delayed daily activity and reduced NREM slow wave power in the APPswe/PS1dE9 mouse model of Alzheimer's disease., Neurobiology of Aging, doi:j.neurobiolaging.2019.01.010

Kim, D., Kim, S., Yoon, M., Um, M.Y., Cho, S. (2023) Effects of Chronic Administration of Green Tea Ethanol Extract on Sleep Architecture in Mice: A Comparative Study with a Representative Stimulant Caffeine. *Nutrients 2023,* 15(4), 1042. doi.org/10.3390/nu15041042

Kim, H., Bang, WY., Kim, D., Cho, S., Lee, DY., Park, HM., Lee, HB., Yun, EJ., Moon, JS. (2025). Sleep-promoting effects and mechanisms of Bacillus coagulans IDCC 1201: evidence from pentobarbital-induced sleep and electroencephalography analysis in mice. *Royal Society of Chemistry,* 2025, 16, 9359-9376. doi: 10.1039/D5FO02926K

Kim, H., Park, I., Park, K., Park, S., Kim, Y.I., Park, B-G. (2022) The Positive Effects of Poria cocos Extract on Quality of Sleep in Insomnia Rat Models. *Int. J. Environ. Res. Public Health 2022,* 19, 6629. doi: 10.3390/ijerph19116629

Kim, L.J., Pho, H., Anokye-Danso, F., Ahima, R.S., Pham, L.V., Polotsky, V.Y. (2023) The effect of diet-induced obesity on sleep and breathing in female mice. *Sleep*, zsad158. doi: 10.1093/sleep/zsad158

Kim, L.J., Shin, M-K., Pho, H., Tang, W-Y., Hosamane, N., Anokye-Danso, F., Ahima, R.S., Sham, J.S.K., Pham, L.V., Polotsky, V.Y. (2022) TRPM7 channels regulate breathing during sleep in obesity by acting peripherally in the carotid bodies. *The Journal of Physicology*, November 2022. doi: 10.1113/JP283678#support-information-section

Kim, L.J., Alexandre, C., Pho, H., Latremoliere, A., Poloraky, V.Y., Pham, L.V. (2022) Diet-induced obesity leads to sleep fragmentation independently of the severity of sleep-disordered breathing. *Journal of Applied Physicology*, October 2022. doi: 10.1152/japplphysiol.00386.2022

Kim, L.J., Shin, M-K, Pho, H., Tang, W-Y., Hosamane, N., Anokye-Danso, F., Ahima, R.S., Sham, J.S.K., Pham, L.V., Polotsky, V.Y. (2022) TRPM7 channels regulate breathing during sleep in obesity by acting peripherally in the carotid bodies. *J Physiol 600.23 (2022),* pp 5145–5162. doi: 10.1113/JP283678#support-information-section

Kim, MG., Seo, E., Eor, JY., Kang, A., Kim, TR., Sohn, M., Kim, Y. (2026). Hypnotic and sleep-promoting effects of Limosilactobacillus reuteri LM1063 on pentobarbital-induced sleep and electroencephalogram analysis in mice. *Scientific Reports,* 2026. doi: 10.1038/s41598-026-42833-0

Kim, T., Thankachan, S., McKenna, J.T., McNally, J.M., Yang, C., Choi, J.H., Chen, L., Kocsis, B., Deisseroth, K., Strecker, R.E., Basheer, R., Brown, R.E., McCarley, R.W. (2015). Cortically projecting basal forebrain parvalbumin neurons regulate cortical gamma band oscillations. *Proceedings of the National Academy of Sciences of the United States of America*, *112*(11), 3535-3540. doi: 10.1073/pnas.1413625112

Kim, Y.R., Lee, S.Y., Lee, S.M., Shim, I., Lee, M.Y. (2021). Effect of Hibiscus syriacus Linnaeus extract and its active constituent, saponarin, in animal models of stress-induced sleep disturbances and pentobarbital-induced sleep. *Biomedicine & Pharmacotherapy*, Volume 146, February 2022, 112301. doi: 10.1016/j.biopha.2021.112301

Kloefkorn, H., Aiani, LM., Lakhani, A., Nagesh, S., Moss, A., Goolsby, W., Rehg, JM., Pedersen, NP., Hochman, S. (2020). Noninvasive Three-State Sleep-Wake Staging in Mice using Electric Field Sensors. *Journal of Neuroscience Methods, June*. doi: 10.1016/j.jneumeth.2020.108834

Koh, K., Hamada, A., Hamada, Y., Yanase, M., Sakaki, M., Someya, K., Narita, M., Kuzumaki, N., Ikegami, D., Sakai, H., Inada, E., Narita, M. (2015). Possible involvement of activated locus coeruleus-noradrenergic neurons in pain-related sleep disorders. *Neuroscience Letters, 589*, 200-206. doi: 10.1016/j.neulet.2014.12.002

Kon, K., Tsuneki, H., Ito, H., Takemura, Y., Sato, K., Yamazaki, M., Ishii, Y., Sasahara, M., Rudich, A., Maeda, T1., Wada, T., Sasaoka, T. (2019) Chronotherapeutic effect of orexin antagonists on glucose metabolism in diabetic mice. *J. Endocrinology* 18-0708.R3 doi:10.1530/JOE-18-0708

Konduru, S.R., Isaacson, J.R., Lasky, D.J., Zhou, Z., Rao, R.K., Vattem, S.S., Rewey, S.,J., Jones, M.V., Maganti, R.K. (2022) Dual orexin antagonist DORA-22 normalized sleep homeostatic drive, enhanced GABAergic inhibition and suppressed seizures after traumatic brain injury. *Sleep*, zsac238. doi: 10.1093/sleep/zsac238

Koronovskii, Jr, A.A., Blokhina, I.A., Dmitrenko, A.V., Tuzhilikin, M.A., Moiseikina, T.V., Elizarova, I.V., Semyachkina-Glushkovskaya, O.V., Pavlov, A.N. (2022 Extended Detrended Fluctuation Analysis of Coarse-Grained Time Series. *Diagnostics*, 2023. doi: 10.3390/diagnostics13010093

Krenzer, M., Anaclet, C., Vetrivelan, R., Wang, N., Vong, L., Lowell, B.B., … & Lu, J. (2011). Brainstem and spinal cord circuitry regulating REM sleep and muscle atonia. *PLoS ONE, 6*(10), e24998. doi: 10.1371/journal.pone.0024998

Kroll, T., Kornadt-Beck, N., Oskamp, A., Elmenhorst, D., Touma, C., Palme, R., Bauer, A. (2020) Additional Assessment of Fecal Corticosterone Metabolites Improves Visual Rating in the Evaluation of Stress Responses of Laboratory Rats. *Animals 2021*, 11, 710. doi: 10.3390/ani11030710

Kurien, P., Hsu, P., Leon, J., Wu, D., McMahon, T., Shi, G., Xu, Y., Lipzen, A., Pennacchio, L.A., Jones, C.R., Fu, Y., Ptacek, L.J., (2019) TIMELESS mutation alters phase responsiveness and causes advanced sleep phase. *PNAS* doi:10.1073/pnas.1819110116.

Kwon, S., Yoon, M., Lee, J., Moon, K., Kim, D., Kim, S., Cho, S. (2019). A standardized phlorotannin supplement attenuates caffeine-induced sleep disruption in mice. *Nutrients*, 11(3), 556; doi.org/10.3390/nu11030556

Lamers, D., Landi, S., Mezzena, R., Baroncelli, L., Pillai, V., Cruciani, F., Migliarini, S., Mazzoleni, S., Pasqualetti, M., Passafaro, M., Bassani, S., Ratto, G.M. (2022) Perturbation of Cortical Excitability in a Conditional Model of PCDH19 Disorder. *Cells 2022,* 11, 1939. doi: 10.3390/cells11121939

Lanir-Azaria, S., Meiri, G., Avigdor, T., Minert, A., & Devor, M. (2018). Enhanced wakefulness following lesions of a mesopontine locus essential for the induction of general anesthesia. *Behavioural Brain Research, 341,* 198-211. doi: 10.1016/j.bbr.2017.12.035

Le, V. A, Kesler, M., Rho, J.M., Cheng, N., Murari, K., (2019) Rodent Sleep Assessment with a trainable Video-Based Approach. *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)* doi: 10.1109/ICASSP2019.8683455

Lee, D., Lee, S-J., & Sohn, D-W. (2016). MP86-19 effect of sleep deprivation on hormonal axis and erectile function. *Journal of Urology, 195*(4), e1113. doi: 10.1016/j.juro.2016.02.2327

Lee, D.S., Sohn, D.W., Yoon, B.I., & Yoo, J.M. (2017). 383 effect of sleep deprivation on hormonal axis and erectile function. *Journal of Sexual Medicine, 14*(1), S113-S114. doi: 10.1016/j.jsxm.2016.11.264

Lee, D.S., Choi, J.B., Sohn, & D.W. (2019) Impact of Sleep Deprivation on the Hypothalamic-Pituitary-Gonadal Axis and Erectile Tissue. *Journal of Sexual Medicine*, Jan;16(1):5-16. doi.org/10.1016/j.jsxm.2018.10.014

Lee, SY., Lee, H-S., Ye, M., Kim, M-A., Kang, H., Rhie, S.J., Lee, M.Y., Jung, I.C., Kang, I-C., Shim, I. (2022). Effect of Modified Yukmijihwang-Tang on Sleep Quality in the Rat. *Clocks & Sleep* 2022, 4(2), 277-286. doi: 10.3390/clockssleep4020024

Leon, L.E.S., Sillitoe, R.V. (2023) Disrupted sleep in dystonia depends on cerebellar function but not motor symptoms in mice. *Dystonia*, Volume 2, August 2023. doi: 10.3389/dyst.2023.11487

Leon, L.E.S., Sillitoe, R.V. (2023) Disrupted sleep in dystonia depends on cerebellar function but not motor symptoms in mice. *bioRxiv*, Preprint, February 2023. doi: 10.1101/2023.02.09.527916

Levenga, J., Peterson, D.J., Cain, P., & Hoeffer, C.A. (2018). Sleep behavior and EEG oscillations in aged Dp(16)1Yey/+ mice: A down syndrome model. *Neuroscience, 376*, 117-126. doi: 10.1016/j.neuroscience.2018.02.009

Liu, G., Mestre, H., Sweeney, A.M., Sun, Q., Weikop, P., Du, T., Nedergaard, M. (2020) Direct Measurement of Cerebrospinal Fluid Production in Mice. *Cell Reports,* Vol 33, Iss 12. doi: 10.1016/j.celrep.2020.108524

Liu, H., Wang, X., Chen, L., Chen, L., Tsirka, S.E., Ge, S., Xiong, Q. (2021). Microglia modulate stable wakefulness via the thalamic reticular nucleus in mice. *Nature Communications*, 12, Article number: 4646 (2021). doi: 10.1038/s41467-021-24915-x

Liu, K., Kim, J., Kim, D.W., Zhang, S., Bao, H., Denaxa, M., Lim, SA., Kim, E., Liu, C., Wickersham, I.R., Pachnis, V., Hattar, S., Song, J., Brown, S.P., Blackshaw, S. (2017). Lhx6-positive GABA-releasing neurons of the zona incerta promote sleep. *Nature, 548,* 582-587. doi: 10.1038/nature23663

Liu, O., Bell, B.J., Kim, D.W., Lee, S.S., Keles, M.F., Liu, Q., Blum, I.D., Wang, A.A., Blank, E.J., Xiong, J., Bedont, J.L., Chang, A.J., Issa, H., Cohen, J.Y., Blackshaw, S., Wu, M.N. (2023) A clock-dependent brake for rhythmic arousal in the dorsomedial hypothalamus. *Nature Communications*, 14, Article number: 6381 (2023). doi: 10.1038/s41467-023-41877-4

Li, Q., Zhai, J., Du, T., He, J., Zhang, J., Tian, Y., Ma, K., Si, J., Yin, J., Li, Y. (2025). Ferulic acid methylester improves the comorbidity of insomnia and anxiety in a rat model of PCPA-induced sleep disorder by activating DRN 5-HT neurons. *Neuroscience Letters,* Volumes 859–861, 13 July 2025, 138276. doi: 10.1016/j.neulet.2025.138276

Li, X., Xu, X., Feng, Q., Zhou, N., He, Y., Liu, Y., Tai, H., Kim, HY., Fan, Y., Guan, X. (2025). Glutamatergic pathways from medial prefrontal cortex to paraventricular nucleus of thalamus contribute to the methamphetamine-induced conditioned place preference without affecting wakefulness. *Theranostics,* 2025 Jan 2;15(5):1822–1841. doi: 10.7150/thno.100688

Lin, W., Zhu, X., Yu, X., Fang, Z., Xia, Q., Cheng, L., Li, M., Qiu, X., Xu, L., An, S., Dou, C., Zheng, Y., Hu, W., Panula, P., Li, A., Wang, Y., Luo, Q., Chen, Z. (2025). A whole-brain male mouse atlas of long-range inputs to histaminergic neurons. *Nature Communciations,* 16, Article number: 8092 (2025). doi: 10.1038/s41467-025-63394-2

Liu, X., Yu, H., Wang, Y., Li, S., Cheng, C., Al-Nusaif, M., Le, W. (2022). Altered Motor Performance, Sleep EEG, and Parkinson's Disease Pathology Induced by Chronic Sleep Deprivation in Lrrk2G2019S Mice. *Neurosceince Bulletin*, 2022. doi: 10.1007/s12264-022-00881-2

Liu, Y., Li, Y., Yang, B., Yu, M., Zhang, X., Bi, L., Xu, H. (2020). Glutamatergic Neurons of the Paraventricular Nucleus are Critical for 3 the Control of Wakefulness. *Neuroscience, August 2020*. doi: 10.1016/j.neuroscience.2020.08.024

Llansola, M., Cantero, J.L., Hita-Yanez, E.H., Mirones-Maldonado, M.J., Piedrafita, B., Ahabrach, H., Errami, M., Agusti, A., Felipo V. (2012). Progressive reduction of sleep time and quality in rats with hepatic encephalopathy caused by portacaval shunts. *Neuroscience*, *201*, 199-208. doi: 10.1016/j.neuroscience.2011.11.009

Lu, H.C., Pollack, H., Lefante, J.J., Mills, A., Tian, D. (2017). Lhx6-positive GABA-releasing neurons of the zona incerta promote sleep. *Nature, 548,* 582-587. doi: 10.1038/nature23663

Luo, J., Phan, T.X., Yang, Y., Garelick, M.G., & Storm, D.R. (2013). Increases in cAMP, MAPK activity, and CREB phosphorylation during REM sleep: Implications for REM sleep and memory consolidation. *Journal of Neuroscience, 33*(15), 6460-6468. doi: 10.1523/JNEUROSCI.5018-12.2013

Lynch, N. De Luca, R., Spinieli, R.L., Rillosi, E., Thomas, R.C., Sailesh, S., Gangeddula, N., Lima, JD., Bandaru, SS., Arrigoni, E., Melo-Carrillo, A., Burstein, R., Thankachan, S., Kaur, S. (2025). Calcitonin Gene-Related Peptide (CGRP)-Expressing Neurons in the External Lateral Parabrachial Area Regulate Pain-Induced Sleep Disturbances. *Advanced Science,* 2025, 12, e00325. doi: 10.1002/advs.202500325

