

# Publications Using Pinnacle's Products

September 30, 2021

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., Berdyeva, 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
- 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 peripheral glutamatergic system: A key player in migraine pathogenesis?. *Cephalalgia*. June 2021. doi:10.1177/03331024211017882
- 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
- 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
- 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<sub>7</sub> 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/EMBS.2009.5333735

- Cherion, D., Armgarth, A., Beni, V., Linderhed, U., Tybrandt, K., Nilsson, D., Simon, T., Berggren, M., (2019) Large-area printed organic electronic ion pumps. *Flex. Print. Electron.* 4 022001 [doi:10.1088/2058-8585/ab17b1](https://doi.org/10.1088/2058-8585/ab17b1)
- 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](https://doi.org/10.2337/db16-1589)
- 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](https://doi.org/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](https://doi.org/10.1109/JSEN.2021.3069950)
- 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](https://doi.org/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](https://doi.org/10.1016/j.bios.2008.08.038)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.molmet.2013.02.001)
- Hakim, A.W., Dong, X., & Cairns, B.E. (2011). TNF $\alpha$  mechanically sensitizes masseter muscle nociceptors by increasing prostaglandin E<sub>2</sub> levels. *Journal of Neurophysiology*, 105(1), 154-161. [doi: 10.1152/jn.00730.2010](https://doi.org/10.1152/jn.00730.2010)
- 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](https://doi.org/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*, 12(4), 6269-6281. [doi: 10.3390/s120506269](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.trac.2015.10.020)
- Ionescu, I., Allers, K., Arban, R., Dörner-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](https://doi.org/10.1016/S0924-977X(17)31220-8)
- Isherwood, S.N., Robbins, T.W., Dalley, J.W., & Peckec, 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](https://doi.org/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](https://doi.org/10.1007/s00542-018-3710-z)

- 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](https://doi.org/10.1152/ajpregu.00114.2014)
- Kennedy, F. McMinn, A., Martin, A. (2021) Short Note: Extracellular Export and Consumption of Glucose in Antarctic Sea Ice available at Research Square. [doi: 10.21203/rs.3.rs-654891/v1](https://doi.org/10.21203/rs.3.rs-654891/v1)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1109/ICSENS.2013.6688211)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.3390/bioengineering1010085)
- 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: 10.1088/1741-2560/8/4/046001](https://doi.org/10.1088/1741-2560/8/4/046001)
- 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](https://doi.org/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](https://doi.org/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<sub>4</sub><sup>+</sup> 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](https://doi.org/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](#)
- 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., Chefrou, 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](#)
- 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](#)
- 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](#)
- 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-Inchauste, 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](#)
- 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](#)
- 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., Haganir, 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](#)
- 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](#)
- 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](#)
- 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: [10.1111/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](https://doi.org/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](https://doi.org/10.1021/acschemneuro.9b00305)
- 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](https://doi.org/10.1038/s42003-021-02633-w)
- 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](https://doi.org/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](https://doi.org/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: 10.1177/0271678X17742792](https://doi.org/10.1177/0271678X17742792)
- Qin, S., van der Zeyden, M., Oldenzel, 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](https://doi.org/10.3390/s8116860)
- 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](https://doi.org/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  $\alpha 7$  nicotinic acetylcholine receptor-stimulated glutamate release in the rat dorsal striatum. *Scientific Reports*, 7. [doi:10.1038/s41598-017-15161-7](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41551-018-0300-4)
- 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](https://doi.org/10.1016/j.bios.2015.04.058)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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
- 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  $\gamma$ -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
- 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](https://doi.org/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](https://doi.org/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.
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.bios.2016.10.001)
- 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](https://doi.org/10.1016/j.ynstr.2021.100391)
- 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  $\gamma$ -polyglutamic acid film. *Analytical Sciences*, 27(3), 337-340. doi: [10.2116/analsci.27.337](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.talanta.2009.08.014)

## 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1002/cphc.201300449)

## FSCV

- 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](https://doi.org/10.1016/j.neuron.2019.02.037)
- 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](https://repository.lib.ncsu.edu)
- 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](https://doi.org/10.1117/12.2513913)

## 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](https://doi.org/10.1111/epi.14429)
- 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](https://doi.org/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](https://doi.org/10.1523/ENEURO.0183-20.2021)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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., Gabel, 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: [10.1016/j.scr.2018.10.007](https://doi.org/10.1016/j.scr.2018.10.007)
- Arain, F.M., Boyd, K.L., & Gallagher, M.J. (2012). Decreased viability and absence-like epilepsy in mice lacking or deficient in the GABA<sub>A</sub> receptor  $\alpha 1$  subunit. *Epilepsia*, 53(8), e161-e165. doi: [10.1111/j.1528-1167.2012.03596.x](https://doi.org/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](https://doi.org/10.1016/j.nbd.2015.05.016)



