

BIOGRAPHICAL SKETCH

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NAME Tim Lekic, M.D., Ph.D.	POSITION TITLE Instructor, Basic Science Department, Physiology Division Resident Physician, Department of Neurology
eRA COMMONS USER NAME (credential, e.g., agency login) 2130033	

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Canadian University College	Bachelor of Science	07/01	Biology and Chemistry
Loma Linda University	Ph.D.	05/10	Physiology
Loma Linda University	M.D.	05/11	Medicine
Loma Linda University	Internship	07/11- 06/12	Internal Medicine
Loma Linda University	Residency	07/12- 06/15	Neurology

A. Current Research Focus

Exploration of fundamental biological processes and neurological mechanisms of vascular disease, studied through translational pre-clinical modeling approaches. The ultimate goal is prevention and lessening of disabilities attributed to stroke.

B. Positions and Honors

Positions and Employment

2007 – 2011 Graduate Student, Division of Physiology, Loma Linda University
2011 - 2012 Intern Physician, Department of Internal Medicine, Loma Linda University
2011 - Instructor, Department of Basic Science, Loma Linda University
2012 - Resident Physician, Department of Neurology, Loma Linda University

Other Experience and Professional Memberships

Major Associations

2003 - American Medical Association
2012 - American Academy of Neurology
2013 - American Heart Association

Major Editorial Boards

2010 - Frontiers in Neurology (Review Editor, *Endovascular and Interventional Neurology* section)
2013 - BMC Neurology (Associate Editor, *Cerebrovascular Disease and Stroke* section)

Major Honors

1999 William Mcluskkey Biological Science Award, Canadian University College
2007 Julian T. Hoff, Neurosurgical Research Fellowship, 2nd International ICH Conference

C. Peer Reviewed Publications

45. Leitzke AS, Rolland WB, Krafft PR, **Lekic T**, Klebe D, Flores JJ, Van Allen NR, Applegate RL 2nd, Zhang JH. Isoflurane Post-Treatment Ameliorates GMH-Induced Brain Injury in Neonatal Rats. *Stroke*. 2013 Dec;44(12):3587-90.

44. **Lekic T**, Rolland W, Krafft PR, Suzuki H, Tang J, Zhang JH, Kamper JE, Hartman RE. Response. Pontine hemorrhage. *J Neurosurg*. 2013 May;118(5):1152-3.

43. Manaenko A, **Lekic T**, Ma Q, Zhang JH, Tang J. Hydrogen inhalation ameliorated mast cell-mediated brain injury after intracerebral hemorrhage in mice. *Crit Care Med*. 2013 May;41(5):1266-75.
42. Fathali N, Ostrowski RP, Hasegawa Y, **Lekic T**, Tang J, Zhang JH. Splenic Immune Cells In Experimental Neonatal Hypoxia-Ischemia. *Transl Stroke Res*. 2013 Apr 1;4(2):208-219.
41. Rolland WB, **Lekic T**, Krafft PR, Hasegawa Y, Altay O, Hartman R, Ostrowski R, Manaenko A, Tang J, Zhang JH. Fingolimod reduces cerebral lymphocyte infiltration in experimental models of rodent intracerebral hemorrhage. *Exp Neurol*. 2013 Mar;241:45-55.
40. **Lekic T**, Rolland W, Manaenko A, Krafft PR, Kamper JE, Suzuki H, Hartman RE, Tang J, Zhang JH. Evaluation of the hematoma consequences, neurobehavioral profiles, and histopathology in a rat model of pontine hemorrhage. *J Neurosurg*. 2013 Feb;118(2):465-77.
39. Krafft PR, Rolland WB, Duris K, **Lekic T**, Campbell A, Tang J, Zhang JH. Modeling intracerebral hemorrhage in mice: injection of autologous blood or bacterial collagenase. *J Vis Exp*. 2012 Sep 22;(67):e4289.
38. Krafft PR, Bailey EL, **Lekic T**, Rolland WB, Altay O, Tang J, Wardlaw JM, Zhang JH, Sudlow CL. Etiology of stroke and choice of models. *Int J Stroke*. 2012 Jul;7(5):398-406.
37. **Lekic T**, Ani C. Posterior circulation stroke: animal models and mechanism of disease. *J Biomed Biotechnol*. 2012;2012:587-590.
36. **Lekic T**, Manaenko A, Rolland W, Krafft PR, Peters R, Hartman RE, Altay O, Tang J, Zhang JH. Rodent neonatal germinal matrix hemorrhage mimics the human brain injury, neurological consequences, and post-hemorrhagic hydrocephalus. *Exp Neurol*. 2012 Jul;236(1):69-78.
35. Huang B, Krafft PR, Ma Q, Rolland WB, Caner B, **Lekic T**, Manaenko A, Le M, Tang J, Zhang JH. Fibroblast growth factors preserve blood-brain barrier integrity through RhoA inhibition after intracerebral hemorrhage in mice. *Neurobiol Dis*. 2012 Apr;46(1):204-14.
34. Krafft PR, Altay O, Rolland WB, Duris K, **Lekic T**, Tang J, Zhang JH. $\alpha 7$ nicotinic acetylcholine receptor agonism confers neuroprotection through GSK-3 β inhibition in a mouse model of intracerebral hemorrhage. *Stroke*. 2012 Mar;43(3):844-50.
33. Sherchan P, **Lekic T**, Suzuki H, Hasegawa Y, Rolland W, Duris K, Zhan Y, Tang J, Zhang JH. Minocycline improves functional outcomes, memory deficits, and histopathology after endovascular perforation-induced subarachnoid hemorrhage in rats. *J Neurotrauma*. 2011 Dec;28(12):2503-12.
32. **Lekic T**, Manaenko A, Rolland W, Ostrowski RP, Virbel K, Tang J, Zhang JH. Beneficial effect of hyperbaric oxygenation after neonatal germinal matrix hemorrhage. *Acta Neurochir Suppl*. 2011;111:253-7.
31. **Lekic T**, Manaenko A, Rolland W, Fathali N, Peterson M, Tang J, Zhang JH. Protective effect of hydrogen gas therapy after germinal matrix hemorrhage in neonatal rats. *Acta Neurochir Suppl*. 2011;111:237-41.
30. Rolland WB 2nd, Manaenko A, **Lekic T**, Hasegawa Y, Ostrowski R, Tang J, Zhang JH. FTY720 is neuroprotective and improves functional outcomes after intracerebral hemorrhage in mice. *Acta Neurochir Suppl*. 2011;111:213-7.
29. **Lekic T**, Manaenko A, Rolland W, Virbel K, Hartman R, Tang J, Zhang JH. Neuroprotection by melatonin after germinal matrix hemorrhage in neonatal rats. *Acta Neurochir Suppl*. 2011;111:201-6.

