

REFERENCES - PROJECT 2 - PRECLINICAL MODEL FOR ANTIEPILEPTOGENIC THERAPY SCREENING IN POST-TRAUMATIC EPILEPSY

1. 2014 NINDS Benchmarks for Epilepsy Research. Available at: <http://www.ninds.nih.gov/research/epilepsyweb/2014benchmarks.htm>. Accessed 2/20 2016.
2. FDA approves Ferriprox to treat patients with excess iron in the body. Available at: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm275814.htm>. Accessed 2/21 2016.
3. Kineret (anakinra) Prescribing information. Available at: http://www.accessdata.fda.gov/drugsatfda_docs/label/2003/anakamg062703LB.pdf.
4. Zalicus Successfully Completes Phase 1 Single Ascending Dose Study with Z944 , a Novel, Oral T-Type Calcium Channel Blocker. Available at: <http://www.reuters.com/article/idUS105794+19-Jun-2012+BW20120619>. Accessed 2/21/16 2016.
5. Ahmed F, Plantman S, Cernak I, Agoston DV. The Temporal Pattern of Changes in Serum Biomarker Levels Reveals Complex and Dynamically Changing Pathologies after Exposure to a Single Low-Intensity Blast in Mice. *Front Neurol*. 2015;6:114.
6. Akman O, Moshe SL, Galanopoulou AS. Sex-specific consequences of early life seizures. *Neurobiol Dis*. 2014;72 Pt B:153-66.
7. Anderson GD, Peterson TC, Vonder Haar C, Kantor ED, Farin FM, Bammler TK, Macdonald JW, Hoane MR. Comparison of the effects of erythropoietin and anakinra on functional recovery and gene expression in a traumatic brain injury model. *Front Pharmacol*. 2013;4:129.
8. Arif M, Kazim SF, Grundke-Iqbal I, Garruto RM, Iqbal K. Tau pathology involves protein phosphatase 2A in parkinsonism-dementia of Guam. *Proc Natl Acad Sci U S A*. 2014;111:1144-9.
9. Ayton S, Lei P, Duce JA, Wong BX, Sedjahtera A, Adlard PA, Bush AI, Finkelstein DI. Ceruloplasmin dysfunction and therapeutic potential for Parkinson disease. *Ann Neurol*. 2013;73:554-9.
10. Ayton S, Zhang M, Roberts BR, Lam LQ, Lind M, McLean C, Bush AI, Frugier T, Crack PJ, Duce JA. Ceruloplasmin and beta-amyloid precursor protein confer neuroprotection in traumatic brain injury and lower neuronal iron. *Free Radic Biol Med*. 2014;69:331-7.
11. Barker-Haliski M, Friedman D, White HS, French JA. How clinical development can, and should, inform translational science. *Neuron*. 2014;84:582-93.
12. Becker AJ, Pitsch J, Sochivko D, Opitz T, Staniek M, Chen CC, Campbell KP, Schoch S, Yaari Y, Beck H. Transcriptional upregulation of Cav3.2 mediates epileptogenesis in the pilocarpine model of epilepsy. *J Neurosci*. 2008;28:13341-53.
13. Benge JF, Phenis RA, Bennett A, Cruz-Laureano D, Kirmani BF. Neurobehavioral effects of levetiracetam in patients with traumatic brain injury. *Front Neurol*. 2013;4:195.
14. Boxer MB, Shen M, Auld DS, Wells JA, Thomas CJ. A small molecule inhibitor of Caspase 1. Probe Reports from the NIH Molecular Libraries Program. Bethesda (MD)2010.
15. Bragin A, Li L, Almajano J, Alvarado-Rojas C, Reid AY, Staba R, Engel JJ. Pathological electrographic changes after experimental traumatic brain injury. *Epilepsia*. 2016;in press.
16. Caballero GC, Hughes DW, Maxwell PR, Green K, Gamboa CD, Barthol CA. Retrospective analysis of levetiracetam compared to phenytoin for seizure prophylaxis in adults with traumatic brain injury. *Hosp Pharm*. 2013;48:757-61.