- 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](https://doi.org/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](https://doi.org/10.1016/j.celrep.2018.03.110)
- 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](https://doi.org/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](https://doi.org/10.21769/BioProtoc.3533).
- Baker, E.M., Thompson, C.H., Hawkins, N.A., Wagon, 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](https://doi.org/10.1111/epi.14196)
- Balzegas, 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](https://doi.org/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](https://doi.org/10.1073/pnas.0900141106)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1093/brain/awab145)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1128/mBio.01428-15)
- 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](https://doi.org/10.1113/jphysiol.2014.277574)
- 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](https://doi.org/10.1089/neu.2018.6333)
- 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](https://doi.org/10.1038/s41598-020-75436-4)
- 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](https://doi.org/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](https://doi.org/10.1111/epi.13811)
- 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](https://doi.org/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](https://doi.org/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](#)
- 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, 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](#)
- 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., 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. *Molecular Neurobiology* doi: [10.1007/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](#)
- 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](#)
- 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](#)
- de Freitas, M.L., Mello, F.K., de Souza, T.L., Grauncke, A.C.B., Figuera, M.R., Royes, L.F.F., Flavia Furian, A., Oliveira, M.S. (2018). Anticonvulsant-like effect of thromboxane receptor agonist U-46619 against pentylentetrazol-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  $\beta$ -caryophyllene against pentylentetrazol-induced seizures. *Epilepsy and Behavior*, 56, 26-31. doi: [10.1016/j.yebeh.2015.12.040](#)
- de Zorzi, V.N., Hauptenthal, 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, Figuera, M.R. (2019). Galangin prevents increased susceptibility to pentylentetrazol-stimulated seizures by prostaglandin E2. *Neuroscience*, doi: [10.1016/j.neuroscience.2019.06.002](#)
- Dinday, M.T., Girsakis, K.M., Lee, S., Baraban, S.C., & Hunt, R.F. (2017). PFAH1B1 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](#)
- 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](#)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1097/ALN.0b013e3181cf9138)
- 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](https://doi.org/10.1002/brb3.348)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1179/1743132813Y.0000000269)
- 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](https://doi.org/10.1093/cercor/bhr300)
- 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](https://doi.org/10.1016/j.nbd.2021.105470)
- Funada, M. & Takebayashi-Ohsawa, M. (2018). Synthetic cannabinoid AM2201 induces seizures: Involvement of cannabinoid CB<sub>1</sub> receptors and glutamatergic transmission. *Toxicology and Applied Pharmacology*, 338, 1-8. doi: [10.1016/j.taap.2017.10.007](https://doi.org/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., Figuera, MR., Royes, LFF., Furian, AF., Larrick, JW., Oliveira, M.S. (2015). Contrasting effects of Na<sup>+</sup>, K<sup>+</sup>-ATPase activation on seizure activity in acute versus chronic models. *Neuroscience*, 298, 171-179. doi: [10.1016/j.neuroscience.2015.04.031](https://doi.org/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<sub>A</sub> receptors. *Journal of Neuroscience*, 28(7), 1557-1567. doi: [10.1523/JNEUROSCI.5180-07.2008](https://doi.org/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](https://doi.org/10.1016/B978-0-12-804066-9.00068-7)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/978-1-4939-3816-2_27)
- 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<sub>A</sub> in spontaneously epileptic rats. *Neurobiology of Disease*, 77, 246-256. doi: [10.1016/j.nbd.2015.03.001](https://doi.org/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: [doi.org/10.1101/544973](https://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](https://doi.org/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](https://doi.org/10.1002/ana.21775)

