

Dynamin I/II (N-19): sc-6401

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. Scafe, 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.

CHROMOSOMAL LOCATION

Genetic locus: DNM1 (human) mapping to 9p34.11, DNM2 (human) mapping to 9p23; Dnm1 (mouse) mapping to 2 B, Dnm2 (mouse) mapping to 9 A3.

SOURCE

Dynamin I/II (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Dynamin II 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.

Blocking peptide available for competition studies, sc-6401 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dynamin I/II (N-19) is recommended for detection of Dynamin I and Dynamin II 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 I/II (N-19) is also recommended for detection of Dynamin I and Dynamin II in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Dynamin I/II siRNA (h): sc-43736, Dynamin I/II shRNA Plasmid (h): sc-43736-SH and Dynamin I/II shRNA (h) Lentiviral Particles: sc-43736-V.

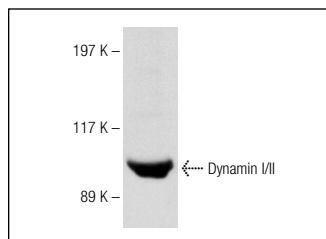
Molecular Weight of Dynamin I/II: 100 kDa.

Positive Controls: rat brain extract: sc-2392 or mouse brain extract: sc-2253.

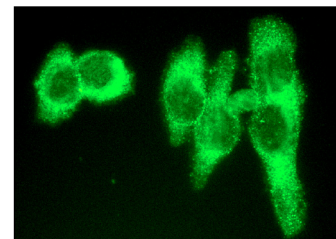
STORAGE

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

DATA



Dynamin I/II (N-19): sc-6401. Western blot analysis of Dynamin I/II expression in rat brain extract.



Dynamin I/II (N-19): sc-6401. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Jatiani, S.S., et al. 2004. Expression of the antiviral protein MxA in cells transiently perturbs endocytosis. *Biochem. Biophys. Res. Commun.* 323: 541-546.
2. Tosoni, D., et al. 2005. TTP specifically regulates the internalization of the transferrin receptor. *Cell* 123: 875-888.
3. Kessels, M.M., et al. 2006. Complexes of syndapin II with dynamin II promote vesicle formation at the *trans*-Golgi network. *J. Cell Sci.* 119: 1504-1516.
4. Gu, C., et al. 2010. Direct dynamin-actin interactions regulate the actin cytoskeleton. *EMBO J.* 29: 3593-3606.
5. Lowther, K.M., et al. 2011. Endocytosis in the mouse oocyte and its contribution to cAMP signaling during meiotic arrest. *Reproduction* 141: 737-747.
6. Zhang, J., et al. 2012. Characterization of two distinct modes of endophilin in clathrin-mediated endocytosis. *Cell. Signal.* 24: 2043-2050.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Dynamin II (G-4): sc-166669** or **Dynamin I/II (E-4): sc-390160**, our highly recommended monoclonal alternatives to Dynamin I/II (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Dynamin II (G-4): sc-166669**.