17. Casillas-Espinosa PM, Hicks A, Jeffreys A, Snutch TP, O'Brien TJ, Powell KL. Z944, a Novel Selective T-Type Calcium Channel Antagonist Delays the Progression of Seizures in the Amygdala Kindling Model. *PLoS One*. 2015;10:e0130012.
18. Chudomel O, Hasson H, Bojar M, Moshe SL, Galanopoulou AS. Age- and sex-related characteristics of tonic GABA currents in the rat substantia nigra pars reticulata. *Neurochem Res*. 2015;40:747-57.
19. Clayton JA, Collins FS. Policy: NIH to balance sex in cell and animal studies. *Nature*. 2014;509:282-3.
20. Cook RJ, Sackett DL. The number needed to treat: a clinically useful measure of treatment effect. *BMJ*. 1995;310:452-4.
21. Corcoran NM, Hovens CM, Michael M, Rosenthal MA, Costello AJ. Open-label, phase I dose-escalation study of sodium selenate, a novel activator of PP2A, in patients with castration-resistant prostate cancer. *Br J Cancer*. 2010;103:462-8.
22. Corcoran NM, Martin D, Hutter-Paier B, Windisch M, Nguyen T, Nheu L, Sundstrom LE, Costello AJ, Hovens CM. Sodium selenate specifically activates PP2A phosphatase, dephosphorylates tau and reverses memory deficits in an Alzheimer's disease model. *J Clin Neurosci*. 2010;17:1025-33.

23. D'Alessandro R, Ferrara R, Benassi G, Lenzi PL, Sabattini L. Computed tomographic scans in posttraumatic epilepsy. *Arch Neurol.* 1988;45:42-3.
24. Dash PK, Redell JB, Hergenroeder G, Zhao J, Clifton GL, Moore A. Serum ceruloplasmin and copper are early biomarkers for traumatic brain injury-associated elevated intracranial pressure. *J Neurosci Res.* 2010;88:1719-26.
25. Diamond ML, Ritter AC, Failla MD, Boles JA, Conley YP, Kochanek PM, Wagner AK. IL-1beta associations with posttraumatic epilepsy development: A genetics and biomarker cohort study. *Epilepsia.* 2015;56:991-1001.
26. Dirnagl U, Fisher M. International, multicenter randomized preclinical trials in translational stroke research: it's time to act. *J Cereb Blood Flow Metab.* 2012;32:933-5.
27. Engel J, Jr. Biomarkers in epilepsy: introduction. *Biomark Med.* 2011;5:537-44.
28. Engel J, Jr., Pitkänen A, Loeb JA, Dudek FE, Bertram EH, 3rd, Cole AJ, Moshe SL, Wiebe S, Jensen FE, Mody I, Nehlig A, Vezzani A. Epilepsy biomarkers. *Epilepsia.* 2013;54 Suppl 4:61-9.
29. Englander J, Bushnik T, Duong TT, Cifu DX, Zafonte R, Wright J, Hughes R, Bergman W. Analyzing risk factors for late posttraumatic seizures: a prospective, multicenter investigation. *Arch Phys Med Rehabil.* 2003;84:365-73.
30. French JA, White HS, Klitgaard H, Holmes GL, Privitera MD, Cole AJ, Quay E, Wiebe S, Schmidt D, Porter RJ, Arzimanoglou A, Trinka E, Perucca E. Development of new treatment approaches for epilepsy: unmet needs and opportunities. *Epilepsia.* 2013;54 Suppl 4:3-12.
31. Gabriel WM, Rowe AS. Long-term comparison of GOS-E scores in patients treated with phenytoin or levetiracetam for posttraumatic seizure prophylaxis after traumatic brain injury. *Ann Pharmacother.* 2014;48:1440-4.