- 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. *Neurobiology of Disease* [doi.org/10.1016/j.nbd.2019.03.019](https://doi.org/10.1016/j.nbd.2019.03.019)
- 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](https://doi.org/10.1152/jn.00011.2016)
- Halawa, I. (2017). Acute symptomatic seizures: Clinical and experimental studies. *DiVa, Uppsala University*, (Doctoral dissertation). [diva2:1071723](https://diva2.org/1071723)
- Han, Z., Chen, C., Christiansen, A., Ji, S., Lin, Q., Anumonwo, C., Liu, C., Leiser, S.C., Azharez, 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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 KCNB1 pathogenic variant that alters conducting and non-conducting functions of K 2.1. *bioRxiv* 770206; [doi.org/10.1101/770206](https://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](https://doi.org/10.1016/j.nbd.2020.105141)
- 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](https://doi.org/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](https://doi.org/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<sub>h</sub> 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](https://doi.org/10.1016/j.nbd.2015.10.005)
- 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](https://doi.org/10.1007/s00429-018-1783-1)
- 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. *Neural Med Chir (Tokyo)*. 2021 Mar 31. [doi: 10.2176/nmc.oa.2020-0365](https://doi.org/10.2176/nmc.oa.2020-0365)
- Hitt, B.D., Jaramillo, T.C., Chetkovich, D.M., & Vassar, R. (2010). BACE1<sup>-/-</sup> 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](https://doi.org/10.1186/1750-1326-5-31)
- 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](https://doi.org/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](https://doi.org/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](https://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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1073/pnas.1307784111)
- 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](https://doi.org/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](https://doi.org/10.1101/853820)
- 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](https://doi.org/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](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](https://doi.org/10.1016/j.neuroscience.2012.05.003)
- Hunt, R.F., Girsakis, 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](https://doi.org/10.1038/nn.3392)
- Ibhazehiebo, K., Gavrilovici, C., de la Hoz, C.L., Ma, S-C., Rehak, R., Kaushik, G., Santoscoy, P.L.M., Scott, L., Nath, N., Kim, D.Y., 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](https://doi.org/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](http://etd.ohiolink.edu/pg_10?0::NO:10:P10_ETD_SUBID:105042)
- 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](https://doi.org/10.1016/j.expneurol.2014.11.009)
- 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](https://doi.org/10.1002/hipo.23062).
- 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](https://doi.org/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](https://doi.org/10.1016/j.eplepsyres.2020.106500)
- 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](https://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](https://doi.org/10.1101/308585)
- Kang, J., Shen, W., Zhou, C., Xu, D., & Macdonald, R. (2015). The human epilepsy mutation *GABRG2*<sup>+/Q390X</sup> causes chronic subunit accumulation and neurodegeneration. *Nature Neuroscience*, 18, 988-996. doi: [10.1038/nn.4024](https://doi.org/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](https://doi.org/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: [10.3389/fnins.2019.00579](https://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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1523/ENEURO.0429-18.2019)
- 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](https://doi.org/10.1016/j.yebeh.2021.108038)
- 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](https://doi.org/10.1016/j.ebiom.2018.05.029)
- Kharod, S.C., Carter, B.M., & Kadam, S.D. (2018). Pharmacoresistant neonatal seizures: Critical mechanistic insights from a chemoconvulsant model. *Developmental Neurobiology*. doi: [10.1002/dneu.22634](https://doi.org/10.1002/dneu.22634)
- 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](https://doi.org/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](https://doi.org/10.1172/JCI94999)
- Kipnis, P.A., Sullivan, B.J., Carter, B.M., Kadam, S. (2020). TrkB-agonists prevent post-ischemic emergence of refractory neonatal seizures 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1111/epi.16019)
- Kruse S.W., Dayton K.G., Purnell B.S., Rosner J.I., Buchanan G.F. (2019). Effect of monoamine reuptake inhibition and  $\alpha(1)$  blockade on respiratory arrest and death following electroshock-induced seizures in mice. *Epilepsia*. doi: [10.1111/epi.14652](https://doi.org/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](https://doi.org/10.1016/j.nbd.2017.02.003)
- Lam, P.M. and Gonzalez, M.I. (2019) Calpain activation and neuronal death during early epileptogenesis. *Neurobiology Disease* 124: 141-151. doi: [10.1016/j.nbd.2018.11.005](https://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](https://doi.org/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](https://doi.org/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<sup>+</sup>/Cl<sup>-</sup> cotransporter 2 activity and limits status epilepticus. *Brain*, awab343. doi: [10.1093/brain/awab343](https://doi.org/10.1093/brain/awab343)
- Lehnart, S.E., Mongillo, M., Bellingier, 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<sup>2+</sup> 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](https://doi.org/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](https://doi.org/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: [10.1016/j.pharep.2019.04.017](https://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, 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., 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, C.Y., 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](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)
- 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](#)
- 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: [10.1073/pnas.1810134115](#)
- 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  $\alpha$  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](#)
- 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](https://doi.org/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  $\beta$ -caryophyllene against pentylenetetrazol-induced seizures. *Epilepsy and Behavior*, 56, 26-31. doi: [10.1016/j.yebeh.2015.12.040](https://doi.org/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: [10.1111/j.1528-1167.2011.03173.x](https://doi.org/10.1111/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](https://doi.org/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](https://doi.org/10.1016/j.eplepsyres.2013.10.013)
- Panthei, 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: [10.1016/j.nbd.2019.104610](https://doi.org/10.1016/j.nbd.2019.104610)
- Pawlik, M.J., Obara-Michlewska, M., Popek, M.P., Czarnańska, A.M., Czuczwar, S.J., Luszczki, J., Kolodziej, M., Acewicz, A., Wierzbica-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](https://doi.org/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](https://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](https://doi.org/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](https://doi.org/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  $\alpha$ -Synuclein. *frontiers in Neurology*, 2020.06.19. doi: [10.3389/fneur.2020.00563](https://doi.org/10.3389/fneur.2020.00563)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1002/epi4.12303)
- Phelan, K.D., Shwe, U.T., Abrabowitz, J., Birnbaumer, 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.eplepsyres.2015.09.008)
- Pirone, A., Alexander, J., Lau, L. A., Hampton, D., Zayachivsky, 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  $\beta$ -catenin levels, neonatal spasms, and chronic seizures. *Neurobiology of Disease*, 98, 149-157. doi: [10.1016/j.nbd.2016.11.002](https://doi.org/10.1016/j.nbd.2016.11.002)
- 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](https://doi.org/10.1152/jn.00039.2017)
- 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](https://doi.org/10.1523/JNEUROSCI.5482-12.2013)
- Qu, S., Catron, M., Zhou, C., Janve, V., Shen, W., Howe, R., Macdonald, R. (2020). GABA<sub>A</sub> receptor  $\beta$ 3 subunit mutation D120N causes Lennox-Gastaut syndrome in knock-in mice. *Brain Communications*. doi: [10.1093/braincomms/fcaa028](https://doi.org/10.1093/braincomms/fcaa028)