Ma, P., Chen, P., Tilden, E.I., Aggarwal, S., Oldenborg, A., Chen, Y. (2024) Fast and slow: Recording neuromodulator dynamics across both transient and chronic time scales. *Sci. Adv.*, *2024 Feb 23;10(8):eadi0643*. doi: 10.1126/sciadv.adi0643

Ma, Z., Eaton, M., Liu, Y., Zhang, J., Chen, X., Tu, X., Shi, Y., Que, Z., Wettschurack, K., Zhang, Z., Shi, R., Chen, Y., Kimbrough, A., Lanman, N.A., Schust, L., Huang, Z., Yang, Y. (2022) A clock-dependent brake for rhythmic arousal in the dorsomedial hypothalamus. *Neurobiology of Disease*, Volume 168,2022,105690. doi: 10.1016/j.nbd.2022.105690

Machado, N.L.S., Todd, W.D., Kaur, S., Saper, C.B. (2022). Median preoptic GABA and glutamate neurons exert differential control over sleep behavior. *Current Biology*, 2022. doi: 10.1016/j.cub.2022.03.039

Mairesse, J., Silletti, V., Laloux, C., Zuena, A.R., Giovine, A., Consolazione, M., van Camp, G., Malagodi, M., Gaetani, S., Cianci, S., Catalani, A., Mennuni, G., Mazzetta, A., van Reeth, O., Gabriel, C., Mocaer, E., Nicoletti, F., Morley-Fletcher, S., Maccari, S. (2013). Chronic agomelatine treatment corrects the abnormalities in the circadian rhythm of motor activity and sleep/wake cycle induced by prenatal restraint stress in adult rats. *International Journal of Neuropsychopharmacology, 16*(2), 323-338. doi: 10.1017/S1461145711001970

Manzella, F., Joksimovic, S., Orfila, J., Fine, B., Dietz, R., Sampath, D., Fiedler, H.K., Tesic, V., Atluri, N., Raol, Y.H., Jevtovic-Todorovic, V., Herson, P.S., Todorovic, S. (2020). Neonatal Ketamine Alters High-Frequency Oscillations and Synaptic Plasticity in the Subiculum But Does not Affect Sleep Macrostructure in Adolescent Rats. *Frontiers in systems neuroscience* vol. 14 26. 26 May. 2020. doi: 10.3389/fnsys.2020.00026

Manzella, F.M. (2021). Characterization of the Hypnotic Effects of Novel Synthetic Neuroactive Steroids. *Dissertation*, University of Colorado Denver, Anschutz Medical CampusProQuest Dissertations Publishing, Degree Year 2021. https://www.proquest.com/openview/b23d37453d909c5d0f926aaaf7833e96/1?pq-origsite=gscholar&cbl=18750&diss=y

Mathews, H.L. (2020). Characterization of the Effects of Nicotine Administration and Abstinence on Sleep, Anxiety-Like Behavior, and the Orexinergic System: Role of Chrna4 and Chrna5. *ProQuest Dissertations Publishing, University of Colorado at Boulder,* (Doctoral dissertation). proquest.com/openview/cff8c4f32fd9051ef08014523ae096ca/1?pq-origsite=gscholar&cbl=18750&diss=y

Mathews, H.L., Stitzel, J.A. (2018). The effects of oral nicotine administration and abstinence on sleep in male C57BL/6J mice. Psychopharmacology (Berl). Dec 18. doi: 10.1007/s00213-018-5139-6

McKenna, J.T.,Thankachan, S., Uygun, D.S., Shukla, C., Cordeira, J., McNally, J.M., Katsuki, F., Zant, J., Gamble, M.C., Deisseroth, K., McCarley, R.W., Brown, R.E., Strecker, R.E., Basheer, R. (2019) Basal forebrain parvalbumin neurons mediate arousals from sleep induced by hypercarbia or auditory stimuli. *bioRxiv* 76659. doi.org/10.1101/766659

McKillop, L.E., Fisher, S.P., Cui, N., Peirson, S.N., Foster, R.G., Wafford, K.A., & Vyazovskiy, V.V. (2018). Effects of aging on cortical neural dynamics and local sleep homeostasis in mice. *Journal of Neuroscience*. doi: 10.1523/JNEUROSCI.2513-17.2018

McKillop, L.E., Fisher, S.P., Milinski, L., Krone, L.B., Vyazovskiy, V.V. (2021) Diazepam effects on local cortical neural activity during sleep in mice. *Biochemical Pharacology,* March 2021, 114515. doi: 10.1016/j.bcp.2021.114515

Miyakoshi, L.M., Staeger, F.F., Li, Q., Pan, C., Xie, L., Kang, H., Pavan, C., Dang, J., Sun, Q., Erturk, A., Nedergaard, M. (2023) The state of brain activity modulates cerebrospinal fluid transport. *Progress in Neurobiology,* (2023). doi: 10.1016/j.pneurobio.2023.102512

Mori, T., Uzawa, N., Iwase, Y., Masukawa, D., Rahmadi, M., Hirayama, S., Hokazono, M., Higashiyama, K., Shioda, S, Suzuki, T. (2016). Narcolepsy-like sleep disturbance in orexin knockout mice are normalized by the 5-HT_{1A} receptor agonist 8-OH-DPAT. *Psychopharmacology, 233*(12), 2343-2353. doi: 10.1007/s00213-016-4282-1

Morrone, CD., Tsang, AA, Yu, WH. (2025). Autophagic impairment in sleep–wake circuitry is linked to sleep loss at the early stages of Alzheimer's disease. *Molecular Neurodegeneration,* Volume 20, article number 99 (2025). doi: 10.1186/s13024-025-00877-2

Muheim, CM., Frank, MG. (2025). Dynamic changes in cortical neurotrophic factor-positive interneurons during sleep. *Scientific Reports,* 15, Article number: 6403 (2025). doi: 10.1038/s41598-025-90878-4

Muhury, A. (2021) Machine Learning Approach for Vigilance State Classification in MiceMice. University of Kentucky. doi: 10.13023/etd.2021.442

Munday, V., Gelegen, C., Deegan, G., Illic, K., Delogu, A., Biabani, N., O'Keefe, A., Ballard, C., Tan, H., Cash, D., Schenk, C., Goadsby, PJ., Holland, P., Cooke, S., Rosenzweig, I. (2026). Reduced REM sleep fast theta power suggests early circuit vulnerability in a GBA1 mouse model of prodromal synucleinopathy. *Pre-print Research Square,* 2026. doi: 10.21203/rs.3.rs-7794342/v1

Murack, M., Kadamani, A.K., Guindon-Riopel, A., Traynor, O.H., Iqbal, U.H., Bronner, S., Messier, C., Ismail, N. (2024). The effect of probiotic supplementation on sleep, depression-like behaviour, and central glucose and lactate metabolism in male and female pubertal mice exposed to chronic sleep disruption. *Psychoneuroendocrinology,* Volume 168, October 2024, 107146. doi: 10.1016/j.psyneuen.2024.107146

Nachón-Gargía, F., Hurtado-Alvarado, G., Acosta-Hernández, M.E., Peña-Escudero, C., Priego-Fernández, S., & Alvarez-Herrera, S. (2018). Characterization of sleep-pattern and neuro-immune-endocrine markers at 24 hour post-injection of a single low dose of lipopolysaccharide in male Wistar rats. *Journal of Neuroimmunology, 320*, 15-18. doi: 10.1016/j.jneuroim.2018.04.011

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Naganuma, F., Nakamura, T., Yoshikawa, T., Iida, T., Miura, Y., Kárpáti, A., Matsuzawa, T., Yanai, A., Mogi, A., Mochizuki, T., Okamura, N., Yanai, K. (2017). Histamine N-methyltransferase regulates aggression and the sleep-wake cycle. *Scientific Reports, 7*, Article 15899. doi: 10.1038/s41598-017-16019-8

Naidoo, N., Davis, J.G., Zhu, J., Yabumoto, M., Singletary, K., Brown, M., Galante, R., Agarwal, B., Baur, J.A. (2014). Aging and sleep deprivation induce the unfolded protein response in the pancreas: implications for metabolism. *Aging Cell, 13*(1), 131-141. doi: 10.1111/acel.12158

Narita, M., Niikura, K., Nanjo-Niikura, K., Narita, M., Furuya, M., Yamashita, A., Saeki, M., Matsushima, Y., Imai, S., Shimizu, T., Asato, M., Kuzumaki, N., Okutsu, D., Miyoshi, K., Suzuki, M., Tsukiyama, Y., Konno, M., Yomiya, K., Matoba, M., Suzuki, T. (2011). Sleep disturbances in a neuropathic pain-like condition in the mouse are associated with altered GABAergic transmission in the cingulate cortex. *Pain*, *152*(6), 1358-1372. doi: 10.1016/j.pain.2011.02.016

Natsubori, A., Hirai, S., Kwon, S., Ono, D., Deng, F., Wan, J., Miyazawa, M., Kojima, T., Okado, H., Karashima, A., Li, Y., Tanaka, K.F., Honda, M. (2023) Serotonergic neurons control cortical neuronal intracellular energy dynamics by modulating astrocyte-neuron lactate shuttle. *iScience*, Volume 26, Issue 1, 20 January 2023, 105830. doi: 10.1016/j.isci.2022.105830

Northeast, R.C., Yige, H., McKillop, L.E., Bechtold, D.A., Peirson, S.N., Piggins, H.D., Vyazovskiy, V.V., (2019) Sleep homeostasis during daytime food entrainment in mice. *SleepJ*, 1–13, doi:10.1093/sleep/zsz157

Odo, M., Koh, K., Takada, T., Yamashita, A., Narita, M., Kuzumaki, N., Ikegami, D., Sakai, H., Iseki, M., Inada, E., Narita, M. (2014). Changes in circadian rhythm for mRNA expression of melatonin 1A and 1B receptors in the hypothalamus under a neuropathic pain-like state. *Synapse, 68*(4), 153-158. doi: 10.1002/syn.21728

Ogbeide-Latario, O.E., Ferrari, L.L., Gompf, H.S., Anaclet, C. (2022). Two novel mouse models of slow-wave-sleep enhancement in aging and Alzheimer's disease. *Sleep Advances*, 2022, 1–21. doi: 10.1093/sleepadvances/zpac022

Ogilvie, R.P., Simonelli, G., Sotres-Alvarez, D., St-Onge, M., Mossavar-Rahmani, Y., Perreira, Petrov, M., Kim, Y., Balkin, T., Wallace, D., Reid, KJ., Daviglus, M., Zee, PC., K.,Patel, S.R. (2018). Caffeine use and sleep in U.S. Hispanic/Latinos: Findings from HCHS/SOL sueño ancillary study. *SLEEP, 41*(suppl_1), A59. doi: 10.1093/sleep/zsy061.151

Oikonomou, G., Altermatt, M., Zhang, R., Coughlin, G., Montz, C., Gradinaru, V., Prober, D., (2019) The Serotonergic Raphe Promote Sleep in Zebrafish and Mice. *Neuron* doi:10.1016/j.neuron.2019.05.038

Oluwaseun, A. (2023) The Effects of Posterior Bite Blocks on the Masseter Muscle. *Southern Illinois University at Edwardsville ProQuest Dissertations Publishing, 2023,* 30813057. https://www.proquest.com/openview/8f62d291d5bca095073d86278d68286b/1?pq-origsite=gscholar&cbl=18750&diss=y

Otsuka, R., Naganuma, F., Nakamura, T., Miwa, H., Nakayama-Naono, R., Matsuzawa, T., Komatsu, Y., Sato, Y., Takahashi, Y., Tatsuoka-Kitano, H., Yanai, K., Yoshikawa, T. (2022). Contribution of astrocytic histamine N-methyltransferase to histamine clearance and brain function in mice. *Neuropharmacology, Volume 212, 2022,109065*. doi: 10.1016/j.neuropharm.2022.109065

Ouyang, W., Liu, W., Zhang, Y., Liu, Y., Kim, J.U., Shen, H., Wu, Y., Luan, H., Kilner, K., Lee, S.P., Lu, Y., Yang, Y., Wang, J., Yu, Y., Wegener, A.J., Moreno, J.A., Xie, Z., Wu, Y., Won, S.M., Kwon, K., Wu, C., Bai, W., Guo, H., Liu, T-L., Bai, H., Monti, G., Zhu, J., Madhvapathy, S.R., Trueb, J., Stanslaski, M., Higbee-Dempsey, E.M., Stepien, I., Ghoreishi-Haack, N., Haney, C.R., Kim, T-I., Huang, Y., Ghaffari, R., Banks, A.R., Jhou, T.C., Good, C.H., Rogers, J.A. (2023) A wireless and battery-less implant for multimodal closed-loop neuromodulation in small animals. *Nature Biomedical Engineering,* (2023). doi: 10.1038/s41551-023-01029-x

Oyunbileg, E., Jun, N., Sung, M-H., Yoon, D., & Baik, I. (2018). Effects of poly-gamma-glutamic acid on inflammatory and metabolic biomarkers in sleep-restricted rats. *Sleep and Biological Rhythms*, 1-6. doi: 10.1007/s41105-018-0170-x

Padilla, S,L., Perez, J.G., Ben-Hamo, M., Johnson, C.W., Sanchez, R.E.A., Buss,i I.L., Palmiter, R.D., de la Iglesia, H.O. Kisspeptin Neurons in the Arcuate Nucleus of the Hypothalamus Orchestrate Circadian Rhythms and Metabolism. *Curr Biol.* 2019 Jan 29. pii: S0960-9822(19)30024-7. doi: 10.1016/j.cub.2019.01.022.

