Scott Brady - 2

**Regulation of fast axonal transport in health and disease.**

**Abstract:**

The large size and complex morphologies of neurons require the robust intracellular transport processes known collectively as axonal transport. As specific molecular motors have been implicated in the trafficking of different proteins and organelles, we are still faced with the challenge of targeting specific cargos to specific destinations. In recent years, a series of kinase and phosphatase pathways have been identified that affect anterograde and/or retrograde transport. The effects of these pathways and the location of their activation are consistent with a role in targeting cargos. Remarkably, many of these signaling pathways are altered in neuropathological conditions, making misregulation of axonal transport a major element in pathogenesis for many neurodegenerative diseases and perhaps a range of other neurological problems.

**Readings**

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3. Kanaan NM, Pigino GF, Brady ST, Lazarov O, Binder LI, Morfini GA. Axonal degeneration in Alzheimer's disease: When signaling abnormalities meet the axonal transport system. Exp Neurol. 2012. PMCID: 3465504.

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