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Dynamin I Polyclonal Antibody

Catalog # AP69611

Product Information

Application	WB, IHC-P, IF, ICC, E
Primary Accession	Q05193
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	97408

Additional Information

Gene ID	1759
Other Names	DNM1; DNM; Dynamin-1
Dilution	WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications. IHC-P~~N/A IF~~1:50~200 ICC~~N/A E~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

Name	DNM1 (HGNC:2972)
Synonyms	DNM
Function	Catalyzes the hydrolysis of GTP and utilizes this energy to mediate vesicle scission and participates in many forms of endocytosis, such as clathrin-mediated endocytosis or synaptic vesicle endocytosis as well as rapid endocytosis (RE) (PubMed:15703209, PubMed:20428113, PubMed:29668686, PubMed:8101525, PubMed:8910402, PubMed:9362482). Associates to the membrane, through lipid binding, and self-assembles into rings and stacks of interconnected rings through oligomerization to form a helical polymer around the vesicle membrane leading to constriction of invaginated coated pits around their necks (PubMed:30069048, PubMed:7877694, PubMed:9922133). Self-assembly of the helical polymer induces membrane tubules narrowing until the polymer reaches a length sufficient to trigger GTP hydrolysis (PubMed:19084269). Depending on the curvature imposed on the tubules, membrane detachment from the helical polymer upon GTP hydrolysis can cause spontaneous hemifission followed by complete fission (PubMed:19084269). May play a role in regulating early stages of

clathrin-mediated endocytosis in non-neuronal cells through its activation by dephosphorylation via the signaling downstream of EGFR (PubMed:29668686). Controls vesicle size at a step before fission, during formation of membrane pits, at hippocampal synapses (By similarity). Controls plastic adaptation of the synaptic vesicle recycling machinery to high levels of activity (By similarity). Mediates rapid endocytosis (RE), a Ca(2+)-dependent and clathrin- and K(+)-independent process in chromaffin cells (By similarity). Microtubule-associated force-producing protein involved in producing microtubule bundles and able to bind and hydrolyze GTP (By similarity). Through its interaction with DNAJC6, acts during the early steps of clathrin-coated vesicle (CCV) formation (PubMed:12791276).

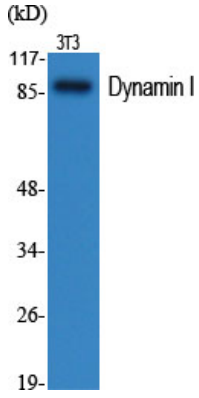
Cellular Location

Cell membrane. Membrane, clathrin-coated pit. Cytoplasmic vesicle {ECO:0000250|UniProtKB:P21575, ECO:0000250|UniProtKB:P39053} Presynapse {ECO:0000250|UniProtKB:P21575}. Cytoplasmic vesicle, secretory vesicle, chromaffin granule {ECO:0000250|UniProtKB:Q08DF4} Note=Associated to the membrane in a helical polymer shape in a GTP bound state (PubMed:30069048). Transiently recruited to endocytic clathrin-coated pits (CCPs) at a late stage of clathrin-coated vesicle (CCV) formation (PubMed:15703209).

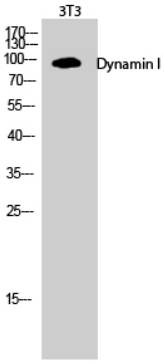
Background

Microtubule-associated force-producing protein involved in producing microtubule bundles and able to bind and hydrolyze GTP. Most probably involved in vesicular trafficking processes. Involved in receptor-mediated endocytosis.

Images



Western Blot analysis of various cells using Dynamin I Polyclonal Antibody



Western Blot analysis of 3T3 cells using Dynamin I Polyclonal Antibody