32. Galanopoulou AS. Sex- and cell-type-specific patterns of GABAA receptor and estradiol-mediated signaling in the immature rat substantia nigra. *Eur J Neurosci.* 2006;23:2423-30.
33. Galanopoulou AS. Sex and epileptogenesis, introduction to the special issue. *Neurobiol Dis.* 2014;72 Pt B:123-4.
34. Galanopoulou AS, Alm EM, Veliskova J. Estradiol reduces seizure-induced hippocampal injury in ovariectomized female but not in male rats. *Neurosci Lett.* 2003;342:201-5.
35. Galanopoulou AS, Buckmaster PS, Staley KJ, Moshe SL, Perucca E, Engel J, Jr., Loscher W, Noebels JL, Pitkänen A, Stables J, White HS, O'Brien TJ, Simonato M, American Epilepsy Society Basic Science C, The International League Against Epilepsy Working Group On Recommendations For Preclinical Epilepsy Drug D. Identification of new epilepsy treatments: issues in preclinical methodology. *Epilepsia.* 2012;53:571-82.
36. Galanopoulou AS, Kokaia M, Loeb JA, Nehlig A, Pitkänen A, Rogawski MA, Staley KJ, Whittemore VH, Dudek FE. Epilepsy therapy development: technical and methodologic issues in studies with animal models. *Epilepsia.* 2013;54 Suppl 4:13-23.
37. Galanopoulou AS, Simonato M, French JA, O'Brien TJ. Joint AES/ILAE translational workshop to optimize preclinical epilepsy research. *Epilepsia.* 2013;54 Suppl 4:1-2.
38. Giorgi FS, Galanopoulou AS, Moshe SL. Sex dimorphism in seizure-controlling networks. *Neurobiol Dis.* 2014;72 Pt B:144-52.
39. Glien M, Brandt C, Potschka H, Loscher W. Effects of the novel antiepileptic drug levetiracetam on spontaneous recurrent seizures in the rat pilocarpine model of temporal lobe epilepsy. *Epilepsia.* 2002;43:350-7.
40. Greenhalgh AD, Galea J, Denes A, Tyrrell PJ, Rothwell NJ. Rapid brain penetration of interleukin-1 receptor antagonist in rat cerebral ischaemia: pharmacokinetics, distribution, protection. *Br J Pharmacol.* 2010;160:153-9.
41. Grundke-Iqbal I, Iqbal K, Tung YC, Quinlan M, Wisniewski HM, Binder LI. Abnormal phosphorylation of the microtubule-associated protein tau (tau) in Alzheimer cytoskeletal pathology. *Proc Natl Acad Sci U S A.* 1986;83:4913-7.
42. Hadjigeorgiou GM, Paterakis K, Dardiotis E, Dardioti M, Aggelakis K, Tasiou A, Xiromerisiou G, Komnos A, Zintzaras E, Scarmeas N, Papadimitriou A, Karantanas A. IL-1RN and IL-1B gene polymorphisms and cerebral hemorrhagic events after traumatic brain injury. *Neurology.* 2005;65:1077-82.
43. Hasturk AE, Yilmaz ER, Turkoglu E, Kertmen H, Horasanli B, Hayirli N, Erguder IB, Evirgen O. Therapeutic evaluation of interleukin 1-beta antagonist Anakinra against traumatic brain injury in rats. *Ulus Travma Acil Cerrahi Derg.* 2015;21:1-8.

44. Heikkinen ER, Ronty HS, Tolonen U, Pyhtinen J. Development of posttraumatic epilepsy. *Stereotact Funct Neurosurg.* 1990;54-55:25-33.
45. Immonen R, Kharatishvili I, Grohn O, Pitkänen A. MRI biomarkers for post-traumatic epileptogenesis. *J Neurotrauma.* 2013;30:1305-9.
46. Inaba K, Menaker J, Branco BC, Gooch J, Okoye OT, Herrold J, Scalea TM, Dubose J, Demetriades D. A prospective multicenter comparison of levetiracetam versus phenytoin for early posttraumatic seizure prophylaxis. *J Trauma Acute Care Surg.* 2013;74:766-71; discussion 71-3.
