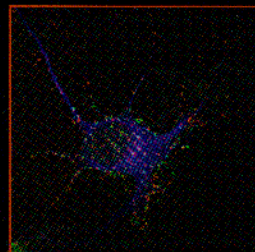


THE NEURONAL CYTOSKELETON, MOTOR PROTEINS, AND ORGANELLE TRAFFICKING IN THE AXON



Edited by

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This volume describes methods that utilize live cell imaging, genetic, molecular, biochemical, and proteomic approaches in neuronal systems to characterize and explore fundamental questions related to intracellular motility, especially axonal transport. The contributors employ a wide variety of culture systems including sympathetic, cortical, hippocampal, dorsal root ganglion, and Purkinje neurons as well as in vitro slice cultures and axoplasm from the squid giant axon; as well as model organisms *Drosophila*, zebrafish and mice. Procedures include; the live imaging of neurofilament transport and actin dynamics and transport in cultured neurons; techniques for live imaging of the movement of cytoplasmic dynein; genetic and imaging approaches to analyze motor protein function and organelle motility and neuro-progenitor migration.

KEY FEATURES

- Contributions from leading experts in this specialized field of research.
- Methods and protocols for approaches to study the neuronal cytoskeleton, motor proteins, and organelle trafficking in the axon

Cover image: Hippocampal neuron derived from embryonic rat brain and cultured for nine days was differentially pulsed with labeled transferrin (see Chapter 19, Zofia M. Lasiecka & Bettina Winckler) to mark recycling endosomes (in red) and early endosomes (in green). Dendrites are counterstained with MAP2 (in blue) after fixation..

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