

Curriculum Vitae

Nicholas H. Varvel

Emory University School of Medicine
Department of Pharmacology
1510 Clifton Road, Suite 5002
Atlanta, GA 30322-3090
Office Phone: (404) 727-5635
Fax: (404)-727-0365
E-mail: nvarvel@emory.edu

Education and Academic Degrees

- 1999 – 2003** Bachelor of Science, Biology, magna cum laude, University of Dayton, Dayton, OH
- 2003 – 2009** Doctor of Philosophy, Neurosciences, Case Western Reserve University, Cleveland, OH

Honors

- 2003** P.K. Bajpai Award for Excellence in Undergraduate Research, University of Dayton
- 2005** Student Scholarship Award to Keystone Symposium, Breckenridge, CO
- 2006** Vance Lemon Award for Best Poster Presentation at 29th Annual Biomedical Graduate Student Symposium, Case Western Reserve University
- 2006** Best Poster at the 26th Cleveland Clinic Research Day, Cleveland, OH
- 2009** Alexander von Humboldt Foundation Postdoctoral Research Fellowship
- 2013** Epilepsy Foundation Postdoctoral Research Fellowship

Professional Appointments

- 2003 – 2009** Graduate Student, Department of Neurosciences, Case Western Reserve University, Cleveland, OH
Advisors: Bruce T. Lamb, Ph.D. and Karl Herrup, Ph.D.
- 2009 – 2013** Alexander von Humboldt Postdoctoral Fellow, Department of Cellular Neurology, Hertie Institute for Clinical Brain Research, Tuebingen, Germany
Advisor: Mathias Jucker, Ph.D.
- 2013 -** Epilepsy Foundation Postdoctoral Research Fellow, Department of Pharmacology, Emory School of Medicine, Atlanta, GA
Advisor: Raymond Dingledine, Ph.D.

Research Support

- 2010 – 2012** Alzheimer's Association, USA-New Investigator Research Grant, "Alzheimer's Disease Pathologies in the Absence of Microglia"

Publications

Moss MA, **Varvel NH**, Nichols MR, Reed DK, and Rosenberry TL. (2003) Nordihydroguaiaretic Acid Does Not Disaggregate Beta-Amyloid(1-40) Protofibrils But Does Inhibit Growth Arising From Direct Protofibril Association. *Molecular Pharmacology* 66(3): 592-600.

Yan Y*, **Varvel NH***, Lamb BT and Herrup K. Ectopic Cell Cycle Events Link Human Alzheimer's Disease and Amyloid Precursor Protein Transgenic Mouse Models. (2006) *Journal of Neuroscience* 26(3): 775-784.

Varvel NH*, Bhaskar K*, Patil A, Pimplikar SW, Herrup K and Lamb BT. (2008) A β Oligomers Induce Neuronal Cell Cycle Events in Alzheimer's Disease. *Journal of Neuroscience* 28(43): 10786-10793.

Muresan Z, **Varvel NH**, Lamb BT and Muresan V. (2009) The Cleavage Products of Amyloid- β Precursor Protein are Sorted to Distinct Carrier Vesicles that are Independently Transported within Neurites. *Journal of Neuroscience* 29(11): 3565-3578. 2009.

Varvel NH, Bhaskar K, Kounnas MK, Wagner SL, Yang Y, Lamb BT and Herrup K. (2009) NSAIDs Prevent, But Do Not Reverse, Neuronal Cell Cycle Re-Entry in Alzheimer's Disease Mouse Models. *Journal of Clinical Investigation* 119(12): 3692-3702.

Edwards MM, Marin Deevsikova C, Collin GB, Gifford E, Wu J, Hicks WL, Whiting C, **Varvel NH**, Maphis N, Lamb BT, Naggert JK, Nishina PM and Peachey NS. (2010) Photoreceptor Degeneration, Azoospermia, Leukoencephalopathy and Abnormal Retinal Pigment Epithelial Cell Function in Mice Expressing an Early Stop Mutation in CLCN2. *Investigative Ophthalmology & Visual Science* 51(6): 3264-72.

Lee S, **Varvel NH**, Konerth ME, Cardona AE, Ransohoff RM and Lamb BT. (2010) CX3CR1 Deficiency Alters Microglial Activation and Reduced Beta-Amyloid Deposition in Two Alzheimer's Disease Mouse Models. *American Journal of Pathology* 177(5): 2549-2562.

Wilkinson B, Cramer P, **Varvel NH**, Jiang Q, Szabo A, Herrup K, Lamb BT and Landreth GE. (2012) Ibuprofen Attenuates Oxidative Damage Through Inhibition of the Microglial NOX2 in a Transgenic Model of Alzheimer's Disease. *Neurobiology of Aging* 33(1): 197 e21-32.