47. Iqbal K, Liu F, Gong CX, Alonso Adel C, Grundke-Iqbal I. Mechanisms of tau-induced neurodegeneration. *Acta Neuropathol.* 2009;118:53-69.
48. Jequier Gygax M, Klein BD, White HS, Kim M, Galanopoulou AS. Efficacy and tolerability of the galanin analog NAX 5055 in the multiple-hit rat model of symptomatic infantile spasms. *Epilepsy Res.* 2014;108:98-108.
49. Jones NC, Nguyen T, Corcoran NM, Velakoulis D, Chen T, Grundy R, O'Brien TJ, Hovens CM. Targeting hyperphosphorylated tau with sodium selenate suppresses seizures in rodent models. *Neurobiol Dis.* 2012;45:897-901.
50. Kamat PK, Rai S, Swarnkar S, Shukla R, Nath C. Molecular and cellular mechanism of okadaic acid (OKA)-induced neurotoxicity: a novel tool for Alzheimer's disease therapeutic application. *Mol Neurobiol.* 2014;50:852-65.
51. Keck CA, Thompson HJ, Pitkänen A, LeBold DG, Morales DM, Plevy JB, Puri R, Zhao B, Dichter M, McIntosh TK. The novel antiepileptic agent RWJ-333369-A, but not its analog RWJ-333369, reduces regional cerebral edema without affecting neurobehavioral outcome or cell death following experimental traumatic brain injury. *Restor Neurol Neurosci.* 2007;25:77-90.
52. Keppel E, Schaller HC. A 33 kDa protein with sequence homology to the 'laminin binding protein' is associated with the cytoskeleton in hydra and in mammalian cells. *J Cell Sci.* 1991;100 (Pt 4):789-97.
53. Keppel G, Saufley WH, Tokunaga H. Introduction to design and analysis: a student's handbook New York: W.H. Freeman and Company; 1992.
54. Kharatishvili I, Immonen R, Grohn O, Pitkänen A. Quantitative diffusion MRI of hippocampus as a surrogate marker for post-traumatic epileptogenesis. *Brain.* 2007;130:3155-68.
55. Kharatishvili I, Nissinen JP, McIntosh TK, Pitkänen A. A model of posttraumatic epilepsy induced by lateral fluid-percussion brain injury in rats. *Neuroscience.* 2006;140:685-97.
56. Kharatishvili I, Pitkänen A. Association of the severity of cortical damage with the occurrence of spontaneous seizures and hyperexcitability in an animal model of posttraumatic epilepsy. *Epilepsy Res.* 2010;90:47-59.
57. Kharatishvili I, Sierra A, Immonen RJ, Grohn OH, Pitkänen A. Quantitative T2 mapping as a potential marker for the initial assessment of the severity of damage after traumatic brain injury in rat. *Exp Neurol.* 2009;217:154-64.
58. Kilkenney C, Browne WJ, Cuthill IC, Emerson M, Altman DG. Improving bioscience research reporting: the ARRIVE guidelines for reporting animal research. *PLoS Biol.* 2010;8:e1000412.
59. Kinoshita K, Chatzipanteli I, Vitarbo E, Truettner JS, Alonso OF, Dietrich WD. Interleukin-1beta messenger ribonucleic acid and protein levels after fluid-percussion brain injury in rats: importance of injury severity and brain temperature. *Neurosurgery.* 2002;51:195-203; discussion
60. Kirmani BF, Mungall D, Ling G. Role of intravenous levetiracetam in seizure prophylaxis of severe traumatic brain injury patients. *Front Neurol.* 2013;4:170.
61. Klein P, Herr D, Pearl PL, Natale J, Levine Z, Nogay C, Sandoval F, Trzcinski S, Atabaki SM, Tsuchida T, van den Anker J, Soldin SJ, He J, McCarter R. Results of phase 2 safety and feasibility study of treatment with levetiracetam for prevention of posttraumatic epilepsy. *Arch Neurol.* 2012;69:1290-5.
