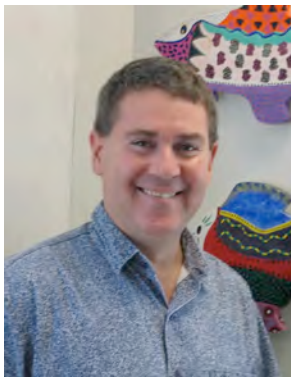
Department of Pathology
Brigham and Women's Hospital

FACULTY BIOGRAPHY



Name: Jeffrey Golden Degree(s): MD
Title(s): Professor
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Research Interests: Developmental Neurobiology, neuropathology, epilepsy, malformations of the nervous system

Research Summary (Past/Current):

My lab is interested in early development of the nervous system. Specifically we have been interested in cell differentiation and migration. Disruptions in these processes are associated with a variety of human conditions including developmental epilepsies, intellectual disabilities, and autism. We use a combination of murine and avian models to investigate neural development. Recently we have focused on understanding the pathobiology underlying mutations in the Aristaliss related homeobox gene (ARX). We have generated several mutant mice carrying known pathogenic mutations in patients. We found that these mice have a developmental epilepsy, intellectual disabilities, and structural defects of the brain. Our analyses have begun elucidating the molecular, cellular and electrophysiological underpinnings of this spectrum of neurodevelopmental disorders and related disorders.

Recent Publications:

1. 1: Nasrallah MP, Cho G, Simonet JC, Putt ME, Kitamura K, Golden JA. Differential effects of a polyalanine tract expansion in Arx on neural development and gene expression. Hum Mol Genet. 2012 Mar 1;21(5):1090-8.

2. Yang YJ, Baltus AE, Mathew RS, Murphy EA, Evrony GD, Gonzalez DM, Wang EP, Marshall-Walker CA, Barry BJ, Murn J, Tatarakis A, Mahajan MA, Samuels HH, Shi Y, Golden JA, Mahajnah M, Shenhav R, Walsh CA. Microcephaly gene links trithorax and REST/NRSF to control neural stem cell proliferation and differentiation. Cell. 2012 Nov 21;151(5):1097-112.

3. Lysko DE, Putt M, Golden JA. SDF1 regulates leading process branching and speed of migrating interneurons. J Neurosci. 2011 Feb 2;31(5):1739-45. doi: 10.1523/JNEUROSCI.3118-10.2011.

Future Research Directions / Areas Looking For Scientific Synergies:

We would like to explore several proteomic strategies to further understand the basis of ARX related disorders. We would also like to expand our understanding of developmental disorders we have modeled in mice and chick embryos in human tissues, including reprogrammed cells and human tissues.