- 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, P.K.H., 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, E.A.B., Mobli, M., Chow, C.Y., Herzig, V., Csoti, A., Panyi, G., Reid, C.A., King, G.F., Petrou, S. (2018). Selective Nav1.1 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](#)
- Rogawski, M.A., 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/v2020/0030304](#)
- 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, M.E., Hart da Silva, L.R., Araujo Grisolia, A.B., Braga, D.V., Dobracinski, R., Oliveira da Silva, A.M.H., Antunes Soares, F.A., Marchesan, S., Flavia Furian, A., Schneider Oliveira, M., Figuera, 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](#)
- Runtz, L., Girard, B., Toussenet, 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, S.M., Merriman, B., Klein, E., Choi, M., Lee, H.Y., Kirk, A., Nelson-Williams, C., Gibson, G., Baraban, S.C., Lifton, R.P., Geschwind, D.H., Fu, Y.H., 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, M.E.P., Royes, L.F.F., 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](#)
- Santos, A.C., Temp, F.R., Marafija, J.R., Pillat, M.M., Hessel, A.T., Ribeiro, L.R., Miyazato, L.G., Schneider Oliveira, M., Mello, C.F. (2017). EP2 receptor agonist ONO-AE1-259-01 attenuates pentylentetrazole- 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](#)
- 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., & Martynuk, 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1523/JNEUROSCI.1067-18.2018)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.expneurol.2013.11.005)
- Simeone, T.A., Matthews, S.A., Samson, K.K., & Simeone, K.A. (2017). Regulation of brain PPAR $\gamma$ 2 contributes to ketogenic diet anti-seizure efficacy. *Experimental Neurology*, 287(1), 54-64. doi: [10.1016/j.expneurol.2016.08.006](https://doi.org/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. *Toxicol*, Volume 194, 30 April 2021, Pages 23-36. doi: [10.1016/j.toxicol.2021.02.009](https://doi.org/10.1016/j.toxicol.2021.02.009)
- 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](https://doi.org/10.1016/j.nbd.2015.12.012)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41380-021-01109-x)
- 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](https://doi.org/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](https://doi.org/10.1155/2017/6512620)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.neuropharm.2020.108297)
- Tian, D-S., Peng, J., Murugan, M., Feng, L., Liu, J-L., Eyo, U.B., Zhou, L.J., Mogilevsky, R., Wang, W., Wu, L-J. (2017). Chemokine CCL2-CCR2 signaling induces neuronal cell death via STAT3 activation and IL-1 $\beta$  production after status epilepticus. *Journal of Neuroscience*, 37(33), 7878-7892. doi: [10.1523/JNEUROSCI.0315-17.2017](https://doi.org/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). 14-3-3 $\epsilon$  and  $\zeta$  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](https://doi.org/10.1523/JNEUROSCI.2513-13.2014)
- 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- $\beta$  oligomer bound to postsynaptic prion protein activates Fyn to impair neurons. *Nature Neuroscience*, 15(9), 1227-1235. doi: [10.1038/nn.3178](https://doi.org/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](https://doi.org/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](https://doi.org/10.1371/journal.pone.0023656)
- 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 $_A$ R  $\beta$ 3 subunit reproduces the core phenotypes of autism spectrum disorders. *PNAS*, 112(48), 14805-14810. doi: [10.1073/pnas.1514657112](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.neurobiolaging.2009.09.002)
- 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](https://doi.org/10.1111/epi.14513)
- 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](https://doi.org/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*<sup>W<sup>Q390X</sup></sup> mice. *Epilepsy Research*, 134, 1-8. doi: [10.1016/j.eplepsyres.2017.04.020](https://doi.org/10.1016/j.eplepsyres.2017.04.020)
- 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](https://doi.org/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](https://doi.org/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  $\gamma$ -aminobutyric acid type A receptor-mediated excitation. *Anesthesia and Analgesia*, 120(2), 433-439. doi: [10.1213/ANE.0000000000000529](https://doi.org/10.1213/ANE.0000000000000529)
- 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](https://doi.org/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, L.J. (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](https://doi.org/10.1016/j.bbi.2020.06.028)
- 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/](https://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
- Yu, J., Proddatur, 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., Proddatur, 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., Xu, C., Puentes, D.L., Seubert, C.N., Gravenstein, N., & Martynuk, 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, 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-ERB $\alpha$  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
- 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
- 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., Rossini, 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](http://uknowledge.uky.edu/cbme_etds/54)
- 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
- 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
- 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
- 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
- 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