62. Kochanek PM, Bramlett HM, Shear DA, Dixon CE, Mondello S, Dietrich WD, Hayes RL, Wang KK, Poloyac SM, Empey P, Povlishock J, Mountney A, Browning M, Deng-Bryant Y, Yan HQ, Jackson TC, Catania M, Glushakova O, Richieri S, Tortella FC. Synthesis of Findings, Current Investigations, and Future Directions: Operation Brain Trauma Therapy. *J Neurotrauma.* 2015.
63. Landis SC, Amara SG, Asadullah K, Austin CP, Blumenstein R, Bradley EW, Crystal RG, Darnell RB, Ferrante RJ, Fillit H, Finkelstein R, Fisher M, Gendelman HE, Golub RM, Goudreau JL, Gross RA, Gubitza AK, Hesterlee SE, Howells DW, Huguenard J, Kelner K, Koroshetz W, Krainc D, Lazic SE, Levine MS, Macleod MR, McCall JM, Moxley RT, 3rd, Narasimhan K, Noble LJ, Perrin S, Porter JD, Steward O, Unger E, Utz U, Silberberg SD. A call for transparent reporting to optimize the predictive value of preclinical research. *Nature.* 2012;490:187-91.

64. Leppik IE, Goel V, Rarick J, Nixdorf DR, Cloyd JC. Intramuscular and intravenous levetiracetam in humans: safety and pharmacokinetics. *Epilepsy Res.* 2010;91:289-92.
65. Leppik IE, Patterson EN, Coles LD, Craft EM, Cloyd JC. Canine status epilepticus: a translational platform for human therapeutic trials. *Epilepsia.* 2011;52 Suppl 8:31-4.
66. Liu C, Gotz J. How it all started: tau and protein phosphatase 2A. *J Alzheimers Dis.* 2013;37:483-94.
67. Lynch BA, Lambeng N, Nocka K, Kensel-Hammes P, Bajjalieh SM, Matagne A, Fuks B. The synaptic vesicle protein SV2A is the binding site for the antiepileptic drug levetiracetam. *Proc Natl Acad Sci U S A.* 2004;101:9861-6.
68. Maroso M, Balosso S, Ravizza T, Iori V, Wright CI, French J, Vezzani A. Interleukin-1 β biosynthesis inhibition reduces acute seizures and drug resistant chronic epileptic activity in mice. *Neurotherapeutics.* 2011;8:304-15.
69. Mishra AM, Bai X, Sanganahalli BG, Waxman SG, Shatillo O, Grohn O, Hyder F, Pitkänen A, Blumenfeld H. Decreased resting functional connectivity after traumatic brain injury in the rat. *PLoS One.* 2014;9:e95280.
70. Mountney A, Shear DA, Potter B, Marcsisin SR, Sousa J, Melendez V, Tortella FC, Lu XC. Ethosuximide and phenytoin dose-dependently attenuate acute nonconvulsive seizures after traumatic brain injury in rats. *J Neurotrauma.* 2013;30:1973-82.
71. Noe FM, Polascheck N, Frigerio F, Bankstahl M, Ravizza T, Marchini S, Beltrame L, Bandero CR, Loscher W, Vezzani A. Pharmacological blockade of IL-1 β /IL-1 receptor type 1 axis during epileptogenesis provides neuroprotection in two rat models of temporal lobe epilepsy. *Neurobiol Dis.* 2013;59:183-93.
72. O'Brien TJ, Ben-Menachem E, Bertram EH, 3rd, Collins SD, Kokaia M, Lerche H, Klitgaard H, Staley KJ, Vaudano E, Walker MC, Simonato M. Proposal for a "phase II" multicenter trial model for preclinical new antiepilepsy therapy development. *Epilepsia.* 2013;54 Suppl 4:70-4.