28. Manaenko A, Fathali N, Khatibi NH, **Lekic T**, Shum KJ, Martin R, Zhang JH, Tang J. Post-treatment with SR49059 improves outcomes following an intracerebral hemorrhagic stroke in mice. *Acta Neurochir Suppl.* 2011;111:191-6.
27. Manaenko A, **Lekic T**, Ma Q, Ostrowski RP, Zhang JH, Tang J. Hydrogen inhalation is neuroprotective and improves functional outcomes in mice after intracerebral hemorrhage. *Acta Neurochir Suppl.* 2011;111:179-83.
26. Manaenko A, Fathali N, Williams S, **Lekic T**, Zhang JH, Tang J. Geldanamycin reduced brain injury in mouse model of intracerebral hemorrhage. *Acta Neurochir Suppl.* 2011;111:161-5.
25. Manaenko A, **Lekic T**, Zhang JH, Tang J. NC1900, an arginine vasopressin analogue, fails to reduce brain edema and improve neurobehavioral deficits in an intracerebral hemorrhagic stroke mice model. *Acta Neurochir Suppl.* 2011;111:155-9.
24. **Lekic T**, Manaenko A, Rolland W, Tang J, Zhang JH. A novel preclinical model of germinal matrix hemorrhage using neonatal rats. *Acta Neurochir Suppl.* 2011;111:55-60.
23. **Lekic T**, Ostrowski RP, Suzuki H, Manaenko A, Rolland W, Fathali N, Tang J, Zhang JH. The postpartum period of pregnancy worsens brain injury and functional outcome after cerebellar hemorrhage in rats. *Acta Neurochir Suppl.* 2011;111:37-41.
22. Souvenir R, Fathali N, Ostrowski RP, **Lekic T**, Zhang JH, Tang J. Tissue inhibitor of matrix metalloproteinase-1 mediates erythropoietin-induced neuroprotection in hypoxia ischemia. *Neurobiol Dis.* 2011 Oct;44(1):28-37.
21. **Lekic T**, Krafft PR, Coats JS, Obenaus A, Tang J, Zhang JH. Infratentorial Strokes for Posterior Circulation Folks: Clinical Correlations for Current Translational Therapeutics. *Transl Stroke Res.* 2011 Jun 1;2(2):144-151.
20. Manaenko A, Fathali N, Khatibi NH, **Lekic T**, Hasegawa Y, Martin R, Tang J, Zhang JH. Arginine-vasopressin V1a receptor inhibition improves neurologic outcomes following an intracerebral hemorrhagic brain injury. *Neurochem Int.* 2011 Mar;58(4):542-8.
19. Zhou Y, Fathali N, **Lekic T**, Ostrowski RP, Chen C, Martin RD, Tang J, Zhang JH. Remote limb ischemic postconditioning protects against neonatal hypoxic-ischemic brain injury in rat pups by the opioid receptor/Akt pathway. *Stroke.* 2011 Feb;42(2):439-44.
18. **Lekic T**, Rolland W, Hartman R, Kamper J, Suzuki H, Tang J, Zhang JH. Characterization of the brain injury, neurobehavioral profiles, and histopathology in a rat model of cerebellar hemorrhage. *Exp Neurol.* 2011 Jan;227(1):96-103.
17. Zhou Y, **Lekic T**, Fathali N, Ostrowski RP, Martin RD, Tang J, Zhang JH. Isoflurane posttreatment reduces neonatal hypoxic-ischemic brain injury in rats by the sphingosine-1-phosphate/phosphatidylinositol-3-kinase/Akt pathway. *Stroke.* 2010 Jul;41(7):1521-7.
16. Fathali N, **Lekic T**, Zhang JH, Tang J. Long-term evaluation of granulocyte-colony stimulating factor on hypoxic-ischemic brain damage in infant rats. *Intensive Care Med.* 2010 Sep;36(9):1602-8.
15. **Lekic T**, Hartman R, Rojas H, Manaenko A, Chen W, Ayer R, Tang J, Zhang JH. Protective effect of melatonin upon neuropathology, striatal function, and memory ability after intracerebral hemorrhage in rats. *J Neurotrauma.* 2010 Mar;27(3):627-37.