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- 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 sleepiness and 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](#)
- Atrooz F., Liu H. Kochi C., Salim S. (2019) Early Life Sleep Deprivation: Role of Oxidative-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](#)
- 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](#)
- 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](#)
- 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*, zsa271. doi: [10.1093/sleep/zsa271](#)
- Bowers, S.J., 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, S.J., 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](#)
- 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](#)
- 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](#)
- 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., 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](#)

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- 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/ds414](#)
- 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, I.H., 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, J.S., Yang, H., Kim, J., Kim, J., Han, J.K., Shimizu, M., Huang, Z.-L. (2014). Marine polyphenol phlorotannins promote non-rapid eye movement sleep in mice via the benzodiazepine site of the GABA<sub>A</sub> receptor. *Psychopharmacology*, 231(14), 2825-2837. doi: [10.1007/s00213-014-3445-1](#)
- Cho, S.M., UM, M.Y., Yoon, M.S., Yang, H.J., Lee, J.K., Jung, J.H. (2020). Compositions for ameliorating, preventing or treating somniphobia 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., Eggen, 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](#)
- 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](#)
- 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) Infralow 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, 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](#)
- 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/eLife.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, B.J.W., 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](#)
- 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](#)
- 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., Blustein, T., Lee, S.Y., Erneux, C., Halassa, M.M., & Haydon, P. (2017). Astrocytic IP<sub>3</sub>/Ca<sup>2+</sup> 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: [10.1016/j.jneumeth.2021.109224](#)
- 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](#)
- 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-HT<sub>2</sub> deficits. *SLEEP*, 39(12). doi: [10.5665/sleep.6324](#)
- Grønli, J., Rempe, M.J., Glegern, 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](#)
- Hablitz L.M., Vinitzky 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](#)
- Harkness, J.H., Bushana, P.N., Todd, R.P., Glegern, 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](#)
- Hayashi, Y., Mitsui, K., Yasuda, K., Ando, R., Kanuka, M., Sakai, K., & Itoharu, 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., Hsueh, 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1523/ENEURO.0228-18.2018)
- Hernandez, A.B., Kirkness, J.P., Smith, P.L., Schneider, H., Polotsky, M., Richardson, R.A., Hernandez, W.C., 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/jappphysiol.00818](https://doi.org/10.1152/jappphysiol.00818)
- Hill, J.L., Hardy, N.F., Jimenez, D.V., Maynard, K.R., Kardian, A.S., Pollock, C.J., Schloesser, R.J., 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/tp.2012.136)
- Hong, J., Ha, G.E., 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1534/genetics.120.303533)
- 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](https://doi.org/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](https://doi.org/10.1016/j.cub.2020.08.052)
- 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](https://doi.org/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 one* vol. 15, 12 e0243325. doi: [10.1371/journal.pone.0243325](https://doi.org/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](https://doi.org/10.1186/1756-6606-6-59)
- 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](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](https://doi.org/10.1016/j.neures.2016.06.006)
- 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](https://doi.org/10.1210/en.2014-1134)
- Jiang, P., Scarpa, J.R., Fitzpatrick, K., Losic, B., Gao, V.D., Hao, K., Summa, K.C., Yang, H.S., 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](https://doi.org/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](https://doi.org/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](https://dukespace.lib.duke.edu/dspace/bitstream/handle/10161/19858/JiangXie_duke_0066D_15334.pdf)