Pan, W., Wang, S., Liu, Y., Qin, S., Ge, F., Yuan, X., Bo, Y., Tai, H., Liu, C., Fan, Y., Wang, X., Kim, HY., Wu, W., Guan, X. (2025). Electroacupuncture ameliorates sleep deprivation-induced insomnia in mice by regulating the dopaminergic projections from VTA to NAc. *Experimental Neurology*, Volume 392, October 2025, 115351. doi: 10.1016/j.expneurol.2025.115351

Papouin, T., Dunphy, J.M., Tolman, M., Dineley, K.T., & Haydon, P.G. (2017). Septal cholinergic neuromodulation tunes the astrocyte-dependent gating of hippocampal NMDA receptors to wakefulness. *Neuron, 94*(4), 840-854.e7. doi: 10.1016/j.neuron.2017.04.021

Park, H-J., Rhie, SJ., Jeong, W., Kim, K-R., Rheu, K-M., Lee, B-J., Shim, I. (2024). GABALAGEN Alleviates Stress-Induced Sleep Disorders in Rats. *biomedicines*, 12, 2905. doi: 10.3390/biomedicines12122905

Pavlov, A.N., Dubrowskii, A.I., Pavlova, O.N, Semyachkina-Glushkovskaya, O.V. (2021) Effects of Sleep Deprivation on the Brain Electrical Activity in Mice. *Applied Sciences,* 11, 1182. doi: 10.3390/app11031182

Pavlov, A.N., Pavlova, O.N., Semychkina-Glushkovskaya, O.V., Kurths, J. (2021). Enhanced multiresolution wavelet analysis of complex dynamics in nonlinear systems. *Chaos 31*, 043110 (2021). doi: 10.1063/5.0045859

Pedersen, N.P., Aiani, L., Fuller, P.M., & Saper, C.B. (2018). Ascending projections of identified neuronal subpopulations of the supramammillary hypothalamus. *SLEEP, 41*(suppl_1), A60-A61. doi: 10.1093/sleep/zsy061.155

Pedersen, N.P., Ferrari, L., Venner, A., Wang, J.L., Abbott, S.B.G., Vujovic, N., Arrigoni, E., Saper, C.B., Fuller, P.M. (2017). Supramammillary glutamate neurons are a key node of the arousal system. *Nature Communications, 8*. doi: 10.1038/s41467-017-01004-6

Pena-Esudero, C., Priego-Fernandez, S., Caba, M., Rodriguez-Alba, J.C., Corona-Morales, A.A., Garcia-Garcia, F. (2023). Effect of a Hedonic Stimulus on the Sleep Architecture of Male Wistar Rats. *Sleep Sci 2023;* 16(03): e329-e334, 2023121077. doi: 10.1055/s-0043-1773788

Perez Custodio, R.J., Kim, M., Val Sayson, L., Ortiz, D.M., Buctot, D., Lee, H.J., Cheong, J.H., Kim, H.J. (2022). Regulation of clock and clock-controlled genes during morphine reward and reinforcement: Involvement of the period 2 circadian clock. Journal of Psychopharmacology. doi: 10.1177/02698811221089040

Pfammatter, J.A., Maganti, R.K., & Jones, M.V. (2018). On the problem of spike-wave discharge detection by humans and machines. *bioRxiv*. doi: 10.1101/309146

Phillips, D.J., Blaine, S., Wallace, N.K., Karatsoreos, I.N. (2023) Brain-derived neurotrophic factor Val66Met polymorphism modulates the effects of circadian desynchronization on activity and sleep in male mice. *Front. Neurosci.*, 16:1013673. doi: 10.3389/fnins.2022.1013673

Phillips, D.J., Savenkova, M.I., & Karatsoreos, I.N. (2015). Environmental disruption of the circadian clock leads to altered sleep and immune responses in mouse. *Brain, Behavior, and Immunity, 47*, 14-23. doi: 10.1016/j.bbi.2014.12.008

Piilgaard, L., Rose, L., Hviid, C.G., Kohlmeier, K.A., Kornum, B.R. (2022) Sex-related differences within sleep–wake dynamics, cataplexy, and EEG fast-delta power in a narcolepsy mouse model. *Sleep*, Volume 45, Issue 7, July 2022, zsac058. doi: 10.1093/sleep/zsac058

Pho, H., Amorim, M.R., Qiu, Q., Shin, M-K., Kim, L.J., Anokye-Danso, F., Jun, J.J., Ahima, R.S., Branco, L.G.S., Kuhn, D.M., Mateika, J.H., Polotsky, V.Y. (2022). The effect of brain serotonin deficiency on breathing is magnified by age. *Physiological Reports.* 2022;10:e15245. doi: 10.14814/phy2.15245

Pho, H., Hernandez, A.B., Arias, R.S., Leitner, E.B., Van Kooten, S., Kirkness, J.P., Schneider, H., Smith, P.L., Polotsky, VY., Schwartz, A.R. (2016). The effect of leptin replacement on sleep-disordered breathing in the leptin-deficient *ob/ob* mouse. *Journal of Applied Physiology, 120*(1), 78-86. doi: 10.1152/japplphysiol.00494.2015

Pia, V., Bork, P., Harnpramkkul, A., Olveda, G., Ladron-de-Guevara, A., Giannetto, M.J., Hussain, R., Wang, W., Kelley, D.H., Hablitz, L.M., Nedergaard, M. (2022) A real-time in vivo clearance assay for quantification of glymphatic efflux. *Cell Reports*, Volume 40, 2022, 111320. doi: 10.1016/j.celrep.2022.111320

Pittman-Polletta, B., Hsieh, W-H., Kaur, S., Lo, M-T., & Hu, K. (2014). Detecting phase-amplitude coupling with high frequency resolution using adaptive decompositions. *Journal of Neuroscience Methods*, *226*, 15-32. doi: 10.1016/j.jneumeth.2014.01.006

Poulie, C.B.M., Chan, C.B., Parka, A., Lettorp, M., Vos, J., Raaschou, A., Pottie, E., Bundgaard, M.S., Sorensen, L.M.E., Cecchi, C.R., Marcher-Rorsted, E., Bach, A., Herth, M.M., Decker, A., Jensen, A.A., Elfving, B., Kretschmann, A.C., Stove, C.P., Kohlmeier, K.A., Cornett, C., Janfelt, C., Kornum, B.R., Kristensen, J.L. (2023) In Vitro and In Vivo Evaluation of Pellotine: A Hypnotic Lophophora Alkaloid. *ACS Pharmacol. Transl. Sci.*, September 2023. doi: 10.1021/acsptsci.3c00142

Price, M.P., Gong, H., Parsons, M.G., Kundert, J.R., Reznikov, L.R., Bernardinelli, L., Chaloner, K., Buchanan, GF., Wemmie, JA., Richerson, GB., Cassell, MD., Welsh, M.J. (2014). Localization and behaviors in null mice suggest that ASIC1 and ASIC2 modulate responses to aversive stimuli. *Genes, Brain, and Behavior, 13*(2), 179-194. doi: 10.1111/gbb.12108

Pettibone, W.D., Kam, K., Chen, R.K., Varga, A.W. (2019). Necessity of sleep for motor gist learning in mice. *Front. Neurosci.,* 05 April 2019. doi: 10.3389/fnins.2019.00293

Purnell, BS., Buchanan, GF. (2020). Free-running circadian breathing rhythms are eliminated by suprachiasmatic nucleus lesion. *Journal of Applied Physiology*. June doi: 10.1152/japplphysiol.00211.2020

Qian, S., Wang, Y., Zhang, X. (2019) Inhibiting Histamine Signaling ameliorates vertigo induced by sleep deprivation. *J. Molecular Neuroscience* 67: 411. doi.org/10.1007/s12031-018-1244-6

Rahmadi, M., Narita, M., Yamashita, A., Imai, S., Kuzumaki, N., & Suzuki, T. (2011). Sleep disturbance associated with an enhanced orexinergic system induced by chronic treatment with paroxetine and milnacipran. *Synapse, 65*(7), 652-657. doi: 10.1002/syn.20893

Ramirez-Plascencia, O.D., Saderi, N., Cardenas-Romero, S., Garcia-Garcia, F., Pena-Escudero, C., Flores-Sandoval, O., Azuara-Alvarez, L., Baez-Ruiz, A., Salgado-Delgado, R. (2022) Leptin and adiponectin regulate the activity of nuclei involved in sleep-wake cycle in male rats. *Front. Neurosci.*, 16:907508. doi: 10.3389/fnins.2022.907508

Raza, M.U. (2022) Validation of the 40 Hz Auditory Steady State Response as a Pharmacodynamic Biomarker of Evoked Neural Synchrony. East Tennessee State University. *Electronic Theses and Dissertations*. Paper 4079. https://dc.etsu.edu/etd/4079

Raza, M.U., Sivarao, D.V. (2021). Test-retest reliability of tone- and 40 Hz train-evoked gamma oscillations in female rats and their sensitivity to low-dose NMDA channel blockade. *bioRxiv*, 2021.01.08.425905. doi: 10.1101/2021.01.08.425905

Rempe, M.J., Clegern, W.C., & Wisor, J.P. (2015). An automated sleep-state classification algorithm for quantifying sleep timing and sleep-dependent dynamics of electroencephalographic and cerebral metabolic parameters. *Nature and Science of Sleep*, *7*, 85-99. doi: 10.2147/NSS.S84548

Rendine, M., Cocci, P., de Vivo, L., Bellesi, M., Palermo, F.A. (2024). Effects of Chronic Sleep Restriction on Transcriptional Sirtuin 1 Signaling Regulation in Male Mice White Adipose Tissue. *Curr. Issues Mol. Biol.,* 2024, 46(3), 2144-2154. doi: 10.3390/cimb46030138

Rendine, M., Cocci, P., de Vivo, L., Bellesi, M., Palermo, F.A. (2023). Effects of Chronic Sleep-Restriction on Transcriptional Regulation of SIRT1 Signaling in Mice White Adipose Tissue. *Pre-print* 2023, 2023121077. doi: 10.20944/preprints202312.1077.v1

Robinson, H.L. (2022). ERBB4 Kinase dynamically regulates hippocampal-prefrontal synchrony and hippocampal sharp wave ripples important for attention and memory. *Dissertation*, *Case Western Reserve University*. https://etd.ohiolink.edu/apexprod/rws_etd/send_file/send?accession=case1643711448048167&disposition=inline

Rogers, A., Aiani, L., Blanpain, L.T., Yuxian, S., Moore, R., Willie, J.T.. (2020) Deep Brain Stimulation of Hypothalamus for Narcolepsy-Cataplexy in Mice. *Sci Direct*, April. doi: 10.1016/j.brs.2020.04.006

Rogers, A., Aiani, L., Pedersen, N., & Willie, J. (2018). Brief hypersynchronous paroxysmal theta bursts during wake precede subsequent sleep and cataplexy in mouse narcolepsy type 1. *SLEEP,41*(suppl_1), A61. doi: 10.1093/sleep/zsy061.156

Rosenberg, L. (2021). Sleep Disruption in a Mouse Model of Medial Temporal Lobe Epilepsy. Georgia Institute of Technology, May, 2021. https://smartech.gatech.edu/handle/1853/64878

Roundtree, H.M., Simeone, T.A., Johnson, C., Matthews, S.A., Samson, K.K., & Simeone, K.A. (2016). Orexin receptor antagonism improves sleep and reduces seizures in *Kcna1*-null mice. *SLEEP, 39*(2), 357-368. doi: 10.5665/sleep.5444

Roy, D.S., Zhang, Y., Aida, T., Choi, S., Chen, Q., Hou, Y., Lea, N.E., Skaggs, K.M., Quay, J.C., Liew, M., Maisano, H., Le, V., Jones, C., Xu, J., Kong, D., Sullivan, H.A., Saunders, A., McCarroll, S.A., Wickersham, I.R., Feng, G. (2021). Anterior thalamic dysfunction underlies cognitive deficits in a subset of neuropsychiatric disease models. *Neuron*, July 2021. doi: 10.1016/j.neuron.2021.06.005

Rukhadze, I., Carballo, N.J., Bandaru, S.S., Malhotra, A., Fuller, P.M., & Fenik, V.B. (2017). Catecholaminergic A1/C1 neurons contribute to the maintenance of upper airway muscle tone but may not participate in NREM sleep-related depression of these muscles. *Respiratory Physiology & Neurobiology, 244*, 41-50. doi: 10.1016/j.resp.2017.07.001

Rupp, A., Ren, M., Altimus, C., Fernandez, D., Richardson, M., Turek, F., Hattar, S., Schmidt, T. (2019). Distinct ipRGC subpopulations mediate light's acute and circadian effects on body temperature and sleep. *eLife* vol. 8 e44358. 23 Jul. 2019. doi: 10.7554/eLife.44358

Salazar Leon, L.E., Brown, A.M., Kaku, H., Sillitoe, R.V. (2023) Purkinje cell dysfunction causes disrupted sleep in ataxic mice. *Pre-Print bioRxiv*, *Department of Neuroscience, Baylor College of Medicine, Houston, Texas,*. doi: 10.1101/2023.07.03.547586

Sanchez, R.E.A., Bussi, I.L., Ben-Hamo, M., Caldart, C.S., Catterall W.A., de la Iglasia, H.O. (2019) Circadian Regulation of Sleep in a Pre-Clinical Model of Dravet Syndrome: Dynamics of Sleep Stage and Siesta Re-entrainment, *Sleep,* Volume 42, Issue 12, December 2019, zsz173. doi: 10.1093/sleep/zsz173

Saravanapandian, V., Madani, M., Nichols, I., Vincent, S., Dover, M., Dikeman, D., Philpot, B.D., Takumi, T., Colwell, C.S., Jeste, S., Paul, K.N., Golshani, P.. (2024). Sleep EEG signatures in mouse models of 15q11.2-13.1 duplication (Dup15q) syndrome. *Journal of Neurodevelopmental Disorders,* Volume 16, article number 39, (2024). doi: 10.1186/s11689-024-09556-7

Sayson, L.V., Jeon, S.J., Ortiz, D.M., Lee, H.J., Campomayor, N.B., Kim, H.J., Kim, M. (2024). Heukharang (Lactuca sativa L.) extracts enhanced the sleep behavior of mice: potential involvement of adenosine A1 and A2A receptors. *Sleep Biol. Rhythms,* 2024. doi: 10.1007/s41105-024-00522-3

Sayson, L.V., Campomayor, N.B., Ortiz, D.M., Lee, H.J., Balataria, S., Park, S., Lim, J., Kang, H., Kim, H.J., Kim, M. (2024). Extracts of Prunella vulgaris Enhanced Pentobarbital-Induced Sleeping Behavior in Mice Potentially via Adenosine A2A Receptor Activity. *Planta Med, 2024; 90(11): 864-875.* doi: 10.1055/a-2360-9639

Schmidt, M.A. & Wisor, J.P. (2012). Interleukin 1 receptor contributes to methamphetamine- and sleep deprivation-induced hypersomnolence. *Neuroscience Letters, 513*(2), 209-213. doi: 10.1016/j.neulet.2012.02.040

Schreck, M.R., Zhuang, L., Janke, E., Moberly, A.H., Bhattarai, J.P., Gottfried, J.A., Wesson, D.W., Ma, M. (2022). State-dependent olfactory processing in freely behaving mice. *Cell Reports*, Volume 38, Issue 9, 2022, 110450. doi: 10.1016/j.celrep.2022.110450

Schwartz, M.D., Palmerston, J.B., Lee, D.L., Hoener, M.C., & Kilduff, T.S. (2018). Deletion of trace amine-associated receptor 1 attenuates behavioral responses to caffeine. *Frontiers in Pharmacology*. doi: 10.3389/fphar.2018.00035

Schwabedal, J.T.C., Sippel, D., Brandt, M.D., Bialonski, S. (2018) Automated Classification of Sleep Stages and EEG Artifacts in Mice with Deep Learning. *Science Translational Medicine,* 10(459), eaao5620.10.1126/scitranslmed.aao5620

Seibt, J., Richard, C.J., Sigl-Glöckner, J., Takahashi, N., Kaplan, D.I., Doron, G., de Limoges, D., Bocklisch, C., Larkum, M.E. (2017). Cortical dendritic activity correlates with spindle-rich oscillations during sleep in rodents. *Nature Communications, 8.* doi: 10.1038/s41467-017-00735-w

Semyachkina-Glushkovskaya, O., Sergeev, K., Semenova, N., Slepnev, A., Karavaev, A., Hramkov, A., Prokhorov, M., Borovkova, E., Blokhina, I., Fedosov, I., Shirokov, A., Dubrovsky, A., Terskov, A., Manzhaeva, M., Krupnova, V., Dmitrenko, A., Zlatogorskaya, D., Adushkina, V., Evsukova, A., Tuzhilkin, M., Elizarova, I., Illyukov, E., Myagkov, D., Tuktarov, D., Kurths, J. (2023) Machine Learning Technology for EEG-Forecast of the Blood–Brain Barrier Leakage and the Activation of the Brain's Drainage System during Isoflurane Anesthesia. *Biomolecules 2023*, *13*(11), 1605. doi: 10.3390/biom13111605

