

Dynamin (H-300): sc-11362

BACKGROUND

Members of the Dynamin family, including Dynamin I and Dynamin II, are GTPase, microtubule-associated proteins which are involved in endocytosis, synaptic transmission and neurogenesis. Dynamin I is localized to the central nervous system, while Dynamin II exhibits ubiquitous distribution with highest expression in testis. Both Dynamin proteins contain SH3 and proline-rich domains that mediate interactions between the dynamins and effectors of their GTPase activity. The interactions with these effectors, which include microtubules, acidic phospholipids and SH3 domain-containing proteins, are required for rapid endocytosis. Dynamin I appears to be recruited to Clathrin coated pits by SH3 domain interaction with amphiphysin, a protein highly expressed in brain.

REFERENCES

1. Sontag, J.M., et al. 1994. Differential expression and regulation of multiple dynamins. *J. Biol. Chem.* 269: 4547-4554.
2. Scaife, R., et al. 1994. Growth factor-induced binding of dynamin to signal transduction proteins involves sorting to distinct and separate proline-rich dynamin sequences. *EMBO J.* 13: 2574-2582.
3. Cook, T.A., et al. 1995. Identification of dynamin 2, an isoform ubiquitously expressed in rat tissues. *Proc. Natl. Acad. Sci. USA* 91: 644-648.
4. Shpetner, H.S., et al. 1996. A binding site for SH3 domains targets dynamin to coated pits. *J. Biol. Chem.* 271: 13-16.

SOURCE

Dynamin (H-300) is a rabbit polyclonal antibody raised against amino acids 567-866 of Dynamin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Dynamin (H-300) is recommended for detection of Dynamin I, II and III of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Dynamin (H-300) is also recommended for detection of Dynamin I, II and III in additional species, including canine, porcine and avian.

Molecular Weight of Dynamin: 100 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Sol8 cell lysate: sc-2249 or 3T3-L1 cell lysate: sc-2243.

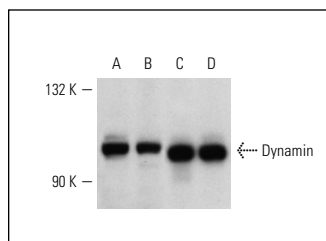
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

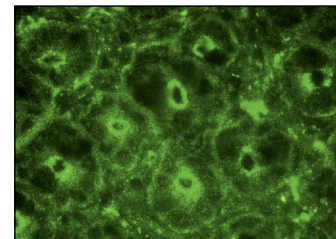
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Dynamin (H-300): sc-11362. Western blot analysis of Dynamin expression in EOC 20 (A), NIH/3T3 (B), Sol8 (C) and 3T3-L1 (D) whole cell lysates.



Dynamin (H-300): sc-11362. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Erdö, F., et al. 2004. Immunohistochemical analysis of protein expression after middle cerebral artery occlusion in mice. *Acta Neuropathol.* 107: 127-136.
2. Radin, J.N., et al. 2005. β -Arrestin-1 participates in platelet-activating factor receptor-mediated endocytosis of *Streptococcus pneumoniae*. *Infect. Immun.* 73: 7827-7835.
3. Zhang, G.R., et al. 2005. Genetic enhancement of visual learning by activation of protein kinase C pathways in small groups of rat cortical neurons. *J. Neurosci.* 25: 8468-8481.
4. McLaughlin, N.J.D., et al. 2006. Platelet-activating factor-induced clathrin-mediated endocytosis requires β -arrestin-1 recruitment and activation of the p38 MAPK signalosome at the plasma membrane for actin bundle formation. *J. Immunol.* 176: 7039-7050.
5. Maiya, R., et al. 2007. Defining the dopamine transporter proteome by convergent biochemical and in silico analyses. *Genes Brain Behav.* 6: 97-106.
6. Perrone, L., et al. 2008. RAGE recycles at the plasma membrane in S100B secretory vesicles and promotes Schwann cells morphological changes. *J. Cell. Physiol.* 217: 60-71.
7. Hamao, K., et al. 2009. New function of the proline rich domain in dynamin-2 to negatively regulate its interaction with microtubules in mammalian cells. *Exp. Cell Res.* 315: 1336-1345.
8. Bhattacharyya, S., et al. 2010. Nanoconjugation modulates the trafficking and mechanism of antibody induced receptor endocytosis. *Proc. Natl. Acad. Sci. USA* 107: 14541-14546.

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Try **Dynamin (E-11): sc-17807**, our highly recommended monoclonal alternative to Dynamin (H-300).