- 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/](http://uknowledge.uky.edu/biology_etds/42/)
- 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 (3 $\beta$ ,5 $\beta$ ,17 $\beta$ )-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](https://doi.org/10.1016/j.bja.2021.03.029)
- Kam, K. (2017). On neuronal hyperexcitability in a mouse model of  $\beta$ -amyloid neuropathology. *ProQuest Dissertations Publishing, New York University*, (Doctoral dissertation). [proquest.com/1880197489](http://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  $\beta$ -amyloid neuropathology. *Nature*, 6(20119). [doi: 10.1038/srep20119](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.jneumeth.2021.109224)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41598-019-52623-6)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41467-020-16518-9)
- 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](https://doi.org/10.3233/JAD-180260)
- 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](https://doi.org/10.1016/j.neurobiolaging.2019.01.010)
- 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](https://doi.org/10.1073/pnas.1413625112)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1530/JOE-18-0708)
- Krenzer, M., Anacleit, 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.3390/nu11030556)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.jsxm.2018.10.014)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41467-021-24915-x)
- Liu, K., Kim, J., Kim, D.W., Zhang, S., Bao, H., Denaxa, M., Lim, S.A., 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](https://doi.org/10.1038/nature23663)
- Liu, Y., Li, Y., Yang, B., Yu, M., Zhang, X., Bi, L., Xu, H. (2020). Glutamatergic Neurons of the Paraventricular Nucleus are Critical for the Control of Wakefulness. *Neuroscience*, August 2020. [doi: 10.1016/j.neuroscience.2020.08.024](https://doi.org/10.1016/j.neuroscience.2020.08.024)
- 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](https://doi.org/10.1038/nature23663)
- Llansola, M., Cantero, J.L., Hita-Yanez, E.H., Mirones-Maldonado, M.J., Piedrafita, B., Ahabrach, H., Errami, M., Agusti, A., Felipe 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](https://doi.org/10.1016/j.neuroscience.2011.11.009)
- 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](https://doi.org/10.1523/JNEUROSCI.5018-12.2013)
- 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](https://doi.org/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](https://doi.org/10.3389/fnsys.2020.00026)
- 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?pg-origsite=gscholar&cbl=18750&diss=y](https://proquest.com/openview/cff8c4f32fd9051ef08014523ae096ca/1?pg-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](https://doi.org/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](https://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](https://doi.org/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 Pharmacology*, March 2021, 114515. doi: [10.1016/j.bcp.2021.114515](https://doi.org/10.1016/j.bcp.2021.114515)
- 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<sub>1A</sub> receptor agonist 8-OH-DPAT. *Psychopharmacology*, 233(12), 2343-2353. doi: [10.1007/s00213-016-4282-1](https://doi.org/10.1007/s00213-016-4282-1)
- 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](https://doi.org/10.1016/j.jneuroim.2018.04.011)
- 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](https://doi.org/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/ace.12158](https://doi.org/10.1111/ace.12158)
- 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 Continuous Collection of Large Volumes of Cerebrospinal Fluid and Intrathecal Drug Delivery in Free-Moving Mice. Research Square, preliminary report, under review, May 2021. doi: [10.21203/rs.3.rs-508382/v1](https://doi.org/10.21203/rs.3.rs-508382/v1)
- 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](https://doi.org/10.1016/j.pain.2011.02.016)
- 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](https://doi.org/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](https://doi.org/10.1002/syn.21728)
- Ogilvie, R.P., Simonelli, G., Sotres-Alvarez, D., St-Onge, M., Mossavar-Rahmani, Y., Perreira, Petrov, M., Kim, Y., Balkin, T., Wallace, D., Reid, K.J., Daviglius, M., Zee, P.C., 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](https://doi.org/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](https://doi.org/10.1016/j.neuron.2019.05.038)
- 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](https://doi.org/10.1007/s41105-018-0170-x)
- Padilla, S.L., Perez, J.G., Ben-Hamo, M., Johnson, C.W., Sanchez, R.E.A., Buss, 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](https://doi.org/10.1016/j.cub.2019.01.022).
- 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](https://doi.org/10.1016/j.neuron.2017.04.021)
- 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](https://doi.org/10.3390/app11031182)
- Pavlov, A.N., Pavlova, O.N., Semyachkina-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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41467-017-01004-6)
- 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](https://doi.org/10.1101/309146)
- 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](https://doi.org/10.1016/j.bbi.2014.12.008)

