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+TIP FAMILY PROTEINS – MICROTUBULE TRACKING “AGENTS” IN THE DEVELOPMENT AND PLASTICITY OF NEURONS

Summary

The role of microtubules, one of the three components of cytoskeleton, is to ensure proper intracellular transport, maintain cell shape and generate mechanical forces. In order to fulfill by microtubules their cellular functions, a large number of binding proteins responsible for their polymerization, stabilization or dynamics are needed. These include *inter alia* plus-end tracking proteins (+TIPs). Over the past 10 years, a great progress has been made in terms of understanding both, the fundamental aspects of these molecules at molecular level and their contribution to the development and plasticity of nerve cells. The purpose of this article is to provide the readers the basic information about the +TIP proteins and the role they play in neurons in the formation of axon, dendrites and synaptic plasticity.

Key words: microtubules, microtubule plus-end tracking proteins tracking, the nervous system, neuronal development, neuronal plasticity.