73. Ojo JO, Mouzon BC, Crawford F. Repetitive head trauma, chronic traumatic encephalopathy and tau: Challenges in translating from mice to men. *Exp Neurol.* 2016;275 Pt 3:389-404.
74. Perez-Polo JR, Rea HC, Johnson KM, Parsley MA, Unabia GC, Xu G, Infante SK, Dewitt DS, Hulsebosch CE. Inflammatory consequences in a rodent model of mild traumatic brain injury. *J Neurotrauma.* 2013;30:727-40.
75. Perez-Polo JR, Rea HC, Johnson KM, Parsley MA, Unabia GC, Xu GY, Prough D, DeWitt DS, Paulucci-Holthauzen AA, Werrbach-Perez K, Hulsebosch CE. Inflammatory cytokine receptor blockade in a rodent model of mild traumatic brain injury. *J Neurosci Res.* 2016;94:27-38.
76. Perucca E, Battino D, Tomson T. Gender issues in antiepileptic drug treatment. *Neurobiol Dis.* 2014;72 Pt B:217-23.
77. Pitkänen A, Engel J, Jr. Past and present definitions of epileptogenesis and its biomarkers. *Neurotherapeutics.* 2014;11:231-41.
78. Pitkänen A, Huusko N, Ndode-Ekane XE, Kyyriäinen J, Lipponen A, Lipsanen A, Sierra A, Bolkvadze T. Gender issues in antiepileptogenic treatments. *Neurobiol Dis.* 2014;72 Pt B:224-32.
79. Pitkänen A, Immonen R, Ndode-Ekane X, Grohn O, Stohr T, Nissinen J. Effect of lacosamide on structural damage and functional recovery after traumatic brain injury in rats. *Epilepsy Res.* 2014;108:653-65.
80. Pitkänen A, Immonen RJ, Grohn OH, Kharatishvili I. From traumatic brain injury to posttraumatic epilepsy: what animal models tell us about the process and treatment options. *Epilepsia.* 2009;50 Suppl 2:21-9.
81. Pitkänen A, Nehlig A, Brooks-Kayal AR, Dudek FE, Friedman D, Galanopoulou AS, Jensen FE, Kaminski RM, Kapur J, Klitgaard H, Loscher W, Mody I, Schmidt D. Issues related to development of antiepileptogenic therapies. *Epilepsia.* 2013;54 Suppl 4:35-43.
82. Pohlmann-Eden B, Bruckmeier J. Predictors and dynamics of posttraumatic epilepsy. *Acta Neurol Scand.* 1997;95:257-62.
83. Puvanna V, Engeler M, Banjara M, Brennan C, Schreiber P, Dadas A, Bahrami A, Solanki J, Bandyopadhyay A, Morris JK, Bernick C, Ghosh C, Rapp E, Bazarian JJ, Janigro D. Is phosphorylated tau unique to chronic traumatic encephalopathy? Phosphorylated tau in epileptic brain and chronic traumatic encephalopathy. *Brain Res.* 2016;1630:225-40.
84. Racine RJ. Modification of seizure activity by electrical stimulation. II. Motor seizure. *Electroencephalogr Clin Neurophysiol.* 1972;32:281-94.

85. Ramakrishnan V, Dahlin R, Hariri O, Quadri SA, Farr S, Miulli D, Siddiqi J. Anti-epileptic prophylaxis in traumatic brain injury: A retrospective analysis of patients undergoing craniotomy versus decompressive craniectomy. *Surg Neurol Int.* 2015;6:8.
86. Ravizza T, Boer K, Redeker S, Spliet WG, van Rijen PC, Troost D, Vezzani A, Aronica E. The IL-1beta system in epilepsy-associated malformations of cortical development. *Neurobiol Dis.* 2006;24:128-43.
87. Ravizza T, Lucas SM, Balosso S, Bernardino L, Ku G, Noe F, Malva J, Randle JC, Allan S, Vezzani A. Inactivation of caspase-1 in rodent brain: a novel anticonvulsive strategy. *Epilepsia.* 2006;47:1160-8.
