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## ROLE OF MOTOR PROTEINS IN AXONAL TRANSPORT

### Summary

Axonal transport is essential for maintaining the overall architecture of the brain and the entire nervous system. In the axon, the bidirectional transport takes place along uniformly oriented microtubules. Anterograde axonal transport is performed by kinesins and its function is to supply nerve terminals with proteins (enzymes, signaling molecules, filaments, motors), lipid vesicles and organelles like mitochondria for local energy requirements. Retrograde transport carried out by dyneins clears recycled or misfolded proteins but also it transmits trophic signals to the cell body. Here, we describe various components and mechanisms of axonal transport and we outline the factors that have been proposed to contribute to the cargo movement such as the use of adaptor proteins, the effect of MAPs (microtubule associated proteins) and the role of posttranslational modifications of tubulin.

Key words: axon, dynein, kinesin, microtubule, molecular motor, neuron