14. Fathali N, Ostrowski RP, **Lekic T**, Jadhav V, Tong W, Tang J, Zhang JH. Cyclooxygenase-2 inhibition provides lasting protection against neonatal hypoxic-ischemic brain injury. Crit Care Med. 2010 Feb;38(2):572-8.
13. Hartman R, **Lekic T**, Rojas H, Tang J, Zhang JH. Assessing functional outcomes following intracerebral hemorrhage in rats. Brain Res. 2009 Jul 14;1280:148-57.
12. Zhou Y, Fathali N, **Lekic T**, Tang J, Zhang JH. Glibenclamide improves neurological function in neonatal hypoxia-ischemia in rats. Brain Res. 2009 May 13;1270:131-9.
11. Manaenko A, **Lekic T**, Sozen T, Tsuchiyama R, Zhang JH, Tang J. Effect of gap junction inhibition on intracerebral hemorrhage-induced brain injury in mice. Neurol Res. 2009 Mar;31(2):173-8.
10. **Lekic T**, Tang J, Zhang JH. A rat model of pontine hemorrhage. Acta Neurochir Suppl. 2008;105:135-7.
9. **Lekic T**, Tang J, Zhang JH. Rat model of intracerebellar hemorrhage. Acta Neurochir Suppl. 2008;105:131-4.
8. Hartman RE, Rojas HA, **Lekic T**, Ayer R, Lee S, Jadhav V, Titova E, Tang J, Zhang JH. Long-term effects of melatonin after intracerebral hemorrhage in rats. Acta Neurochir Suppl. 2008;105:99-100.
7. Rojas H, **Lekic T**, Chen W, Jadhav V, Titova E, Martin RD, Tang J, Zhang J. The antioxidant effects of melatonin after intracerebral hemorrhage in rats. Acta Neurochir Suppl. 2008;105:19-21.
6. Lee S, Jadhav V, Ayer RE, Rojas H, Hyong A, **Lekic T**, Tang J, Zhang JH. Dual effects of melatonin on oxidative stress after surgical brain injury in rats. J Pineal Res. 2009 Jan;46(1):43-8.
5. Lee S, Stier G, Marcantonio S, **Lekic T**, Allard M, Martin R, Zhang J. 3% hypertonic saline following subarachnoid hemorrhage in rats. Acta Neurochir Suppl. 2008;102:405-8.
4. Lee S, Jadhav V, **Lekic T**, Hyong A, Allard M, Stier G, Martin R, Zhang J. Simvastatin treatment in surgically induced brain injury in rats. Acta Neurochir Suppl. 2008;102:401-4.
3. Lee S, Jadhav V, Ayer R, Rojas H, Hyong A, **Lekic T**, Stier G, Martin R, Zhang JH. The antioxidant effects of melatonin in surgical brain injury in rats. Acta Neurochir Suppl. 2008;102:367-71.
2. **Lekic T**, Zhang JH. Posterior circulation stroke and animal models. Front Biosci. 2008 Jan 1;13:1827-44.
1. Sood SM, **Lekic T**, Jhavar H, Farrell HM Jr, Slattery CW. Reconstituted micelle formation using reduced, carboxymethylated bovine kappa-casein and human beta-casein. Protein J. 2006 Jul;25(5):352-60.

D. Research Support

13CRP17380009

Lekic (PI)

07/01/13 – 06/30/15

American Heart Association

Harnessing Neonatal Brain Injury

The major objective of this project is the investigation of protective neurovascular mechanisms following hypoxia-ischemia.

Role: PI