- Pho, H., Hernandez, A.B., Arias, R.S., Leitner, E.B., Van Kooten, S., Kirkness, J.P., Schneider, H., Smith, P.L., Polotsky, V.Y., 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/jappphysiol.00494.2015](https://doi.org/10.1152/jappphysiol.00494.2015)
- 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](https://doi.org/10.1016/j.jneumeth.2014.01.006)
- Price, M.P., Gong, H., Parsons, M.G., Kundert, J.R., Reznikov, L.R., Bernardinelli, L., Chaloner, K., Buchanan, G.F., Wemmie, J.A., Richerson, G.B., Cassell, M.D., 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](https://doi.org/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](https://doi.org/10.3389/fnins.2019.00293)
- Purnell, B.S., Buchanan, G.F. (2020). Free-running circadian breathing rhythms are eliminated by suprachiasmatic nucleus lesion. *Journal of Applied Physiology*. June doi: [10.1152/jappphysiol.00211.2020](https://doi.org/10.1152/jappphysiol.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](https://doi.org/10.1002/syn.20893)
- 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](https://doi.org/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](https://doi.org/10.2147/NSS.S84548)
- 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](https://doi.org/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](https://doi.org/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. [http://scholar.google.com/scholar\\_url?url=](http://scholar.google.com/scholar_url?url=)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.7554/eLife.44358)
- 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](https://doi.org/10.1093/sleep/zsz173)
- 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](https://doi.org/10.1016/j.neulet.2012.02.040)
- 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](https://doi.org/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), ea05620. doi: [10.1126/scitranslmed.a05620](https://doi.org/10.1126/scitranslmed.a05620)
- Seibt, J., Richard, C.J., Sigl-Glückner, 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](https://doi.org/10.1038/s41467-017-00735-w)
- 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., Hearn, 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](https://doi.org/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](https://doi.org/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  $\beta$ 1-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](https://doi.org/10.1016/j.neuron.2019.07.026)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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<sub>2</sub>-induced arousal from sleep. *Journal of Neuroscience*, 38(8). doi: [10.1523/JNEUROSCI.2182-17.2018](https://doi.org/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](https://doi.org/10.1093/cercor/bhz002)
- 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](https://doi.org/10.1152/ajpregu.00460.2012)
- 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](https://doi.org/10.1002/syn.20898)
- 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](https://doi.org/10.1007/s00213-019-05385-y).
- 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](https://doi.org/10.1038/s41598-019-40398-9)
- 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](https://doi.org/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](https://doi.org/10.1097/ALN.0000000000002161)
- 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](https://doi.org/10.1210/en.2016-1404)
- 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](https://doi.org/10.1002/mnfr.201700316)
- 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](https://doi.org/10.1093/sleep/zsy218)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/s10068-015-0039-6)

