Traffic Jams and Brain Development: Exploring Links Between Neural Development and Disease

June 19

Tuesday, 12:30 pm

Weekly Colloquium

Billings Building
Rosedale Conference Room

Speaker: Anthony P. Barnes, Ph.D.
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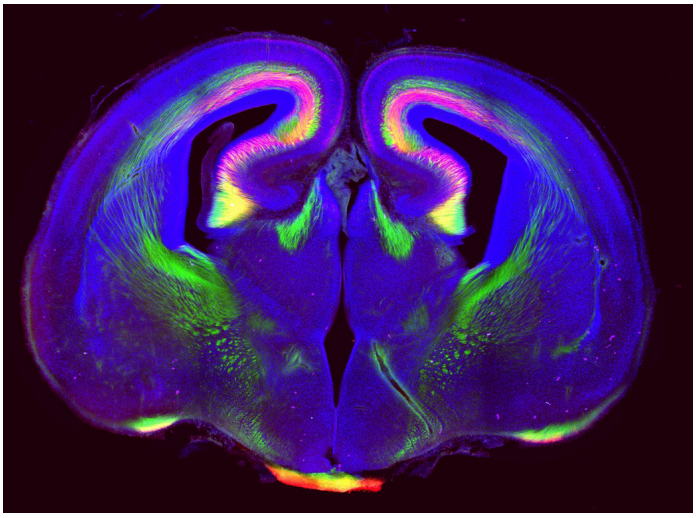
Abstract

The developing brain is characterized by rapid and persistent remodeling. Neural progenitors and their progeny respond to changing molecular landscapes by adapting their complement of cell surface membrane proteins through highly ordered and regulated mechanisms of plasma membrane insertion, followed by later endocytosis and degradation. While these pathways have been implicated in the neuronal compromise associated with neurodegeneration and injury, little is known about their contribution to proper brain development. We have addressed this question through a multidisciplinary approach that incorporates mouse genetics, magnetic resonance and electron microscopy and biochemistry. Our results indicate that compromised endolysosomal trafficking leads to perturbations of progenitor proliferation, axon pathfinding and cell migration in the embryonic cerebral cortex.



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