SANTA CRUZ BIOTECHNOLOGY, INC.

Dynamin II (G-4): sc-166669

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 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. 1995. Identification of dynamin 2, an isoform ubiquitously expressed in rat tissues. Proc. Natl. Acad. Sci. USA 91: 644-648.

CHROMOSOMAL LOCATION

Genetic locus: DNM2 (human) mapping to 9p23; Dnm2 (mouse) mapping to 9 A3.

SOURCE

Dynamin II (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 845-870 at the C-terminus of Dynamin II of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dynamin II (G-4) is available conjugated to agarose (sc-166669 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166669 PE), fluorescein (sc-166669 FITC), Alexa Fluor® 488 (sc-166669 AF488), Alexa Fluor® 546 (sc-166669 AF546), Alexa Fluor® 594 (sc-166669 AF594) or Alexa Fluor® 647 (sc-166669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166669 AF680) or Alexa Fluor® 790 (sc-166669 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166669 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Dynamin II (G-4) is recommended for detection of 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); may cross-react with Dynamin III.

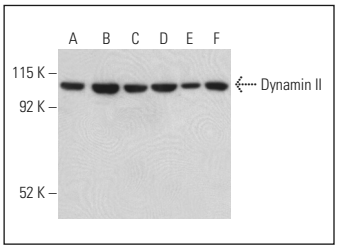
Dynamin II (G-4) is also recommended for detection of Dynamin II in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Dynamin II siRNA (h): sc-35236, Dynamin II siRNA (m): sc-35237, Dynamin II shRNA Plasmid (h): sc-35236-SH, Dynamin II shRNA Plasmid (m): sc-35237-SH, Dynamin II shRNA (h) Lentiviral Particles: sc-35236-V and Dynamin II shRNA (m) Lentiviral Particles: sc-35237-V.

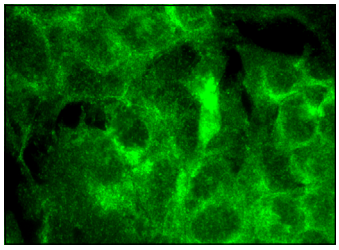
Molecular Weight of Dynamin II: 100 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Dynamin II (G-4): sc-166669. Western blot analysis of Dynamin II expression in HeLa (**A**), K-562 (B), IMR-32 (**C**), NTERA-2 cl.D1 (**D**), SK-N-SH (**E**) and NIH/3T3 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Dynamin II (G-4): sc-166669. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. Chiang, C.F., et al. 2016. Endocytic pathways used by andes virus to enter primary human lung endothelial cells. PLoS ONE 11: e0164768.
2. Li, F., et al. 2021. Transport mechanism and subcellular localization of a polysaccharide from *Cucurbia moschata* across Caco-2 cells model. Int. J. Biol. Macromol. 182: 1003-1014.
3. Sarikaya, E., et al. 2022. Natural history of a mouse model of X-linked myotubular myopathy. Dis. Model. Mech. 15: dmm049342.
4. Itagaki, M., et al. 2023. A universal method to analyze cellular internalization mechanisms via endocytosis without non-specific cross-effects. FASEB J. 37: e22764.

STORAGE

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