Semyachkina-Glushkovskaya, O.V., Karavaev, A.S., Prokhorov, M.D., Runnova, A.E., Borovkova, E.I., Ishbulatov, Yu.M., Hramkov, A.N., Kulminskiy, D.D., Semenova, N.I., Sergeev, K.S., Slepnev, A.V., Sitnikova, E.Yu., Zhuravlev, M.O., Fedosov, I.V., Shirokov, A.A., Blokhina, I.A., Dubrovski, A.I., Terskov, A.V., Khorovodov, A.P., Ageev, V.B., Elovenko, D.A., Evsukova, A.S., Adushkina, V.V., Telnova, V.V., Postnov, D.E., Penzel, T.U., Kurths, J.G. (2022) EEG biomarkers of activation of the lymphatic drainage system of the brain during sleep and opening of the blood-brain barrier. *Computational and Structural Biotechnology Journalism,* Volume 21. doi: 10.1016/j.csbj.2022.12.019

Semyachkina-Glushkovskaya, O., Penzel, T., Blokhina, I., Khorovodov, A., Fedosov, I. Yu, T., Karandin, G., Evsukova, A., Elovenko, D., Adushkina, V., Shirokov, A., Dubrovskii, A., Terskov, A., Navolokin, N., Tzoy, M., Ageev, V., Agranovich, I., Telnova, V., Tsven, A., Kurths, J. (2021) Night Photostimulation of Clearance of Beta-Amyloid from Mouse Brain: New Strategies in Preventing Alzheimer's Disease. Cells 2021, 10,3289. doi: 10.3390/cells10123289

Semyachkina-Glushkovskaya, O., Shirokov, A., Blokhina, I., Fedosov, I., Terskov, A., Dubrovsky, A., Tsoy, M., Elovenko, D., Adushkina, V., Evsukova, A., Telnova, V., Tzven, A., Krupnova, V., Manzhaeva, M., Dmitrenko, A., Penzel, T., Kurths, J. (2023) Mechanisms of phototherapy of Alzheimer's disease during sleep and wakefulness: the role of the meningeal lymphatics. *Front. Optoelectron*, 16, 22, 2023. doi: 10.1007/s12200-023-00080-5

Sheward, W.J., Naylor, E., Knowles-Barley, S., Armstrong, J.D., Brooker, G.A., Seckl, J.R., Turek, F.W., Holmes, M.C., Zee, P.C., Harmar, A.J. (2010). Circadian control of mouse heart rate and blood pressure by the suprachiasmatic nuclei: Behavioral effects are more significant than direct outputs. *PLoS ONE, 5*(3), e9783. doi: 10.1371/journal.pone.0009783

Shi, G., Yin, C., Fan, Z., Xing, L., Mostovoy, Y., Kwok, P-Y., Ashbrook, L., Krystal, A., Ptacek, L., Fu, Y-H. (2020). Mutations in Metabotropic Glutamate Receptor 1 Contribute to Natural Short Sleep Trait. *Curent Biology,* 31, 1–12. doi: 10.1016/j.cub.2020.09.071

Shi, G., Xing, L., Wu, D., Bhattacharyya, B., Jones, C., McMahon, T., Christin Chong, S.Y., Chen, J.A., Coppola, G., Geschwind, D., Krystal, A., Ptacek, L.J., Fu, Y.H. (2019). A Rare Mutation of β1-Adrenergic Receptor Affects Sleep/Wake Behaviors. *Neuron,* Volume 103, Issue 6, 25 September, Pages 1044-1055.e7. doi: 10.1016/j.neuron.2019.07.026

Sierra Brown, M. (2022). The Effects of Oral Nicotine Administration on Sleep Quantity and Architecture in Female C57BL/6J Mice. *Thesis*, Integrative Physiology, The University of Colorado at Boulder. doi: 10.1016/j.celrep.2022.110450

Sims, R.E., Wu, H.H.T., & Dale, N. (2013). Sleep-wake sensitive mechanisms of adenosine release in the basal forebrain of rodents: An *in vitro* study. *PLoS ONE, 8*(1), e53814. doi: 10.1371/journal.pone.0053814

Sippel, D., Schwabedal, J., Snyder, C., Oyanedel, C.N., Bernas, S.N., Garthe, A., Trondle, A., Storch, A., Kempermann, G., Brandt, M.D. (2020). Disruption of NREM sleep and sleep-related spatial memory consolidation in mice lacking adult hippocampal neurogenesis. *Scientific Reports, 10,* Article number: 16467 (2020). doi: 10.1038/s41598-020-72362-3

Smith, C., Trageser, K.J., Wu, H., Herman, F.J., Iqbal, U.H., Sebastian-Valverde, M., Frolinger, T., Zeng, E., Pasinetti, G.M. (2021) Anxiolytic effects of NLRP3 inflammasome inhibition in a model of chronic sleep deprivation. *Translational Psychiatry,* 11, Article number: 52 (2021). doi: 10.1038/s41398-020-01189-3

Smith, H.R., Leibold, N.K., Rappoport, D.A., Ginapp, C.M., Purnell, B.S., Bode, N.M., Alberico, S.L., Kim, Y.C., Audero, E., Gross, C., Buchanan, G.F. (2018). Dorsal raphe serotonin neurons mediate CO_2-induced arousal from sleep. *Journal of Neuroscience, 38*(8). doi: 10.1523/JNEUROSCI.2182-17.2018

Stamenic, T.T., Feseha, S., Valdez, R., Zhao, W., Klawitter, J., Todorovic, A.M., (2019) Alterations in Oscillatory Behavior of Central Medial Thalamic Neurons Demonstrate a Key Role of CaV3.1 Isoform of T-Channels During Isoflurane-Induced Anesthesia. *Cerebral Cortex*, bhz002, doi:10.1093/cercor/bhz002

Stanyer, E. (2023) The Neural Mechanisms of Sleep and Migraine. *Thesis*, *King's College London, United Kingdom*. https://kclpure.kcl.ac.uk/ws/portalfiles/portal/242986174/2023_Stanyer_Emily_1933250_ethesis.pdf

Strobel, Matthew Roderick, "Study of primary cilia in early development, pharmacology, and brainwave activity." (2021). Doctoral Dissertations. 2639. https://scholars.unh.edu/dissertation/2639

Strobel, M.R., Zhou, Y., Qiu, L., Hofer, A.M., Chen, X. (2025). Temporal ablation of the ciliary protein IFT88 alters normal brainwave patterns. *Scientific Reports*, 15, Article number: 347. doi: 10.1038/s41598-024-83432-1

Studholme, K.M., Gompf, H.S., & Morin, L.P. (2013). Brief light stimulation during the mouse nocturnal activity phase simultaneously induces a decline in core temperature and locomotor activity followed by EEG-determined sleep. *American Journal of Physiology, 304*(6), R459-R471. doi: 10.1152/ajpregu.00460.2012

Su, M., Li, Q., Liao, P., Lei, F., Li, X., Deng, L., Yang, J., Lu, F., Zhou, B., Jiang, R. (2026). State-Dependent Remodeling of Astrocytic Proteome and Phosphorylation Signaling Networks Across Wake, Sleep, and General Anesthesia. *Int.J.Mol.Sci.,* 2026, 27(5), 2159. doi: 10.3390/ijms27052159

Summa, K.C., Jiang, P., Gonzalez-Rodriguez, P., Huang, X., Lin, X., Vitaterna, M.H., Dan, Y., Surmeier, D.J., Turek, F.W. (2024) Disrupted sleep-wake regulation in the MCI-Park mouse model of Parkinson's disease. *Npg Parkinson's Disease,* 10, Article number 54 (2024). doi: 10.1038/s41531-024-00670-w

Takeda, H., Yoshimura, Y., Takagi, M., Sato, A., Kihara, N., Choudhury, M.E., Yano, H., Tanaka, J. (2022) Bromovalerylurea modulates GABAA receptor-mediated inhibitory neurotransmission while inducing sleep. *Biochemical and Biophysical Research Comm*, Volume 638, Jan 2023. doi: 10.1016/j.bbrc.2022.11.062

Takemura, Y., Yamashita, A., Horiuchi, H., Furuya, M., Yanase, M., Niikura, K., Imai, S., Hatakeyama, N., Kinoshita, H., Tsukiyama, Y., Senba, E., Matoba, M., Kuzumaki, N., Yamazaki, M., Suzuki, T., Narita, M. (2011). Effects of gabapentin on brain hyperactivity related to pain and sleep disturbance under a neuropathic pain-like state using fMRI and brain wave analysis. *Synapse*, *65*(7), 668-676. doi: 10.1002/syn.20898

Tanaka, K., Choudhury, M.E., Kikuchi, S., Takeda, I., Umakoshi, K., Miyaue, N., Mikami, K., Takenaga, A., Yagi, H., Shinabe, R., Matsumoto, H., Yano, H., Nagai, M., Takeba, J., Tanaka, J. (2024) A dopamine D1-like receptor-specific agonist improves the survival of septic mice. Journal Pre-Proof, iScience. doi:10.1016/j.isci.2024.109587

Tchekalarova, J., Kortenska, L., Ivanova, N., Atanasova, M., Marinov, P. (2019) Agomelatine treatment corrects impaired sleep-wake cycle and sleep architecture and increases MT(1) receptor as well as BDNF expression in the hippocampus during the subjective light phase of rats exposed to chronic constant light. *Psychopharmacology (Berl).* Nov 13. doi:10.1007/s00213-019-05385-y

Terskov, A., Evsukova, A., Blokhina, I., Tzoy, M., Zlatogorskaya, D., Adushkina, V. (2024) Photo-sleep therapy of Alzheimer's disease. *Eur. Phys. J. Spec. Top*, 2024. doi: 10.1140/epjs/s11734-024-01141-2

Thankachan, S., Gerashchenko, A., Kastanenka, K.V., Bacskai, B.J., Gerashchenko, D. (2022). Optimization of real-time analysis of sleep-wake cycle in mice. *MethodsX*, 2022, 101811. doi: 10.1016/j.mex.2022.101811

Thankachan S., Katsuki F., McKenna J.T., Yang C., Shukla C., Deisseroth K., Uygun D.S., Strecker R.E., Brown R.E., McNally J.M., Basheer R. (2019). Thalamic Reticular Nucleus Parvalbumin Neurons Regulate Sleep Spindles and Electrophysiological Aspects of Schizophrenia in Mice. *Scientific Reports*, 9 (3607) doi: 10.1038/s41598-019-40398-9

Theparambil, S.M., Kopach, O., Braga, A., Nizari, S., Hosford, P.S., Sagi-Kiss, V., Hadjihambi, A., Konstantinou, C., Esteras, N., Del Arroyo, A.G., Ackland, G.L., Teschemacher, A.G., Dale, N., Eckle, T., Andrikopoulos, P., Rusakov, D.A., Kasparov, S., Gourine, A.V. (2024) Adenosine signalling to astrocytes coordinates brain metabolism and function. *Nature*, 632, pages 139–146 (2024). doi: 10.1038/s41586-024-07611-w

Titos, I., Juginovic, A., Vaccaro, A., Nambara, K., Gorelik, P., Mazor, O., Rogulja, D. (2023) A gut-secreted peptide suppresses arousability from sleep. *Cell*, 186, 1–16. doi: 10.1016/j.cell.2023.02.022

Todd, W.D., Venner, A., Anaclet, C., Broadhurst, R., De Luca, R., Bandaru, S., Issokson, L., Hablitz, L., Cravetchi, O., Arrigoni, E., Campbell, J., Allen, C., Olson, D., Fuller, P. (2020). Suprachiasmatic VIP neurons are required for normal circadian rhythmicity and comprised of molecularly distinct subpopulations. *Nat Commun 11, 4410 (2020)*. doi: 10.1038/s41467-020-17197-2

Toyama, S., Shimoyama, N., Tagaito, Y., Nagase, H., Saitoh, T., Yanagisawa, M., & Shimoyama, M. (2018). Nonpeptide orexin-2 receptor agonist attenuates morphine-induced sedative effects in rats. *Anesthesiology, 128,* 992-1003. doi:10.1097/ALN.0000000000002161

Trotter, D.L. (2022) A Correlational Analysis of the Recovery from Sleep Deprivation Across a Panel of Inbred Mouse Strains. *University of California, Los Angeles ProQuest Dissertations Publishing*, 2022. 29254070. https://www.proquest.com/openview/c1534130d4ae84e4f4f0cd211f60dd4a/1?pq-origsite=gscholar&cbl=18750&diss=y

Tseng, Y-T., Zhao, B., Chen, S., Ye, J., Liu, J., Liang, L., Ding, H., Schaefke, B., Yang, Q., Wang, L., Wang, F., Wang, L. (2022) The subthalamic corticotropin-releasing hormone neurons mediate adaptive REM-sleep responses to threat. *Neuron 110*, 1223–1239, April 6, 2022. doi: 10.1016/j.neuron.2021.12.033

Tsuneki, H., Kon, K., Ito, H. Yamazaki, M., Takahara, S., Toyooka, N., Ishii, Y., Sasahara, M., Wada, T., Yanagisawa, M., Sakurai, T., Sasaoka, T. (2016). Timed inhibition of orexin system by suvorexant improved sleep and glucose metabolism in type 2 diabetic *db/db* mice. *Endocrinology, 157*(11), 4146-4157. doi: 10.1210/en.2016-1404

Um, M.Y., Yoon, M., Kim, M., Kim, D., Kim, S., Cho, S. (2023) Rice bran component γ-oryzanol promotes sleep in mice by antagonism of histamine H1 receptor. *Journal of Functional Foods*, Volume 107, 2023. doi: 10.1016/j.jff.2023.105700

Um, M.Y., Kim, S., Jin, Y-H., Yoon, M., Yang, H., Lee, J., Jung, J., Urade, Y., Huang, Z.L., Kwon, S., Cho, S. (2017). A novel neurological function of rice bran: A standardized rice bran supplement promotes non-rapid eye movement sleep in mice through histamine H1 receptors. *Molecular Nutrition & Food Research, 61*(11). doi: 10.1002/mnfr.201700316

Um, M.Y., Yoon, M., Kim, M., Jung, J., Kim, S., Kim D-O., Cho, S. (2022) Curcuminoids, a major turmeric component, have a sleep-enhancing effect by targeting the histamine H1 receptor. *Food & Function*, 2022. doi: 10.1039/D2FO02087D

Uygun, D.S., Katsuki, F., Bolortuya, Y., Aguilar, D., McKenna, J., Thankachan, S., McCarley, R.W., Basheer, R., Brown, R.E., Strecker, R.E., McNally, J. (2019). Validation of an automated sleep spindle detection method for mouse electroencephalography. *Sleep,* Volume 42, Issue 2, February 2019, zsy218. doi: 10.1093/sleep/zsy218

Uygun, D.S., Yang, C., Tilli, E.R., Katsuki, F., Hodges, E.L., McKenna, J.T., McNally, J.M., Brown, R.E., Basheer, R. (2022). Knockdown of GABAA alpha3 subunits on thalamic reticular neurons enhances deep sleep in mice. *Nature Communications*, 13, Article number: 2246. doi: 10.1038/s41467-022-29852-x