- 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](https://doi.org/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 influence of biological sex on active-phase sleep behavior. *bioRxiv 2020.02.21.958231*. doi: [10.1101/2020.02.21.958231](https://doi.org/10.1101/2020.02.21.958231)
- 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](https://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](https://doi.org/10.1016/j.brainres.2015.04.037)
- 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](https://doi.org/10.1038/s41598-020-67859-w)
- Wang, Y., He, J., Kastin, A.J., Hsueh, 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](https://doi.org/10.1007/s12031-013-0093-6)
- Ward, C.P., Wooden, J.I., & Kieleyka, 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](https://doi.org/10.1037/pne0000075)
- 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](https://doi.org/10.5665/sleep.1274)
- Wooden, J., Pido, J., Mathews, H., Kieleyka, 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](https://doi.org/10.2147/NSS.S68611)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1016/j.jpsychires.2020.12.036)
- 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](https://doi.org/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).  $\alpha$ -Pinene, a major constituent of pine tree oils, enhances non-rapid eye movement sleep in mice through GABA<sub>A</sub>-benzodiazepine receptors, *Molecular Pharmacology*, 90(5), 530-539. doi: [10.1124/mol.116.105080](https://doi.org/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](https://doi.org/10.3390/nu9050512)
- 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](https://doi.org/10.5665/sleep.5762)
- 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](https://doi.org/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
- 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
- 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
- Zweig, L.J. (2017). Multilevel contributions to low level multisensory integration processes. *ProQuest Dissertations Publishing, Northwestern University*, (Doctoral dissertation). [proquest.com/69f227bfaa3d43acafbaba371d974abc](https://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](https://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](https://doi.org/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>
- 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](https://proquest.com/openview/260ab55d960aca0ef4d7430d5c8c7d22)
- Barth, A.M.I., Ferando, I., & Mody, I. (2014). Ovarian cycle-linked plasticity of  $\delta$ -GABA<sub>A</sub> receptor subunits in hippocampal interneurons affects  $\gamma$  oscillations in vivo. *Frontiers in Cellular Neuroscience*, 8, Article 222. doi: [10.3389/fncel.2014.00222](https://doi.org/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](https://doi.org/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](https://doi.org/10.1007/s00213-019-05341-w)
- 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](https://doi.org/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*<sup>+/-</sup> mice. *Neuron*, 85(6), 1332-1343. doi: [10.1016/j.neuron.2015.02.019](https://doi.org/10.1016/j.neuron.2015.02.019)
- 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](https://doi.org/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., Figuera, 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](https://doi.org/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](https://proquest.com/ab9d5c7cb6334e42782a3a321b98aff3)
- 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](https://doi.org/10.1038/s41593-019-0572-3)
- Geist, P.A., Dulka, B.N., Barnes, A., Totty, M., & Datta, S. (2017). BDNF 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](https://doi.org/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](https://doi.org/10.1016/j.nbd.2019.03.019)
- Hanson, J.E., Ma, K., Elstrott, J., Weber, M., Sallet, 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., Searce-Levie, K., Palop, J.J. (2020). GluN2A NMDA Receptor Enhancement Improves Brain Oscillations, Synchrony, and Cognitive Functions in Dravet Syndrome and Alzheimer's Disease Models. *Cell Rep*. Jan 14;30(2):381-396.e4. doi: [10.1016/j.celrep.2019.12.030](https://doi.org/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 overlaid 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](https://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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s41593-020-0632-8)
- 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](https://doi.org/10.1371/journal.pgen.1006763)
- Joksimovic, S.L., 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](https://doi.org/10.1111/bph.14930)
- 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](https://doi.org/10.1016/j.celrep.2020.01.053)
- Kim, Y.J., Khoshkhou, 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](https://doi.org/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](https://doi.org/10.1093/cercor/bhaa088)
- Kjaerby, C., Athilingam, J., Robinson, S.E., Iafrafi, 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](https://doi.org/10.1016/j.celrep.2016.11.036)
- 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<sub>1</sub> adenosine receptor quantification in the rat brain using [<sup>18</sup>F]CPFPX and positron emission tomography. *Molecular Imaging and Biology*, 16(5), 699-709. doi: [10.1007/s11307-014-0729-0](https://doi.org/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](https://doi.org/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](https://doi.org/10.1101/390302)
- 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](https://doi.org/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](https://doi.org/10.1523/JNEUROSCI.4940-12.2013)
- 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](https://doi.org/10.1007/s12035-018-1450-9)
- Limnusun, 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](https://doi.org/10.1109/EMBC.2016.7591724)
- Limnusun, 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](https://doi.org/10.3389/fnins.2016.00382)
- 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](https://doi.org/10.1021/acs.analchem.6b01476)
- Marton, T., Seifkar, 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](https://doi.org/10.1523/JNEUROSCI.1728-17.2018)
- 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](https://doi.org/10.1111/jsr.12792)
- 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.
- 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](https://doi.org/10.1021/acs.analchem.7b04732)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1523/JNEUROSCI.1063-19.2019)
- 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](https://doi.org/10.1523/JNEUROSCI.0839-16.2016).
- Stanley, M. (2017). *In vivo* regulation of amyloid- $\beta$  by glucose and insulin in a mouse model of Alzheimer's disease. *Mol Brain* 13, 28 (2020). doi: [10.1186/s13041-020-00571-y](https://doi.org/10.1186/s13041-020-00571-y)
- 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](https://doi.org/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](https://doi.org/10.1038/s41467-017-02716-5)
- Vogel, K.R., Ainslie, G.R., Walters, D.C., McConnell, A., Dhamne, S.C., Rotenberg, A., Roulet, 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](https://doi.org/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](https://doi.org/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/ncomms14912](https://doi.org/10.1038/ncomms14912)
- 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](https://doi.org/10.1002/adfm.201910718)
- 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](https://doi.org/10.1073/pnas.1808622115)
- 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](https://doi.org/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](https://doi.org/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](https://doi.org/10.1038/s42255-020-0170-4)