Hamaguchi T, Eisele YS, **Varvel NH**, Lamb BT, Walker LC, Jucker M. (2012) The Presence of A β Seeds, and not age per se, is Critical to the Initiation of A β Deposition in the Brain. *Acta Neuropathologica* 123(1): 31-7. 2012.

Varvel NH[§], Grathwohl SA^{*§}, Baumann F, Liebig C, Brawek B, Thal DR, Charo IF, Heppner FL, Aguzzi A, Garaschuk O, Ransohoff RM, Jucker M[§]. Microglial Repopulation Model Reveals a Robust Homeostatic Process for Replacing CNS Myeloid Cells. *PNAS* 109(44):18150-5. Direct Submission.

Bhaskar K, Maphis N, Xu G, **Varvel NH**, Kokiko-Cochran ON, Weick JP, Staugaitis SM, Cardona A, Ransohoff RM, Herrup K, Lamb BT. (2014) Microglial Derived Tumor Necrosis Factor- α Drives Alzheimer's Disease-related Neuronal Cell Cycle Events. *Neurobiology of Disease* 62:273-85.

Dingledine R, Varvel NH, Dudek FE. When and how to seizures kill neurons, and is this relevant to epilepsy? *Advances in Experimental Medicine and Biology*, in press.

Varvel NH, Jiang J, Dingledine R. Candidate Drug Targets for Prevention or Modification of Epilepsy. *Annual Review of Pharmacology and Toxicology*, submitted.

*Equal contribution

§Corresponding author

Presentations at Conferences

Varvel NH, Yang Y, Herrup K and Lamb BT. (2004) "A Genomic Based *APP* Mouse Model Exhibits Neuronal Stress in Subcortical Nuclei." Society for Neuroscience, San Diego, CA.

Varvel NH, Yang Y, Lamb BT and Herrup K. (2005) "Ibuprofen Inhibits Aberrant Cell Cycle Events in At Risk Neurons in a Mouse Model of Alzheimer's Disease." Keystone Symposium, Breckenridge, CO.

Varvel NH, Yang Y, Herrup K and Lamb BT. (2006) "Genetic Background Delays the Appearance of Neuronal Cell Cycle Events in Mouse Models of Alzheimer's Disease." Society for Neuroscience, Atlanta, GA.

Varvel NH, Herrup K and Lamb BT. (2007) "The Role of Inflammation in Triggering Aberrant Neuronal Cell Cycle Events in Mouse Models of Alzheimer's Disease." Society for Neuroscience, San Diego, CA.

Varvel NH, Bhaskar K, Herrup K and Lamb BT. (2008) "The Role of Inflammation and Beta-Amyloid Oligomers in Triggering Aberrant Neuronal Cell Cycle Events." Keystone Symposium, Keystone, CO.

Varvel NH, Herrup K and Lamb BT. (2008) "Subtle Reductions in β -amyloid Levels Delay Alzheimer's Disease Pathogenesis in a Mouse Model of the Disease." Society for Neuroscience, Washington D.C.

Varvel NH, Bhaskar K, Herrup K and Lamb BT. (2009) "The Role of Inflammation and Beta-Amyloid in Triggering Aberrant Neuronal Cell Cycle Events." Alzheimer's Disease/Parkinson's Disease Meeting, Prague, Czech Republic.

Varvel NH, Bhaskar K, Herrup K and Lamb BT. (2010) "NSAIDs Block, But Do Not Reverse, Neuronal Cell Cycle Events in a Mouse Model of Alzheimer's Disease." Keystone Symposium, Copper Mountain, CO.

Varvel NH, Herrup K and Lamb BT. (2010) "Elimination of Murine Beta-Amyloid Alleviates Alzheimer's Disease Pathologies in a Mouse Model of the Disease." Keystone Symposium, Copper Mountain, CO.

Grathwohl SA, **Varvel NH**, Baumann F, Heppner FL and Jucker M. (2011) "Blood Derived Monocytic Cells Repopulate Microglia-depleted Mouse Brains and Maintain a Macrophagic Morphology." Alzheimer's Disease/Parkinson's Disease Meeting, Barcelona, Spain.

Varvel NH, Grathwohl SA, Baumann F, Liebig C, Heppner FL, Charo IF, Ransohoff RM, Jucker M. (2011) "Microglia-depleted Mouse Brain is Repopulated with Monocytes: A Model to Examine Myeloid Cell Responses During Neurodegeneration." Society for Neuroscience, Washington, DC.

Varvel NH, Neher JJ, Bosch A, Skodras A, Charo IF, Mack M, Ransohoff RM, Jucker M. (2012) "Circulating Pro-inflammatory Monocytes Rapidly Infiltrate Hippocampal Tissue After Kainic Acid-induced Neurodegeneration." Society for Neuroscience, New Orleans, LA.

*Equal contribution

§Corresponding author