Vaccaro, A., Dor, YK., Nambara, K., Pollina, EA., Lin, C., Greenberg, M. (2020). Sleep Loss Can Cause Death through Accumulation of Reactive Oxygen Species in the Gut. *Cell*. doi: 10.1016/j.cell.2020.04.049

Vas, S., Casey, J.M., Schneider, W.T., Kalmar, L., Morton, A.J. (2020). Wake-Promoting and EEG Spectral Effects of Modafinil After Acute or Chronic Administration in the R6/2 Mouse Model of Huntington's Disease. *Neurotherapeutics*. doi: 10.1007/s13311-020-00849-y

Van Ta, Q., Yoon, M., Yang, H., Kim, J., Cho, S., Kang, K-H., Kim, Y-S., Park, S-J., Kim, S-K. (2015). Effects of blue mussel (ME) water extracts on pentobarbital-induced sleep and the sleep architecture in mice. *Food Science and Biotechnology, 24*(1), 295-300. doi: 10.1007/s10068-015-0039-6

Vedantham, K., Ahmad, A., Niu, L., Shui, Y., Lemtiri-Chlieh, F., Kaback, D., Ma, X-M., Yee, S-P., Wang, Z-W. (2025). Melatonin Enhances Sleep via MT1-Driven Activation of Slo1 in Suprachiasmatic Nucleus Neurons. *bioRxiv preprint,* 2025. doi: 10.1101/2025.03.12.642893

Venner, A., De Luca, R., Sohn, L.T., Bandaru, S., Verstegen, A.M.J., Arrigoni, E., Fuller, P. (2020). An Inhibitory Lateral Hypothalamic-Preoptic Circuit Mediates Rapid Arousals from Sleep. *Current Biology*, *Volume 29, Issue 24, 16 December, Pages 4155-4168.e5*. doi: 10.1016/j.cub.2019.10.026

Vincent, SM., Hesse, S., Ehlen, JC., Brager, A., Paul, KN., Nichols, I. (2020). 1 Sleep Deprivation alters the infdivluence of biological sex on active-phase sleep behavior. *bioRxiv 2020.02.21.958231*. doi: 10.1101/2020.02.21.958231

Vincent, S.M. (2022) Hydrogen-rich water alters sleep and enhances forebrain neuronal activity in mice. *UCLA Dissertation*, 2022. https://escholarship.org/uc/item/7fv3m9v9

Vincent, S.M., Madani, M., Dikeman, D., Golden, K., Crocker, N., Jackson ,C., Wimmer, S.P., Dover, M., Tucker, A., Ghiani, C.A., Colwell, C.S., LeBaron, T.W., Tarnava, A., Paul, K.N. (2024) Hydrogen-rich water improves sleep consolidation and enhances forebrain neuronal activation in mice. *Sleep Advances, 2024*, 5, 1-15. doi: 10.1093/sleepadvances/zpad057

Vizin, R.C.L., Kopruszinski, C.M., Redman, P.M., Ito, H., Rau, J., Dodick, D.W., Navratilova, E., Porreca, F. (2024) Unraveling the directional relationship of sleep and migraine-like pain. *Brain Communications, 2024*. doi: 10.1093/braincomms/fcae051

Wall, J.D. (2017). The effects of acute L-dopa on brux-like and masticatory motor patterns: EMG phase analysis in rats. *ProQuest Dissertations Publishing, Southern Illinois University at Edwardsville,* (Master's thesis). proquest.com/487b969a5e06dae681561751349f6df4

Wallace, A., Kim, D-Y., Kim, K-M., Chen, S., Braden, B., Williams, J., Jasso, K., Garcia, A., Rho, J.M., Bimonte-Nelson, H., Maganti, R. (2015). Differential effects of duration of sleep fragmentation on spatial learning and synaptic plasticity in pubertal mice. *Brain Research, 1615*, 116-128. doi: 10.1016/j.brainres.2015.04.037

Walsh, S.R.M. (2023) Neuronal Primary Cilia in Postnatal Brains & Alzheimer's Disease Mice EEG Patterns Under Fear Conditioning. *Honors Theses and Capstones.* 752. https://scholars.unh.edu/honors/752

Wang, C., Guerriero, L.E., Huffman, D.M., Ajwad, A.A., Brooks, T.C., Sunderam, S., Seifert, A.W., O'Hara, B.F. (2020). A comparative study of sleep and diurnal patterns in house mouse (Mus musculus) and Spiny mouse (Acomys cahirinus). *Scientific Reports,* volume 10, Article number: 10944. doi: 10.1038/s41598-020-67859-w

Wang, J., Huffman, D., Ajwad, A., McLouth, C.J., Bachstetter, A., Kohler, K., Murphy, M.P., O'Hara, B.F., Duncan, M.J., Sunderman, S. (2024) Thermoneutral temperature exposure enhances slow-wave sleep with a correlated improvement in amyloid pathology in a triple-transgenic mouse model of Alzheimer's disease. *Sleep, 2024;, zsae078*. doi: 10.1093/sleep/zsae078

Wang, J., Maganti, R. (2025). Sleep loss and abnormal sleep homeostasis as biomarkers of Sudden Unexpected Death in Epilepsy: Evidence from the Kv1.1 mouse model. *University of Wisconsin-Madison preprint,* 2025. doi: 10.21203/rs.3.rs-7159794/v1

Wang, Q. de Prisco, N. Tang, J., Gennarino, V.A. (2022) Protocol for recording epileptiform discharges of EEG and behavioral seizures in freely moving mice. *STAR Protocols,* Volume 3, Issue 2, 2022. doi: 10.1016/j.xpro.2022.101245

Wang, Y., He, J., Kastin, A.J., Hsuchou, H., & Pan, W. (2013). Hypersomnolence and reduced activity in pan-leptin receptor knockout mice. *Journal of Molecular Neuroscience*, *51*(3), 1038-1045. doi: 10.1007/s12031-013-0093-6

Wang, Y., Chen, Z., Davis, B., Lipman, W., Xing, S., Zhang, L., Wang, T., Hafiz, P., Xie, W., Yan, Z., Huang, Z., Song, J., Bai, W. (2024) Digital automation of transdermal drug delivery with high spatiotemporal resolution. *Nature Communications, 15, 511, 2024*. doi: 10.1038/s41467-023-44532-0

Wang, Y, Chen, CT., Deboer, T., Block, GD., Paul, KN., Colwell, CS. (2026). Bright Days Buffer Nighttime Light: Daytime Illumination Shapes Sex Differences in Sleep and Circadian Regulation. *Pre-print bioRxiv,* 2026.02.25.707542. doi: 10.64898/2026.02.25.707542

Wang, Y., Liu, X., Zhang, Q., Zhao, D., Zhou, B., Pan, Z., Zha, S., Hu, K. (2024) Bioluminescence-optogenetics-mediated gene therapy in a sleep-disordered breathing mouse model. *Biomedicine & Pharmacotherapy,* Volume 178, September 2024, 117159. doi: 10.1016/j.biopha.2024.117159

Wang, Y., Paul, KN., Block, GD., Deboer, T., Colwell, CS. (2026). Dim light at night disrupts the sleep-wake cycle and exacerbates abnormal EEG activity in Cntnap2 knockout mice: implications for autism spectrum disorders. *Molecular Autism,* 16, 62 (2025). doi: 10.1186/s13229-025-00689-7

Wang, Y., Zhao, Q., Zhang, Q., Wu, X., Liu, X., Wu, S., Liu, H., Zhou, B., Zha, S., Zhao, D., Deng, G., Hu, K. (2025). Targeted Delivery of CNS-Specific Hesperidin as a Leptin Sensitizer for Treating Obesity-Associated Sleep-Disordered Breathing. *Advanced Science, September* 2025. doi: 10.1002/advs.202506182

Ward, C.P., Wooden, J.I., & Kieltyka, R. (2017). Effects of sleep deprivation on spatial learning and memory in juvenile and young adult rats. *Psychology & Neuroscience, 10*(1), 109-116. doi: 10.1037/pne0000075

Wei, T.Y., Greene, P., Sacre, P., Nassar, V., Sarma, S.V., Latremoliere, A., Alexandre, C. (2021) Identifying EEG Features Specific to Pain-induced Awakenings. Paper at 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC) Oct 31 - Nov 4, 2021. Virtual Conference. https://paperhost.org/proceedings/embs/EMBC21/files/2410.pdf

White, P., Ranasinghe, S., Chen, J., Van de Looij, Y., Sizoneneko, S., Prasad, J., Berry, M., Bennet, L., Gunn, A., Dean, J. (2024) Comparative utility of MRI and EEG for early detection of cortical dysmaturation after postnatal systemic inflammation in the neonatal rat. *Brain, Behavior, and Immunity,* Volume 121, October 2024, Pages 104-118. doi: 10.1016/j.bbi.2024.07.028

Wisor, J.P., Clegern, W.C., & Schmidt, M.A. (2011). Toll-like receptor 4 is a regulator of monocyte and electroencephalographic responses to sleep loss. *SLEEP, 34*(10), 1335-1345. doi: 10.5665/sleep.1274

Wooden, J., Pido, J., Mathews, H., Kieltyka, R., Montemayor, B., & Ward, C. (2014). Sleep deprivation impairs recall of social transmission of food preference in rats. *Nature and Science of Sleep, 2014*(6), 129-135. doi: 10.2147/NSS.S68611

Xi, K. Huang, X. Liu, T., Liu, Y., Mao, H., Wang, M. Feng, D., Wang, W., Guo, B., Wu, S. (2021) Translational relevance of behavioral, neural, and electroencephalographic profiles in a mouse model of post-traumatic stress disorder. *Neurobiology of Stress*, Volume 15, 1 November 2021, 100391. doi: 10.1016/j.ynstr.2021.100391

Xiang, X., Chen, C., Zhou, W. (2026). Hypothalamic Orexin Input to the Medial Amygdala Links Vigilance to Arousal. *Pre-print bioRxiv,* 2026.03.09.710682. doi: 10.64898/2026.03.09.710682

Xing, L., Shi, G., Mostovoy, Y., Gentry, N.W., Fan, Z., McMahon, T.B., Kwok, P-Y., Jones, C.R., Ptacek, L.J., Fu, YH. (2019) Mutant neuropeptide S receptor reduces sleep duration with preserved memory consolidation. *Sci Transl Med.* Oct 16;11(514). pii: eaax2014. doi:10.1126/scitranslmed.aax2014.

Yaghouby, F., Donohue, K.D., O'Hara, B.F., & Sunderam, S. (2016). Noninvasive dissection of mouse sleep using a piezoelectric motion sensor. *Journal of Neuroscience Methods, 259*, 90-100. doi: 10.1016/j.jneumeth.2015.11.004

Yaghouby, F., Schildt, C., Donohue, K., O'Hara, B., & Sunderam, S. (2014). Validation of a closed-loop sensory stimulation technique for selective sleep restriction in mice. *Engineering in Medicine and Biology Society*, 3771-3774. doi: 10.1109/EMBC.2014.6944444

Yamada, Y., Yoshikawa, T., Naganuma, F., Kikkawa, T., Osumi, N., Yanai, K. (2020). Chronic brain histamine depletion in adult mice induced depression-like behaviours and impaired sleep-wake cycle. *Neuropharmacology* (IF 4.367). doi: 10.1016/j.neuropharm.2020.108179

Yamagata, T., Kahn, M.C., Sabanovic, M., Guillaumin, M.C.C., van der Vinne, V., Huang, Y-G., McKillop, L.E., Jagannath, A., Peirson, S.N., Mann, E.O., Foster, R.G., Vyazovskiy, V.V. (2020) The role of the hypothalamus in cortical arousal and sleep homeostasis. *bioRxiv* 2020.05.19.104521. doi: 10.1101/2020.05.19.104521

Yamashita, A., Hamada, A., Suhara, Y., Kawabe, R., Yanase, M., Kuzumaki, N., Narita, M., Matsui, R., Okano, H., Narita, M. (2014). Astrocytic activation in the anterior cingulate cortex is critical for sleep disorder under neuropathic pain. *Synapse, 68*(6), 235-247. doi: 10.1002/syn.21733

Yamanashi, T. Malicoat, J.R., Steffen, K.T., Zarei, K., Li, R., Purnell, B.S, Najafi, A., Saito, K., Singh, U., Toth, B.A., Lee, S., Dailey, M.E., Cui, H., Kaneko, K., Ryan Cho,, H., Iwata, M., Buchanan, G.F., Shinozaki, G. (2020). Bispectral EEG (BSEEG) quantifying neuro-inflammation in mice induced by systemic inflammation: a potential mouse model of delirium. *Journal of Psychiatric Research*, December. doi: 10.1016/j.jpsychires.2020.12.036

Yan, D-Q., Zhang, X-P., Zhang, W-H., Deng, N. Liang, Z-T., Liu, T., Wang, G-Y., Yao, Q-W., Wang, K-K., Tong, Z-P. (2023) Establishment of a chronic insomnia rat model of sleep fragmentation using unstable platforms surrounded by water. Experimental and Therapeutic Medicine, 25:233. **doi: 10.3892/etm.2023.11932**

Yang, C. Larin, A., McKenna, J.T., Jacobson, K.A., Winston, S., Strecker, R.E., Kalinchuk, A., Basheer, R., Brown, R.E. (2018). Activation of basal forebrain purinergic P2 receptors promotes wakefulness in mice. *Scientific Reports, 8*, Article 10730. doi: 10.1038/s41598-018-29103-4

Yang, H., Woo, J., Pae, A. N., Um, M. Y., Cho, N-C. Park, K. D., Yoon, M., Kim, J., Lee, C.J., Cho, S. (2016). α-Pinene, a major constituent of pine tree oils, enhances non-rapid eye movement sleep in mice through $GABA_A$-benzodiazepine receptors, *Molecular Pharmacology*, *90*(5), 530-539. doi: 10.1124/mol.116.105080

Yang, H., Yoon, M., Um, M.Y., Lee, J., Jung, J., Lee, C., Kim, Y-T, Kwon, S., Kim, B., Cho, S. (2017). Sleep-promoting effects and possible mechanisms of action associated with a standardized rice bran supplement. *Nutrients, 9*(5), 512. doi:10.3390/nu9050512

Yang, H., Niu, L., Tian, L., Hu, Y., Cheng, C., Li, S., Le, W. (2025). Circadian rhythm disturbances in Alzheimer's disease: insights from plaque-free and plaque-burdened stages in APPSWE/PS1dE9 mice. *Alzheimer's Research & Therapy, 17, 76,* 2025. doi: 10.1186/s13195-025-01724-8

Yao, A.Y., Halloran, P.J., Ge, Y., Singh, N., Zhou, J., Galske, J., He, W., Yan, R., Hu, X. (2023) Bace1 deletion in the adult reverses epileptiform activity and sleep-wake1 disturbances in AD mice. *Neurobiology of Disease*, 2023. doi: 10.1523/JNEUROSCI.2124-22.2023