88. Ravizza T, Noe F, Zardoni D, Vaghi V, Sifringer M, Vezzani A. Interleukin Converting Enzyme inhibition impairs kindling epileptogenesis in rats by blocking astrocytic IL-1beta production. *Neurobiol Dis.* 2008;31:327-33.
89. Rowe AS, Goodwin H, Brophy GM, Bushwitz J, Castle A, Deen D, Johnson D, Lesch C, Liang N, Potter E, Roels C, Samaan K, Rhoney DH, Neurocritical Care Society Pharmacy S. Seizure prophylaxis in neurocritical care: a review of evidence-based support. *Pharmacotherapy.* 2014;34:396-409.
90. Sanabria ER, Su H, Yaari Y. Initiation of network bursts by Ca²⁺-dependent intrinsic bursting in the rat pilocarpine model of temporal lobe epilepsy. *J Physiol.* 2001;532:205-16.
91. Sanderson KL, Raghupathi R, Saatman KE, Martin D, Miller G, McIntosh TK. Interleukin-1 receptor antagonist attenuates regional neuronal cell death and cognitive dysfunction after experimental brain injury. *J Cereb Blood Flow Metab.* 1999;19:1118-25.
92. Sharma V, Babu PP, Singh A, Singh S, Singh R. Iron-induced experimental cortical seizures: electroencephalographic mapping of seizure spread in the subcortical brain areas. *Seizure.* 2007;16:680-90.
93. Shultz SR, Wright DK, Zheng P, Stuchbery R, Liu SJ, Sashindranath M, Medcalf RL, Johnston LA, Hovens CM, Jones NC, O'Brien TJ. Sodium selenate reduces hyperphosphorylated tau and improves outcomes after traumatic brain injury. *Brain.* 2015;138:1297-313.
94. Simonato M, Brooks-Kayal AR, Engel J, Jr., Galanopoulou AS, Jensen FE, Moshe SL, O'Brien TJ, Pitkänen A, Wilcox KS, French JA. The challenge and promise of anti-epileptic therapy development in animal models. *Lancet Neurol.* 2014;13:949-60.
95. Sollberger G, Strittmatter GE, Garstkiewicz M, Sand J, Beer HD. Caspase-1: the inflammasome and beyond. *Innate Immun.* 2014;20:115-25.
96. Su H, Sochivko D, Becker A, Chen J, Jiang Y, Yaari Y, Beck H. Upregulation of a T-type Ca²⁺ channel causes a long-lasting modification of neuronal firing mode after status epilepticus. *J Neurosci.* 2002;22:3645-55.
97. Szaflarski JP, Nazzari Y, Dreer LE. Post-traumatic epilepsy: current and emerging treatment options. *Neuropsychiatr Dis Treat.* 2014;10:1469-77.
98. Taymans JM, Baekelandt V. Phosphatases of alpha-synuclein, LRRK2, and tau: important players in the phosphorylation-dependent pathology of Parkinsonism. *Front Genet.* 2014;5:382.
99. Thom M, Liu JY, Thompson P, Phadke R, Narkiewicz M, Martinian L, Marsdon D, Koepp M, Caboclo L, Catarino CB, Sisodiya SM. Neurofibrillary tangle pathology and Braak staging in chronic epilepsy in relation to traumatic brain injury and hippocampal sclerosis: a post-mortem study. *Brain.* 2011;134:2969-81.
100. Thompson K, Pohlmann-Eden B, Campbell LA, Abel H. Pharmacological treatments for preventing epilepsy following traumatic head injury. *Cochrane Database Syst Rev.* 2015;8:CD009900.
101. Tringham E, Powell KL, Cain SM, Kuplast K, Mezeyova J, Weerapura M, Eduljee C, Jiang X, Smith P, Morrison JL, Jones NC, Braine E, Rind G, Fee-Maki M, Parker D, Pajouhesh H, Parmar M, O'Brien TJ, Snutch TP. T-type calcium channel blockers that attenuate thalamic burst firing and suppress absence seizures. *Sci Transl Med.* 2012;4:121ra19.
