Dynamin-2 in nervous system disorders

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Dynamin-2 is a pleiotropic GTPase whose best-known function is related to membrane scission during vesicle budding from the plasma or Golgi membranes. In the nervous system, dynamin-2 participates in synaptic vesicle recycling, post-synaptic receptor internalization, neurosecretion, and neuronal process extension. Some of these functions are shared with the other two dynamin isoforms. However, the involvement of dynamin-2 in neurological illnesses points to a critical function of this isoform in the nervous system. In this regard, mutations in the dynamin-2 gene results in two congenital neuromuscular disorders. One of them, Charcot-Marie-Tooth disease, affects myelination and peripheral nerve conduction, whereas the other, Centronuclear Myopathy, is characterized by a progressive and generalized atrophy of skeletal muscles, yet it is also associated with abnormalities in the nervous system. Furthermore, single nucleotide polymorphisms located in the dynamin-2 gene have been associated