Yao, Q., Pho, H., Kirkness, J., Ladenheim, E., Bi, S., Moran, T.H., Fuller, D.D., Schwartz, A.R., Polotsky, V.Y. (2016). Localizing effects of leptin on upper airway and respiratory control during sleep. *SLEEP, 39*(5), 1097-1106. doi: 10.5665/sleep.5762

Ye, M., Jeong, W., Yu, HJ., Rheu, K-M., Lee, B-J., Shim, I. (2025). Fermented rice germ extract with high concentration of gamma-aminobutyric acid enhances pentobarbital-induced sleep via GABAergic system in rats. *PLoS One, 20(8): e0326859,* 2025. doi: 10.1371/journal.pone.0326859

Yen, V., Chang, HR., Lee, LK. (2025). The effects of short-term sleep deprivation on the immune system of Mus Musculus. *Journal of High School Science, 9(3),* 2025. doi: 10.64336/001c.143676

Yoon, D.W., Baik, I. (2023) Oral Administration of Human-Gut-Derived Prevotella histicola Improves Sleep Architecture in Rats. *Microorganisms*, 2023, 11(5), 1151. doi: 10.3390/microorganisms11051151

Yoon, D.W., Shin, S., Choi, J., Shin, C., Lee, C., Lee, J., Hong, H-J, Jo, R., Lee, T., Kim, J., Jun, N., Lee, S.K., Kim, J., Jwa, H-J. (2017). Sleep fragmentation induces activation of NOD-like receptor protein-3 inflammasome in rat hippocampus. *Sleep Medicine Research, 8*(1), 26-32. doi: 10.17241/smr.2017.00017

Yoon, D.W., Kwon, H.N., Jin, X., Kim, J.K., Lee, S.K., Park, S., Yun, C.H., Shin, C. (2019) Untargeted metabolomics analysis of rat hippocampus subjected to sleep fragmentation, *Brain Research Bulletin*, doi:10.1016/j.brainresbull.2019.08.008

Yoon, M., Kim, J.S., Seo, S., Lee, K., Um, M.Y., Lee, J., Jung, J., Cho, S. (2020) Dieckol, a Major Marine Polyphenol Enhance Non-Rapid Eye Movement Sleep in Mice via the GABAA – Benzodiazepine Receptor. Frontiers in Pharmacology, vol 11, 494. doi: 10.3389/fphar.2020.00494

Yoon, M. & Cho, S. (2018). Triphlorethol A, a dietary polyphenol from seaweed, decreases sleep latency and increases non-rapid eye movement sleep in mice. *Marine Drugs, 16*(5), 139. doi: 10.3390/md16050139

Yoon, M., Kim, J.S., Jo, J., Han, D., & Cho, S. (2014). Sleep-promoting effect of Ecklonia Cava: Ethanol extract promotes non-rapid eye movement sleep in C57BL/6N mice. *Fisheries and Aquatic Sciences*, *17*(1), 19-25. doi: 10.5657/FAS.2014.0019

Yu, S., Park, M., Kang, J., Lee, E., Jung, J., Kim, T. (2022). Aberrant Gamma-Band Oscillations in Mice with Vitamin D Deficiency: Implications on Schizophrenia and its Cognitive Symptoms. *J. Pers. Med*, 2022, 12(2), 318. doi: 10.3390/jpm12020318

Yu, Z., Li, B., Tang, W., Dong, Z., Liu, R., Yu, S. (2023) Acute sleep deprivation aggravates nitroglycerin-evoked hyperalgesia in mice. *Molecular Pain*, Volume, 19: 1-8. doi: 10.1177/17448069221149645

Yuan, R.K., Lopez, M.R., Normandin, M.E., Thomas, A.S., Cerda, V.R., Grenier, A., Wood, M., Gagliardi C.M., Muzzio, I.A. (2020) NREM consolidation and increased spindle counts improve age-related memory impairments and hippocampal representations. *bioRxiv* 2020.01.20.912915; doi:10.1101/2020.01.20.912915

Yuan, R.K., Lopez, M.R., Ramos-Alvarez, M-M., Normandin, M.E., Thomas, A.S., Uygun, D.S., Cerda, V.R., Grenier, A.E., Wood, M.T., Gagliardi, C.M., Guajardo, H., Muzzio, I.A. (2021) Differential effect of sleep deprivation on place cell representations, sleep architecture, and memory in young and old mice. *Cell Reports*, Volume 35, Issue 11, 15 June 2021, 109234. doi: 10.1016/j.celrep.2021.109234

Zant, J., Kim, T., Prokal, L., Szarka, S., McNally, J., McKenna, J., Shukla, C., Yang, C., Kalinchuk, A.V., McCarley, R.W., Brown, R.E., Basheer, R. (2016). Cholinergic neurons in the basal forebrain promote wakefulness by actions on neighboring non-cholinergic neurons: an opto-dialysis study. *Journal of Neuroscience*, *36*(6), 2057-2067. doi: 10.1523/JNEUROSCI.3318-15.2016

Zhang, A., Reis, F.M.C.V., He, Y., Park, J.W., DiVittorio, J.R., Sivakumar, N., Edward van Veen, J., Maesta-Pereira, S., Shum, M., Nichols, I., Massa, M.G., Anderson, S., Paul, K., Liesa, M., Ajijola, O.A., Xu, Y., Adhikari, A., Correa, S.M. (2020) Estrogen-sensitive medial preoptic area neurons coordinate torpor in mice. *Nature Communications,* 11, Article number: 6378. doi: 10.1038/s41467-020-20050-1

Zhang, X., Liu, Y., Yang, B., Xu, H. (2020). Inactivation of the Ventral Pallidum by GABAA Receptor Agonist Promotes Non-rapid Eye Movement Sleep in Rats. *Neurochem Res*. doi: 10.1007/s11064-020-03040-z

Zhang, Y. Xie, Y., Cheng, Z., Xi, K., Huang, X., Kuang, F., Wang, W., Liu, T., Guo, B., Wu, S. (2022) Quercetin ameliorates memory impairment by inhibiting abnormal microglial activation in a mouse model of paradoxical sleep deprivation. *Biochemical and Biophysical Research Communications*, Volume 632, 2022. doi: 10.1016/j.bbrc.2022.09.088

Zhang, Y-C., Zhang, X-T., Chen, P-Y., Zhou, Z-Y., Huang, M-Q., He, K-W. (2026). Impaired adrenergic regulation of Kv channels underlies LC hyperactivity and early-onset sleep disruption in AD-like amyloidogenic mice. *Alzeheimer's Dement.,* 2026;22:e71127. doi: 10.1002/alz.71127

Zhao, H., Zhang, T., Zhang, H., Wang, Y., Cheng, L. (2024) Exercise-with-melatonin therapy improves sleep disorder and motor dysfunction in a rat model of ischemic stroke. *Pre-Print Neural Regeneration Research,* 19(6):p 1336-1343, June 2024. doi: 10.4103/1673-5374.385844

Zhao, L., Tao, X., Wang, K., Song, Y., Zhang, B., Yang, L., Wang, Z. (2024) Astaxanthin alleviates fibromyalgia pain and depression via NLRP3 inflammasome inhibition. *Biomedicine & Pharmacotherapy, Volume 176, 2024,116856*. doi: 10.1016/j.biopha.2024.116856

Zhao, X., Yan, Y., Liang, J., Zhang, Y., Li, M., Zhou, Z., Liu, M., Lin, W., Cheng, L., Wang, Y., Xu, C., Xu, L., Chen, Z., Zheng, Y. (2026). Histamine H3 receptors in the paraventricular thalamus link sleep loss to fat overconsumption. *Cell Reports,* Volume 45, Issue 2116967. https://www.cell.com/cell-reports/fulltext/S2211-1247(26)00045-8

Zheng, Y., Zhang, L., Bonfili, L., de Vivo, L., Eleuteri, A.M., Bellesi, M. (2023) Probiotics Supplementation Attenuates Inflammation and Oxidative Stress Induced by Chronic Sleep Restriction. *Nutrients*, 2023, 15, 1518. doi: 10.3390/nu15061518

Zhong, H., Xu, H., Li, X., Xie, R-G., Shi, Y., Wang, Y., Tong, L., Zhu, Q., Han, J., Tao, H., Zhang, L., Hu, Z., Zhang, X., Gu, N., Dong, H., Xu, X. (2022). A role of prefrontal cortico-hypothalamic projections in wake promotion. *Cerebral Cortex*, bhac258. doi: 10.1093/cercor/bhac258

Zhu, S., Shi, J., Zhang, Y., Chen, X., Shi, T., Li, L. (2024) Combination administration of alprazolam and N-Ethylmaleimide synergistically enhances sleep behaviors in mice with no potential CNS side effects. *PeerJ 12:e17342,* 2024. doi: 10.7717/peerj.17342

Zweig, L.J. (2017). Multilevel contributions to low level multisensory integration processes. *ProQuest Dissertations Publishing, Northwestern University,* (Doctoral dissertation). proquest.com/69f227bfaa3d43acafbaba371d974abc

Sleep + Biosensor

Clegern, W.C., Moore, M.E., Schmidt, M.A., & Wisor, J. (2012). Simultaneous electroencephalography, real-time measurement of lactate concentration and optogenetic manipulation of neuronal activity in the rodent cerebral cortex. *Journal of Visualized Experiments*, *70*, e4328. doi: 10.3791/4328

Dash, M.B., Bellesi, M., Tononi, G., & Cirelli, C. (2013). Sleep/wake dependent changes in cortical glucose concentrations. *Journal of Neurochemistry, 124*, 79-89. doi: 10.1111/jnc.12063

Gooch, S.R. (2014). A method for non-invasive, automated behavior classification in mice, using piezoelectric pressure sensors. *University of Kentucky,* (Master's thesis). uknowledge.uky.edu/ece_etds/56

John, J., Ramanathan, L., & Siegel, J.M. (2008). Rapid changes in glutamate levels in the posterior hypothalamus across sleep-wake states in freely behaving rats. *American Journal of Physiology: Regulatory, Integrative, and Comparative Physiology*, *295*(6), R2041-R2049. doi: 10.1152/ajpregu.90541.2008

Johnston, M.V., Ammanuel, S., ODriscoll, C., Wozniak, A., Naidu, S., & Kadam, S.D. (2014). 24h Quantitative-EEG and *in-vivo* glutamate biosensor detects activity and circadian rhythm dependent biomarkers of pathogenesis in Mecp2 null mice. *Frontiers in Systems Neuroscience, 8*, 118. doi: 10.3389/fnsys.2014.00118

Naylor, E., Aillon, D.V., Barrett, B.S., Wilson, G.S., Johnson, D.A., Johnson D.A., Johnson, D.A., Harmon, H.P., Gabbert, S., Petillo, P.A. (2012). Lactate as a biomarker for sleep. *SLEEP*, *35*(9), 1209-1222. doi: 10.5665/sleep.2072

Naylor, E., Aillon, D.V., Gabbert, S., Harmon, H., Johnson, D.A., Wilson, G.S., & Petillo, P.A. (2011). Simultaneous real-time measurement of EEG/EMG and L-glutamate in mice: A biosensor study of neuronal activity during sleep. *Journal of Electroanalytical Chemistry, 656*(1-2), 106-113. doi: 10.1016/j.jelechem.2010.12.031

Naylor, E. & Petillo, P. (2015). Using biosensors to probe fundamental questions of sleep. *Compendium of In Vivo Monitoring in Real-Time Molecular Neuroscience, 1,* 1-26. doi: 10.1142/9789814619776_0001

Rempe, M.J. & Wisor, J.P. (2015). Cerebral lactate dynamics across sleep/wake cycles. *Frontiers in Computational Neuroscience, 8*, Article 174. doi: 10.3389/fncom.2014.00174

Wallace, N.K., Pollard, F., Savenkova, M., Karatsoreos, I.N. (2019). Daily rhythms in lactate metabolism in the medial prefrontal cortex of mouse: Effects of light and aging. *bioRxiv* 632521. doi.org/10.1101/632521

Wisor, J.P., Rempe, M.J., Schmidt, M.A., Moore, M.E., & Clegern, W.C. (2013). Sleep slow-wave activity regulates cerebral glycolytic metabolism. *Cerebral Cortex, 23*(8), 1978-1987. doi: 10.1093/cercor/bhs189

Other

Abbasi, H., Unsworth, C.P. (2020) Electroencephalogram Studies of Hypoxic Ischemia in Fetal and Neonatal Animal Models. *Neural Regeneration Research* 15.5 (2020): 828-37. Web. doi: 10.4103/1673-5374.268892

Aloi, M.S. (2019). miR-155 expression modulates microglia functions in vitro and in the APP/PS1 mouse model of Alzheimer's disease. *ResearchWorks, University of Washington*, (Doctoral dissertation). https://digital.lib.washington.edu/researchworks/handle/1773/44877

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Athilingam, J. (2018). Serotonergic modulation of fast-spiking interneurons in medial prefrontal cortex. *ProQuest Dissertations Publishing, University of California, San Francisco*, (Doctoral dissertation). proquest.com/openview/260ab55d960aca0ef4d7430d5c8c7d22

Aubry, AV., Durand-de Cuttoli, R., Karpman, E., Fisher-Foye, RL., Parise, LF., Cathomas, F., Burnett, C.J., Yang, Y., Yuan, C., LaBanca, A.R., Chan, K.L., Winston, KT., Lin, H-Y., Dackour, F., Tavallaei, AA., Alvarez, J., Nishioka, T., Morishita, H., Froemke, R.C., Li, L., Russo, S.J. (2025). A crucial role for the cortical amygdala in shaping social encounters. *Nature,* 639, pages1006–1015 (2025). doi: 10.1038/s41586-024-08540-4

Barth, A.M.I., Ferando, I., & Mody, I. (2014). Ovarian cycle-linked plasticity of δ-$GABA_A$ receptor subunits in hippocampal interneurons affects γ oscillations *in vivo*. *Frontiers in Cellular Neuroscience, 8*, Article 222. doi: 10.3389/fncel.2014.00222

Bressan, L,P., de Jesus, D.P., Gunasekara, D.B., Lunte, S.M., da Silva, J.A.F. (2019) Microchip Electrophoresis Containing Electrodes for Integrated Electrochemical Detection. *Methods in Molecular Biology*. 1906:79-85. doi: 10.1007/978-1-4939-8964-5_5

Bennet, B., Taylor, J., Wall, J.D., Welch, D. (2019) Characterization of Masticatory and Brux-like Motor Patterns in the Laboratory Rat: Electromyography Amplitude Analysis. *J. Current Analysis on Dentistry*. 2:2019 pp. 28-32.

