

KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1504**Specification****KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	P50570
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 98 kDa, observed, 98 kDa
Gene Name	DNM2
Aliases	DNM2; Dynamin 2; DYN2; DI-CMTB; CMTDIB; CMTDI1; DYNII; CMT2M; Dynamin II; EC 3.6.5.5; Dynamin-2; Cytoskeletal Protein; LCCS5
Immunogen	A synthesized peptide derived from human Dynamin 2

KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody - Additional Information

Gene ID	1785
Other Names	
Dynamin-2, 3.6.5.5, Dynamin 2, Dynamin II, DNM2 (http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=2974 target="_blank">HGNC:2974), DYN2	

KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody - 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: [15731758](http://www.uniprot.org/citations/15731758), PubMed: [19605363](http://www.uniprot.org/citations/19605363), PubMed: [19623537](http://www.uniprot.org/citations/19623537), PubMed: [33713620](http://www.uniprot.org/citations/33713620), PubMed: [34744632](http://www.uniprot.org/citations/34744632)). 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: [15731758](http://www.uniprot.org/citations/15731758) target="_blank">15731758, PubMed: [19623537](http://www.uniprot.org/citations/19623537) target="_blank">19623537, PubMed: [33713620](http://www.uniprot.org/citations/33713620) target="_blank">33713620).

target="_blank">33713620). 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:29437695, PubMed:32315611). 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

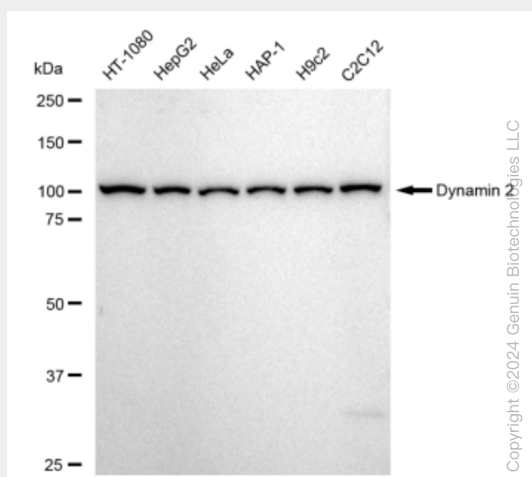
Widely expressed (PubMed:7590285). Expressed in skeletal muscle and the peripheral nerve (PubMed:19623537)

KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody - Protocols

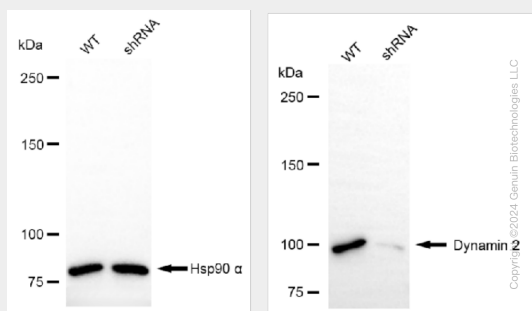
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

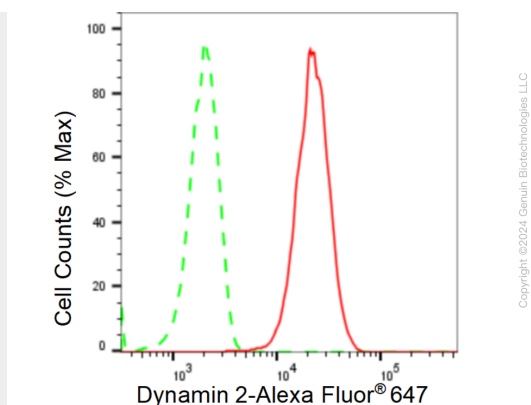
KD-Validated Anti-Dynamin 2 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Dynamin 2 antibody (Cat#AGI1504). Total cell lysates (30 μ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Dynamin 2 antibody (Cat#AGI1504, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Dynamin 2 antibody (Cat#AGI1504). Dynamin 2 expression in wild type (WT) and Dynamin 2 shRNA knockdown (KD) HeLa cells with 30 μ g of total cell lysates. β -Tubulin serves as a loading control. The blot was incubated with anti-Dynamin 2 antibody (Cat#AGI1504, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of Dynamin 2 expression in HT-1080 cells using Dynamin 2 antibody (Cat#AGI1504, 1:2,000). Green, isotype control; red, Dynamin 2.