

DNM2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP6843a**Specification**

DNM2 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [P50570](#)**DNM2 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 1785**Other Names**

Dynamin-2, DNM2, DYN2

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP6843a](/products/AP6843a) was selected from the N-term region of human DNM2. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DNM2 Antibody (N-term) Blocking Peptide - Protein Information**Name** DNM2 ([HGNC:2974](#))**Synonyms** DYN2**Function**

Catalyzes the hydrolysis of GTP and utilizes this energy to mediate vesicle scission at plasma membrane during endocytosis and filament remodeling at many actin structures during organization of the actin cytoskeleton (PubMed: [33713620](http://www.uniprot.org/citations/33713620), PubMed: [15731758](http://www.uniprot.org/citations/15731758), PubMed: [19623537](http://www.uniprot.org/citations/19623537), PubMed: [34744632](http://www.uniprot.org/citations/34744632), PubMed: [19605363](http://www.uniprot.org/citations/19605363)). Plays an important role in vesicular trafficking processes, namely clathrin-mediated endocytosis (CME), exocytic and clathrin-coated vesicle from the trans-Golgi network, and PDGF stimulated

macropinocytosis (PubMed:33713620, PubMed:15731758, PubMed:19623537). During vesicular trafficking process, associates to the membrane, through lipid binding, and self-assembles into ring-like structure through oligomerization to form a helical polymer around the vesicle membrane and leading to vesicle scission (PubMed:17636067, PubMed:34744632, PubMed:36445308). Plays a role in organization of the actin cytoskeleton by mediating arrangement of stress fibers and actin bundles in podocytes (By similarity). During organization of the actin cytoskeleton, self-assembles into ring-like structure that directly bundles actin filaments to form typical membrane tubules decorated with dynamin spiral polymers (By similarity). Self-assembly increases GTPase activity and the GTP hydrolysis causes the rapid depolymerization of dynamin spiral polymers, and results in dispersion of actin bundles (By similarity). Remodels, through its interaction with CTTN, bundled actin filaments in a GTPase-dependent manner and plays a role in orchestrating the global actomyosin cytoskeleton (PubMed:19605363). The interaction with CTTN stabilizes the interaction of DNM2 and actin filaments and stimulates the intrinsic GTPase activity that results in actin filament-barbed ends and increases the sensitivity of filaments in bundles to the actin depolymerizing factor, CFL1 (By similarity). Plays a role in the autophagy process, by participating in the formation of ATG9A vesicles destined for the autophagosomes through its interaction with SNX18 (PubMed:29437695), by mediating recycling endosome scission leading to autophagosome release through MAP1LC3B interaction (PubMed:32315611, PubMed:29437695). Also regulates maturation of apoptotic cell corpse-containing phagosomes by recruiting PIK3C3 to the phagosome membrane (By similarity). Also plays a role in cytokinesis (By similarity). May participate in centrosome cohesion through its interaction with TUBG1 (By similarity). Plays a role in the regulation of neuron morphology, axon growth and formation of neuronal growth cones (By similarity). Involved in membrane tubulation (PubMed:24135484).

Cellular Location

Cytoplasm, cytoskeleton. Cytoplasmic vesicle, clathrin-coated vesicle. Cell projection, uropodium. Endosome Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole Recycling endosome. Cell projection, phagocytic cup {ECO:0000250|UniProtKB:P39054}. Cytoplasmic vesicle, phagosome membrane {ECO:0000250|UniProtKB:P39054}; Peripheral membrane protein {ECO:0000250|UniProtKB:P39054}. Cell projection, podosome {ECO:0000250|UniProtKB:P39054}. Cytoplasm {ECO:0000250|UniProtKB:P39052}. Cell junction {ECO:0000250|UniProtKB:P39052}. Postsynaptic density {ECO:0000250|UniProtKB:P39052}. Synapse, synaptosome {ECO:0000250|UniProtKB:P39052}. Midbody {ECO:0000250|UniProtKB:P39052} Membrane, clathrin-coated pit {ECO:0000250|UniProtKB:P39052} Note=Localized in recycling endosomes fragment to release nascent autophagosomes (PubMed:32315611). Co-localizes with PIK3C3 and RAB5A to the nascent phagosome. Localized at focal adhesion site upon induction of focal adhesions and stress-fiber formation, when interacts with SDC4 (By similarity). Exists as a dynamic component of the centrosome Associates with clathrin-coated vesicles at both the plasma membrane and the trans-Golgi network (TGN) (By similarity) {ECO:0000250|UniProtKB:P39052, ECO:0000250|UniProtKB:P39054, ECO:0000269|PubMed:32315611}

Tissue Location

Widely expressed (PubMed:7590285). Expressed in skeletal muscle and the peripheral nerve (PubMed:19623537)

DNM2 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

DNM2 Antibody (N-term) Blocking Peptide - Images

DNM2 Antibody (N-term) Blocking Peptide - Background

Dynamins represent one of the subfamilies of GTP-binding proteins. These proteins share considerable sequence similarity over the N-terminal portion of the molecule, which contains the GTPase domain. Dynamins are associated with microtubules. They have been implicated in cell processes such as endocytosis and cell motility, and in alterations of the membrane that accompany certain activities such as bone resorption by osteoclasts. Dynamins bind many proteins that bind actin and other cytoskeletal proteins. Dynamins can also self-assemble, a process that stimulates GTPase activity. Four alternatively spliced transcripts encoding different proteins have been described.

DNM2 Antibody (N-term) Blocking Peptide - References

Beausoleil, S.A., et.al., Proc. Natl. Acad. Sci. U.S.A. 101 (33), 12130-12135 (2004)