Burgdorf, J.S., Christian, E.P., Sørensen, L. et al. (2019) A translational EEG-based approach to assess modulation of long-lasting NMDAR-dependent synaptic plasticity. *Psychopharmacology*. Do10.1007/s00213-019-05341-w

Chiem, E., Zhao, K., Dell'Angelica, D., Ghiani, C.A., Paul, K.N., Colwell, C.S. (2024). Scheduled feeding improves sleep in a mouse model of Huntington's disease. *Frontiers in Neuroscience*, 18:1427125. doi: 10.3389/fnins.2024.1427125

Cho, K.A., Davidson, T.J., Marshall, J.D., Schnitzer, M., Sohal, V. (2019) Interhemispheric gamma synchrony between parvalbumin interneurons supports behavioral adaptation. *bioRxiv* 784330. doi: 10.1101/784330

Cho, K.K.A., Hoch, R., Lee, A.T., Patel, T., Rubenstein, J.L.R., & Sohal, V.S. (2015). Gamma rhythms link prefrontal interneuron dysfunction with cognitive inflexibility in Dlx5/6+/- mice. *Neuron, 85*(6), 1332-1343. doi: 10.1016/j.neuron.2015.02.019

Cross, E. (2024) "Mesolimbic Dopamine Coding of Social Salience and Valence. *Dissertation, Georgia State University*, 2024. doi: 10.57709/36949995

Duarte-Junior, G.F., Ismail, A., Griveau, S., D'Orlyé, F., Alberto, J., da Silva, F., Tomazelli Coltro, W.K., Bedioui,F. & Varenne, A. (2018). Integrated microfluidic device for the separation, decomposition and detection of low molecular weight S nitrosothiols. *Analyst*, on-line 17 Oct 2018. doi: 10.1039/C8AN00757H

Fiorin, F., Oliveira-Ferreira, A.P., Ribeiro, L.R., Almeida-Silva, L. F., Torres de Castro, M.R., Hart da Silva, L.R., da Silveira, MEP., Zemolin, APP, Dobrachinski, F., Marchesan de Oliveira, S., Franco, J.L., Soares, F.A., Furian, A.F., Oliveira, M.S., Fighera, M.R., Freire-Royes, L.F. (2016). The impact of previous physical training on redox signaling after traumatic brain injury in rats: Behavioral and neurochemical approach. *Journal of Neurotrauma, 33*(14). doi: 10.1089/neu.2015.4068

Fisher, D.W. (2017). Role of HCN channels in behavioral responses to psychosocial stress. *ProQuest Dissertations Publishing, Northwestern University,* (Doctoral dissertation). proquest.com/ab9d5c7cb6334e42782a3a321b98aff3

Fu, X., Teboul, E., Weiss, G.L., Antonoudiou, P., Borkar, C.D., Fadok, J.P., Maguire, J., Tasker, J.G. (2022) Gq neuromodulation of BLA parvalbumin interneurons induces burst firing and mediates fear-associated network and behavioral state transition in mice. *Nat Communications,* **13,** 1290 (2022). doi: 10.1038/s41467-022-28928-y

Gao, C., Leng, Y., Ma, J., Rooke, V., Rodriguez-Gonzalez, S., Ramakrishnan, C., Deisseroth, K., Penzo, M.A. (2020) Two genetically, anatomically and functionally distinct cell types segregate across anteroposterior axis of paraventricular thalamus. *Nat Neurosci*. Jan 13. doi: 10.1038/s41593-019-0572-3

Gautam, D., Krepps, E., Shields, A., Sivarao, DV. (2026). Pharmacological recruitment of a VTA glutamatergic arousal circuit by the natural product BN3 drives broad-spectrum emergence from general anesthesia. *Neuroscience,* 2026. doi: 10.1016/j.neuroscience.2026.03.003

Geist, P.A., Dulka, B.N., Barnes, A., Totty, M., & Datta, S. (2017). BNDF heterozygosity is associated with memory deficits and alterations in cortical and hippocampal EEG power. *Behavioural Brain Research, 332*, 154-163. doi: 10.1016/j.bbr.2017.05.039

Guignet M., Dhakal K., Flannery B.M., Hobson B.A., Zolkowska D., Dhir A., Bruun D.A., Li S., Wahab A., Harvey D.J., Silverman J.L., Rogawski M.A., Lein P.J.. (2019) Persistent behavior deficits, neuroinflammation, and oxidative stress in a rat model of acute organophosphate intoxication. *Neurobiol Dis*. Mar 21. pii: S0969-9961(19)30073-7. doi: 10.1016/j.nbd.2019.03.019

Hallock, H.L., Adiraju, S.S., Miranda-Barrientos, J., McInerney, J.M., Oh, S., DeBrosse, A.C., Li, Y., Carr, G.V., Martinowich, K. (2023) Electrophysiological correlates of attention in the locus coeruleus–prelimbic cortex circuit during the rodent continuous performance test. *Neuropsychopharmacology,* 279, 2023. doi: 10.1038/s41386-023-01692-3

Hanson, J.E., Ma, K., Elstrott, J., Weber, M., Saillet, S., Khan, A.S., Simms, J., Liu, B., Kim, T.A., Yu, G.Q., Chen, Y., Wang, T.M., Jiang, Z., Liederer, B.M., Deshmukh, G., Solanoy, H., Chan, C., Sellers, B.D., Volgraf, M., Schwarz, J.B., Hackos, D.H., Weimer, R.M., Sheng, M., Gill, T.M., Scearce-Levie, K., Palop, J.J. (2020). GluN2A NMDA Receptor Enhancement Improves Brain Oscillations, Synchrony, and Cognitive Functions in Dravet Syndrome andAlzheimer's Disease Models. *Cell Rep.* Jan 14;30(2):381-396.e4. doi: 10.1016/j.celrep.2019.12.030

Hickman, J., Guo, X., Gonzalez, M., & Stancescu, M. (2018). Formation of neuromuscular junctions in a co-culture comprising rat muscle cells overlayered with differentiated human spinal cord stem cells in a serum free medium. *United States Patent Application 9952204B2, Location: University of Central Florida Research Foundation, Inc.,* (US Patent). patents.google.com/patent/US9952204B2

Hill, J.L., Jimenez, D.V., Mai, Y., Ren, M., Hallock, H.L., Maynard, K.R., Chen, H.Y., Hardy, N.F., Schloesser, R.J., Maher, B.J., Yang, F., Martinowich, K. (2018) Cortistatin-expressing interneurons require TrkB signaling to suppress neural hyper-excitability. *Brain Structure and Function.* Oct 30. doi: 10.1007/s00429-018-1783-1

Hodges, M.R., Tattersall, G.J., Harris, M.B., McEvoy, S.D., Richerson, D.N., Deneris, E.S., Johnson, R.L., Chen Z-F, Richerson, G.B. (2008). Defects in breathing and thermoregulation in mice with near-complete absence of central serotonin neurons. *Journal of Neuroscience, 28*(10), 2495-2505. doi: 10.1523/JNEUROSCI.4729-07.2008

Hua, T., Chen, B., Lu, D., Sakurai, K., Zhao, S., Han, B. (2020). General anesthetics activate a potent central pain-suppression circuit in the amygdala. *Nat Neurosci*. doi: org/10.1038/s41593-020-0632-8

Huang, K., Yang, Q., Han, Y., Zhang, Y., Wang, Z., Wang, L., Wei, P. (2022). An Easily Compatible Eye-tracking System for Freely-moving Small Animals. *Neuroscience Bulletin*. doi: 10.1007/s12264-022-00834-9

Isaksen, T.J., Kros, L., Vedovato, N., Holm, T.H., Vitenzon, A., Gadsby, D.C., Khodakhah, K., Lykke-Hartmann, K. (2017). Hypothermia-induced dystonia and abnormal cerebellar activity in a mouse model with a single disease-mutation in the sodium-potassium pump. *PloS Genetics, 13*(5). doi: 10.1371/journal.pgen.1006763

Ji, R., Zhao, Y., Huang, Z., Li, X., Chen, Y., Gan, Y., Zhang, T., Hai, A., Lai, S., Liu, T., Yin, Y., Sun, Y., Yuan, Y., Xu, B., Liu, J., Ke, B. (2026). Pharmacological recruitment of a VTA glutamatergic arousal circuit by the natural product BN3 drives broad-spectrum emergence from general anesthesia. *Pre-print bioRxiv,* 2026.02.17.706054. doi: 10.64898/2026.02.17.706054

Joksimovic, .SL., Joksimovic, S.M., Manzella, F.M., Asnake, B., Orestes, P., Raol, Y.H., Krishnan, K., Covey, D.F., Jevtovic-Todorovic, V., Todorovic, S.M.. (2019) Novel neuroactive steroid with hypnotic and T-type calcium channel blocking properties exerts effective analgesia in a rodent model of post-surgical pain. *Br J Pharmacol*. Nov 15. doi:10.1111/bph.14930

Jung, J-H, Kim, J., Akber, U., Lee, N.Y., Baek, J-W., Jung, J., Park, M., Kang, J., Jeon, S., Park, C-S., Kim, T. (2024). Enhanced homeostatic sleep response and decreased neurodegenerative proteins in cereblon knock-out mice. *Communications Biology*, 7, Article number: 1218 (2024). doi: 10.1038/s42003-024-06879-y

Kaegi, ZE., Carter, ME. (2025). Tachykinin-1-expressing parasubthalamic nucleus neurons are necessary for odorant-induced appetite suppression. *Physiology & Behavior,* Volume 292, 2025, 114836. doi: 10.1016/j.physbeh.2025.114836

Kim, S., Kim, H., Park, D., Kim, J., Hong, J., Kim, J.S., Jung, H., Kim, D., Cheong, E., Ko, J., Wong Um, J. (2020). Loss of IQSEC3 Disrupts GABAergic Synapse Maintenance and Decreases Somatostatin Expression in the Hippocampus. *Cell Reports*. Volume 30, Issue 6, 11 February 2020, Pages 1995-2005.e5. doi.org/10.1016/j.celrep.2020.01.053

Kim, Y.J., Khoshkhoo, S., Frankowski, J.C., Zhu, B., Abbasi, S., Lee, S., Wu, Y.E., Hunt, R.F. (2018). Chd2 Is Necessary for Neural Circuit Development and Long-Term Memory. *Neuron*. On-line Oct 13. doi: 10.1016/j.neuron.2018.09.049.

Kiroski, I., Jiang, Y., Gavrilovici, C., Gao, F., Lee, S., Scantlebury, M. (2020). Reelin Improves Cognition and Extends the Lifespan of Mutant Ndel1 Mice with Postnatal CA1 Hippocampus Deterioration. *Cerebral CORTEX*. bhaa088. doi.org/10.1093/cercor/bhaa088

Kjaerby, C., Athilingam, J., Robinson, S.E., Iafrati, J., & Sohal, V.S. (2016). Serotonin 1B receptors regulate prefrontal function by gating callosal and hippocampal inputs. *Cell Reports*, *17*(11), 2882-2890. doi: 10.1016/j.celrep.2016.11.036

Kornfeld-Sylla, SS., Gelegen, C., Norris, JE., Chaloner, FA., Lee, M., Khela, M., Heinrich, MJ., Finnie, PSB., Ethridge, LE., Erickson, CA., Schmitt, LM., Cooke, SF., Wilkinson, CL., Bear, MF. (2026). A human electrophysiological signature of Fragile X pathophysiology is shared in V1 of Fmr1-/y mice. *Nature Communications,* 17, Article number: 1497 (2026). doi: 10.1038/s41467-026-69243-0

Kriegstein A., Rubenstein J.L.R, Baraban, S.C., Alvarez-Buylla, A. (2019). Ameliorating Nervous System Disorders. *United States Patent Application Publication 16/144,786, Location: The Regents of the University of California.,* (US Patent). https://patentimages.storage.googleapis.com/62/28/3f/73fb993a66948f/US20190030084A1.pdf

Kroll, T., Elmenhorst, D., Weisshaupt, A., Beer, S., & Bauer, A. (2014). Reproducibility of non-invasive A_1 adenosine receptor quantification in the rat brain using [^{18}F]CPFPX and positron emission tomography. M*olecular Imaging and Biology, 16*(5), 699-709. doi: 10.1007/s11307-014-0729-0

Lau, L.A., Noubary, F., Wang, D., & Dulla, C.G. (2017). α2δ-1 signaling drives cell death, synaptogenesis, circuit reorganization, and gabapentin-mediated neuroprotection in a model of insult-induced cortical malformation. *eNeuro, 4*(5). doi: 10.1523/ENEURO.0316-17.2017

Lee, J., Ryu, S., Kim, H., Jung, J., Lee, B., & Kim, T. (2018). 40 Hz acoustic stimulation decreases amyloid beta and modulates brain rhythms in a mouse model of Alzheimers disease. *bioRxiv*. doi: 10.1101/390302

Lee, S-H., Kang, Y-J., Smith, B.N. (2024). Activation of hypoactive parvalbumin-positive fast-spiking interneurons restores dentate inhibition to reduce electrographic seizures in the mouse intrahippocampal kainate model of temporal lobe epilepsy. *Neurobiology of Disease,* Volume 203, December 2024, 106737. doi: 10.1016/j.nbd.2024.106737

Go to: Biosensors, Capillary Electrophoresis, FSCV, Seizure, Sleep, Sleep + Biosensor, Other

Lenoir, M. & Kiyatkin, E.A. (2011). Critical role of peripheral actions of intravenous nicotine in mediating its central effects. *Neuropsychopharmacology, 36,* 2125-2138. doi: 10.1038/npp.2011.104

Lenoir, M., Tang, J.S., Woods, A.S., & Kiyatkin, E.A. (2013). Rapid sensitization of physiological, neuronal, and locomotor effects of nicotine: Critical role of peripheral drug actions. *Journal of Neuroscience*, *33*(24), 9937-9949. doi: 10.1523/JNEUROSCI.4940-12.2013

Li, H-T. (2024). Hypothalamic Neuromodulation Strategy for Control of Anxiety and Epileptic Seizures. *Dissertation*, Chang Gung University. doi: 10.3929/ethz-b-000699238

Li, Z., Jagadapillai, R., Gozal, E., & Barnes, G. (2019). Deletion of Semaphorin 3F in Interneurons Is Associated with Decreased GABAergic Neurons, Autism-like Behavior, and Increased Oxidative Stress Cascades. *Molecular Neurobiology*. 2019 Jan 11. doi.org/10.1007/s12035-018-1450-9

Limnuson, K., Narayan, R.K., Chiluwal, A., Bouton, C., Wang, P., & Li, C. (2016). Development of a brain monitoring system for multimodality investigation in awake rats. *38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC),* Orlando, FL, USA, 2016, 4487-4490. doi: 10.1109/EMBC.2016.7591724

Limnuson, K., Narayan R.K., Chiluwal, A., Golanov, E.V., Bouton, C.E., & Li, C. (2016). A user-configurable headstage for multimodality neuromonitoring in freely moving rats. *Frontiers in Neuroscience, 10*, 382. doi: 10.3389/fnins.2016.00382

Liu, M., Li, L., Chen, R., Wang, Q., Zeng, T., Hu, J., Yan, C., Xiao, J., Xuewei, X. (2024). Whole-body vibration elicits 40 Hz cortical gamma oscillations and ameliorates age-related cognitive impairment through hippocampal astrocyte synapses in male rats. *Biogerontology,* 26, 11 (2025*)*. doi: 10.1007/s10522-024-10154-2

Liu, X., Zhang, M., Xiao, T., Hao, J., Li, R., & Mao, L. (2016). Protein pretreatment of microelectrodes enables *in vivo* electrochemical measurements with easy precalibration and interference-free from proteins. *Analytical Chemistry*, *88*(14), 7238-7244. doi: 10.1021/acs.analchem.6b01476

Ma, C., Li, H., Shen, B., Zheng, H., Chen, Y., Chen, L., Yang, G. (2024). Differential Effects of Light and Dark Phase Modifications on Jet Lag Adaptability in Mice. *Journal of Pineal Research,* 2024; 76:e13010. doi: 10.1111/jpi.13010