102. van Eersel J, Ke YD, Liu X, Delerue F, Kril JJ, Gotz J, Ittner LM. Sodium selenate mitigates tau pathology, neurodegeneration, and functional deficits in Alzheimer's disease models. *Proc Natl Acad Sci U S A.* 2010;107:13888-93.
103. Vezzani A, Balosso S, Maroso M, Zardoni D, Noe F, Ravizza T. ICE/caspase 1 inhibitors and IL-1beta receptor antagonists as potential therapeutics in epilepsy. *Curr Opin Investig Drugs.* 2010;11:43-50.
104. Vezzani A, Balosso S, Ravizza T. The role of cytokines in the pathophysiology of epilepsy. *Brain Behav Immun.* 2008;22:797-803.
105. Vezzani A, Maroso M, Balosso S, Sanchez MA, Bartfai T. IL-1 receptor/Toll-like receptor signaling in infection, inflammation, stress and neurodegeneration couples hyperexcitability and seizures. *Brain Behav Immun.* 2011;25:1281-9.

106. Wang G, Hu W, Tang Q, Wang L, Sun XG, Chen Y, Yin Y, Xue F, Sun Z. Effect Comparison of Both Iron Chelators on Outcomes, Iron Deposit, and Iron Transporters After Intracerebral Hemorrhage in Rats. *Mol Neurobiol*. 2015.
107. Watzlawick R, Howells DW, Schwab JM. Neuroprotection After Traumatic Brain Injury. *JAMA Neurol*. 2016;73:149-50.
108. Willmore LJ, Sybert GW, Munson JB. Recurrent seizures induced by cortical iron injection: a model of posttraumatic epilepsy. *Ann Neurol*. 1978;4:329-36.
109. Witman GB, Cleveland DW, Weingarten MD, Kirschner MW. Tubulin requires tau for growth onto microtubule initiating sites. *Proc Natl Acad Sci U S A*. 1976;73:4070-4.
110. Wu Y, Jiao B, Wu Z, Zhen J, Jia Q, Zhang H, Guan B, Wang S. Autoregressive spectral analysis of cortical electroencephalographic signals in a rat model of post-traumatic epilepsy. *Neurol Res*. 2015;37:959-66.
111. Yaari Y, Yue C, Su H. Recruitment of apical dendritic T-type Ca^{2+} channels by backpropagating spikes underlies de novo intrinsic bursting in hippocampal epileptogenesis. *J Physiol*. 2007;580:435-50.
112. Zafar SN, Khan AA, Ghauri AA, Shamim MS. Phenytoin versus Leviteracetam for seizure prophylaxis after brain injury - a meta analysis. *BMC Neurol*. 2012;12:30.
113. Zhang J, Puvenna V, Janigro D. Biomarkers of Traumatic Brain Injury and Their Relationship to Pathology. In: Laskowitz D, Grant G (Eds) *Translational Research in Traumatic Brain Injury*. Boca Raton (FL)2016.
114. Zhao J, Chen Z, Xi G, Keep RF, Hua Y. Deferoxamine attenuates acute hydrocephalus after traumatic brain injury in rats. *Transl Stroke Res*. 2014;5:586-94.
115. Zheng P, Shultz SR, Hovens CM, Velakoulis D, Jones NC, O'Brien TJ. Hyperphosphorylated tau is implicated in acquired epilepsy and neuropsychiatric comorbidities. *Mol Neurobiol*. 2014;49:1532-9.
116. Zou H, Brayer SW, Hurwitz M, Niyonkuru C, Fowler LE, Wagner AK. Neuroprotective, neuroplastic, and neurobehavioral effects of daily treatment with levetiracetam in experimental traumatic brain injury. *Neurorehabil Neural Repair*. 2013;27:878-88.