SANTA CRUZ BIOTECHNOLOGY, INC.

Dynamin I/II (E-4): sc-390160

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 found 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. Grow 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. 1994. Identification of Dynamin II, 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.
5. Okamoto, P.M., et al. 1997. Role of the basic, proline-rich region of Dynamin in Src homology 3 domain binding and endocytosis. J. Biol. Chem. 272: 11629-11635.
6. Scaife, R.M., et al. 1997. The role of the PH domain and SH3 binding domains in Dynamin function. Cell. Signal. 9: 395-401.
7. Grabs, D., et al. 1997. The SH3 domain of Amphiphysin binds the proline-rich domain of Dynamin at a single site that defines a new SH3 binding consensus sequence. J. Biol. Chem. 272: 13419-13425.

CHROMOSOMAL LOCATION

Genetic locus: DNM1 (human) mapping to 9q34.11, DNM2 (human) mapping to 9p23; Dnm1 (mouse) mapping to 2 B, Dnm2 (mouse) mapping to 9 A3.

SOURCE

Dynamin I/II (E-4) is a mouse monoclonal antibody raised against a peptide mapping at the N-terminus of Dynamin II of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Dynamin I/II (E-4) is recommended for detection of Dynamin I and Dynamin II of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (E-4) is also recommended for detection of Dynamin I and Dynamin II in additional species, including canine and bovine.

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.

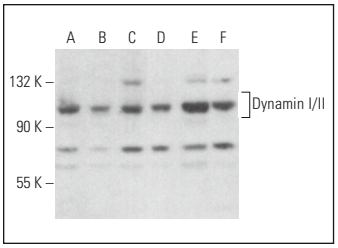
Molecular Weight of Dynamin I/II: 100 kDa.

Positive Controls: C6 whole cell lysate: sc-364373, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

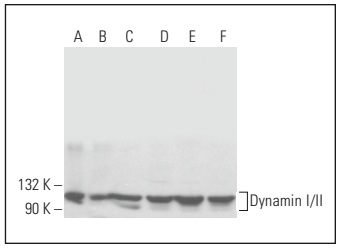
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Dynamin I/II (E-4): sc-390160. Western blot analysis of Dynamin I/II expression in SK-N-SH (**A**), NIH/3T3 (**B**), HeLa (**C**), Hep G2 (**D**), NTERA-2 cl.D1 (**E**) and K-562 (**F**) whole cell lysates.



Dynamin I/II (E-4): sc-390160. Western blot analysis of Dynamin I/II expression in HEL 92.1.7 (**A**), WI-38 (**B**), AMJ2-C8 (**C**), c4 (**D**), Neuro-2A (**E**) and C6 (**F**) whole cell lysates.

RESEARCH USE

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

CONJUGATES

See **Dynamin II (G-4): sc-166669** for Dynamin II antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.