Ma, KY., Clark, HA., Plaxco, KW. (2026). Clinically Feasible Approaches to the Real-Time Measurement of Drugs, Metabolites, and Biomarkers in the Living Body. *Pre-print Annual Review of Biomedical Engineering,* 28 (2026). doi: 10.1146/annurev-bioeng-110824-011256

Ma, P. (2024). Studying the Dynamics of Neuromodulators in the Brain by Fluorescence Lifetime Imaging. *Dissertation.* Washington University in St. Louis ProQuest Dissertations & Theses, 2024. 31766803. https://www.proquest.com/openview/9797c3425e3ddc69575d630d10992516/1?pq-origsite=gscholar&cbl=18750&diss=y

Martin, A., Coulter, I., Cox, R., Covey, DF., Todorovic, SM., Stamenic, TT. (2025). Comparative electrophysiological study of neuroactive steroid-induced hypnosis in mice: sex and drug-specific differences. *Exp Biol Med,* 2025 Jun 10;250:10550 (2025). doi: 10.3389/ebm.2025.10550

Marton, T., Seifikar, H., Luongo, F.J., Lee, A.T., & Sohal, V.S. (2018). Roles of prefrontal cortex and mediodorsal thalamus in task engagement and behavioral flexibility. *Journal of Neuroscience, 38*(10). doi: 10.1523/JNEUROSCI.1728-17.2018

Mateo Semidey, G. (2025). Prefrontal neurocardiac networks during approach-avoidance behaviors. *UC San Francisco Thesis/Dissertation,* 2025. https://escholarship.org/uc/item/190920mh

McKenna, J.T., Gamble, M.C., Anderson-Chernishof, M.B., Shah, S.R., McCoy, J.G., & Strecker, R.E. (2018) A rodent cage change insomnia model disrupts memory consolidation. Journal of Sleep Research. Nov 21:e12792. doi: 10.1111/jsr.12792

Milinski, L., Nodal, F.R., Emmerson, M.K.J., King, A.J., Vyazaovskiy, V.V., Bajo, V.M. (2024). Cortical evoked activity is modulated by the sleep state in a ferret model of tinnitus. A cross-case study. *PLoS ONE,* 19(12): e0304306. doi: 10.1371/journal.pone.0304306

Naganuma, F., Girgin, B., Agu, A.B.S., Hirano, K., Nakamura, T., Yanai, K., Vetrivelan, R., Mochizuki, T., Yanagisawa, M., Yoshikawa, T. (2024). Pharmacological inhibition of histamine N-methyltransferase extends wakefulness and suppresses cataplexy in a mouse model of narcolepsy. *Sleep,* 2024; zsae244. doi: 10.1093/sleep/zsae244

Nakagawa, R., Nani, F., Hipp, JF., Honer, M., Knoflach, F., Gasser, R., Ozmen, L., Tamada, K., Fjeldskaar, F., Takacs, L., Vautheny, A., Morairty, SR., Saxe, M., Takumi, T., Hernandez, M-C. (2026). RO4938581, a GABAA-α5 negative allosteric modulator rescued behavioral and EEG phenotypes of a mouse model of Dup15q syndrome. *Molecular Psychiatry,* 31, pages1351–1360 (2026). doi: 10.1038/s41380-025-03247-y

Naylor, E., Aillon, D., Johnson, D.A. (2020) "Compendium of In-Vivo monitoring in Real-Time Molecular Neuroscience", Vol. 3., Wilson, G.S. and Michael, A.C., Eds., World Scientific Publishing Co., Singapore.

Nishiguchi, T., Yamanishi, K., Patel, S., Malicoat, JR., Phuong, NJ., Seki, T., Ishii, T., Aoyama, B., Shimura, A., Gorantla, N., Yamanashi, T., Iwata, M., Pieper, AA., Shinozaki, G. (2024). Discovery of novel protective agents for infection-related delirium through bispectral electroencephalography. *Transl Psychiatry.* 2024 Oct 3;14(1):413. doi: 10.1038/s41398-024-03130-4

Nishiguchi, T., Shibata, K., Yamanishi, K., Dittrich, MN., Islam, NY., Patel, S., Phuong, NJ., Marra, PS., Malicoat, JR., Seki, T., Nishizawa, Y., Yamanashi, T., Iwata, M., Shinozaki, G. (2024). The Bispectral Electroencephalography Method Quantifies Postoperative Delirium-Like States in Young and Aged Male Mice After Head-Mount Implantation Surgery. *J Gerontol A Biol Sci Med Sci.*, *2024 Aug 1;79(8):glae158*. doi: 10.1093/gerona/glae158

Perez Custodio, R.J., Kim, M., Sayson, L.V., Lee, H.J., Ortiz, D.M., Kim, B.N., Kim, H.J., Cheong, J.H. (2021) Low striatal T3 is implicated in inattention and memory impairment in an ADHD mouse model overexpressing thyroid hormone-responsive protein .*Communications Biology*, volume 4, Article number: 1101. doi: 10.1038/s42003-021-02633-w

Rawlins, LE., Iffland, PH., Page, J., Flessner, RZ., Elziny, SM., Sbornova, I., Babus, JK., Bruckmeier, SR., Parikh, R., Verhoeven, M., Fasham, J., Leslie, JS., Caswell, R., Ubeyratna, N., Wenger, O., Scott, EM., Schreiber, J., Syrbe, S., Klabunde-Cherwon, A., Owens, M., Crosby, AH., Baple, EL., Crino, PB. (2026). The Clinical Spectrum and Neurodevelopmental Pathogenesis of KPTN-Related Disorder in a Mouse Model. *Annals of Neurology,* (2026). doi: 10.1002/ana.78159

Roberts, J.G. & Sombers, L.A. (2018). Fast-scan cyclic voltammetry: Chemical sensing in the brain and beyond. *Analytical Chemistry, 90*(1), 490-504. doi: 10.1021/acs.analchem.7b04732

Robertson, C. (2024). Precision In Vivo Genome Editing for the Study of Rare Genetic Disease Variants. *Dissertation,* University of Maryland, Baltimore ProQuest Dissertations & Theses, 2024. 31486628. https://www.proquest.com/openview/cea99cb036eb4af60ab303f05e4b9657/1?pq-origsite=gscholar&cbl=18750&diss=y

Shimono, K., Kashida, N., Nishigori, K., Iwasaki, T., Mizui, R., Yamamuro, K., Ishida, R., Toritsuka, M., Takeda, T., Tanakoshi, H., Nagata, H., Iwata, N., Makinodan, M. (2026). Comparative study of ERP habituation to tones and fearful vocalizations in autism spectrum disorders: a translational biomarker for sensory hypersensitivity. *Molecular Psychiatry,* 31, pages1871–1879 (2026). doi: 10.1038/s41380-025-03335-z

Siegel, J.M., Schilly, K.M., Wijesinghe, M.B., Caruso, G. Fresta, C.G., Lunte, S.M. (2019) Optimization of a microchip electrophoresis method with electrochemical detection for the determination of nitrite in macrophage cells as an indicator of nitric oxide production. *Anal. Methods* 11, 148-156. doi: 10.1039/C8AY02014K

Smirnov, M.S. & Kiyatkin, E.A. (2010). Cocaine action on peripheral, non-monoamine neural substrates as a trigger of electroencephalographic desynchronization and electromyographic activation following i.v. administration in freely moving rats. *Neuroscience, 165*(2), 500-514. doi: 10.1016/j.neuroscience.2009.10.037

Southwell, D.G., Seifikar, H., Malik, R., Lavi, K., Vogt, D., Rubenstein, J.L., Sohal, V. (2020). Interneuron Transplantation Rescues Social Behavior Deficits without Restoring Wild-Type Physiology in a Mouse Model of Autism with Excessive Synaptic Inhibition. *Journal of Neuroscience* 11 March, 40 (11) 2215-2227. doi: 10.1523/JNEUROSCI.1063-19.2019

Stamenic, TT., Coulter, I., Covey, DF., Todorovic, SM. (2025). Electrophysiological Characterization of Sex-Dependent Hypnosis by an Endogenous Neuroactive Steroid Epipregnanolone. *Biomolecules,* 15(7), 1033 (2025). doi: 10.3390/biom15071033

Stanek IV, E., Rodriguez, E., Zhao, S., Han, B-X., & Wang, F. (2016). Supratrigeminal bilaterally projecting neurons maintain basal tone and enable bilateral phasic activation of jaw-closing muscles. *Journal of Neuroscience, 36*(29), 7663-7675. doi: 10.1523/JNEUROSCI.0839-16.2016.

Stanley, M. (2017). *In vivo* regulation of amyloid-β by glucose and insulin in a mouse model of Alzheimer's disease. *Mol Brain 13, 28 (2020)*. doi: 10.1186/s13041-020-00571-y

Strobel, B.K., Schmidt, M.A., Harvey, D.O., Davis, C.J. (2022) Image discrimination reversal learning is impaired by sleep deprivation in rats: Cognitive rigidity or fatigue? Front. Syst. Neurosci., Volume 16, Nov 2022. **doi: 10.3389/fnsys.2022.1052441**

Sun, Q., Peng, S., Xu, Q., Weikop, P., Hussain, R., Song, W., Nedergaard, M., Ding, F. (2024). Enhancing glymphatic fluid transport by pan-adrenergic inhibition suppresses epileptogenesis in male mice. *Nature Communications,* 15, Article number: 9600 (2024). doi: 10.1038/s41467-024-53430-y

Swati, J., LaFrancois, J.J., Gerencer, K., Botterill, J.J., Kennedy, M., Criscuolo, C., Scharfman, H.E. (2024). Increasing adult-born neurons protects mice from epilepsy. *eLife,* 12:RP90893.doi: 10.7554/eLife.90893.3

Timic Stamenic, T., Feseha, S., Valdez, R., Zhao, W., Klawitter, J., Todorovic, S. (2019), Alterations in Oscillatory Behavior of Central Medial Thalamic Neurons Demonstrate a Key Role of CaV3.1 Isoform of T-Channels During Isoflurane-Induced Anesthesia, *Cerebral Cortex*, doi:10.1093.cercor/bhz002

Ullman, J.C., Yang, J., Sullivan, M., Bendor, J., Levy, J., Pham, E., Edwards, R.H. (2018). A mouse model of autism implicates endosome pH in the regulation of presynaptic calcium entry. *Nature Communications, 9*, Article 330. doi: 10.1038/s41467-017-02716-5

Vizin, R.C.L., Ito, H., Kopruszinski, C.M., Ikegami, M., Ikegami, D., Yue, X., Navratilova, E., Moutal, A., Cowen, S., Porreca, F. (2024). Cortical kappa opioid receptors integrate negative affect and sleep disturbance. *Translational Psychiatry*, 14, Article number: 417 (2024). doi: 10.1038/s41398-024-03123-3

Vogel, K.R., Ainslie, G.R., Walters, D.C., McConnell, A., Dhamne, S.C., Rotenberg, A., Roullet, J-B., Gibson, K.M. (2018). Succinic semialdehyde dehydrogenase deficiency, a disorder of GABA metabolism: an update on pharmacological and enzyme-replacement therapeutic strategies. *Journal of Inherited Metabolic Disease*, 1-10. doi: 10.1007/s10545-018-0153-8

Vogt, D., Cho, K.K.A., Lee, A.T., Sohal, V.S., & Rubenstein, J.L.R. (2015). The parvalbumin/somatostatin ratio is increased in Pten mutant mice and by human Pten ASD alleles. *Cell Reports, 11*(6), 944-956. doi: 10.1016/j.celrep.2015.04.019

White, J.J. & Sillitoe, R.V. (2017). Genetic silencing of olivocerebellar synapses causes dystonia-like behaviour in mice. *Nature Communications, 8*, Article 14912. doi: 10.1038%2Fncomms14912

Yamanashi, T., Malicoat, JR., Steffen, KT., Zarei, K., Li, R., Purnell, BS., Najafi, A., Saito, K., Singh, U., Toth, BA., Lee, S., Dailey, ME., Cui, H., Kaneko, K., Cho, HR., Iwata, M., Buchanan, GF., Shinozaki, G. (2021). Bispectral EEG (BSEEG) quantifying neuro-inflammation in mice induced by systemic inflammation: A potential mouse model of delirium. *J Psychiatr Res*., *2021 Jan;133:205-211*. doi: 10.1016/j.jpsychires.2020.12.036. Epub 2020 Dec 15

Yang, Q., Lee, S., Xue, Y., Yan, Y., Liu, T., Kang, S., Lee, Y., Lee, S.H., Seo, M-H, Lu, D., Koo, J., MacEwan, M.R., Yin, R.T., Ray, W.Z., Huang, Y., Rogers, J. (2020). Materials, Mechanics Designs, and Bioresorbable Multisensor Platforms for Pressure Monitoring in the Intracranial Space. *Wiley Online Library,* Mar. 1. doi: 10.1002/adfm.201910718

Yoon, H., Ringland, A., Anderson, J.J., Sran, S., Elziny, S., Huynh, C., Shinagawa, N., Badertscher, S., Corrigan, R.R., Mashburn-Warren, L., Amari, F., Chen, M., Coppola, V., Crino, P.B., Bedrosian, T.A. (2024). Mouse models of Slc35a2 brain mosaicism reveal mechanisms of mild malformations of cortical development with oligodendroglial hyperplasia in epilepsy. *Epilepsia,* 2024; 65:3717–3731. doi: 10.1111/epi.18166

Zheng, Y., Zhang, L., Bonfili, L., de Vivo, L., Eleuteri, A.M., Bellesi, M. (2023) Probiotics Supplementation Attenuates Inflammation and Oxidative Stress Induced by Chronic Sleep Restriction. Nutrients, 2023, 15, 1518. **doi: 10.3390/nu15061518**

Zhou, W., Cheung, K., Kyu, S., Wang. L., Guan, Z., Kurien, P.A., Bickler, P.E., & Jan, L.Y., (2018). Activation of orexin system facilitates anesthesia emergence and pain control. *Proceedings of the National Academy of Sciences U S A*. Oct 22. doi.org/10.1073/pnas.1808622115

Zhou, Y., Qiu, L., Lyon, M., Chen, X. (2023) Activity Hierarchy Measurement to Establish Trace Memory-eligible "Primed" Neurons. *bioRxiv*, 2023.01.06.523038. doi: 10.1101/2023.01.06.523038

Zhu, B., Eom, J., Hunt, R.F. (2019) Transplanted interneurons improve memory precision after traumatic brain injury. *Nat Commun*. Nov 14;10(1):5156. doi:10.1038/s41467-019-13170-w

Zhu, K.J., Aiani, L.M., Pedersen, N.P. (2020) Reconfigurable 3D-Printed headplates for reproducible and rapid implantation of EEG, EMG and depth electrodes in mice. *J Neurosci Methods*. Mar 1;333:108566. doi: 10.1016/j.jneumeth.2019.108566

Zuend, M., Saab, A., Wyss, M., Ferrari, K.D., Hösli, L., Looser, Z., Stobart, J.L., Duran, J., Guinovart, J.J., Barros, L.F., Weber, B. (2020) Arousal-induced cortical activity triggers lactate release from astrocytes. *Nature Metabolism 2, 179–191 (2020)* . doi: 10.1038/s42255-020-0170-4