SANTA CRUZ BIOTECHNOLOGY, INC.

epsin 1 (G-12): sc-48372

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Epsin 1 (EPN1) is an endocytic accessory protein, with significant similarity to the *Xenopus* mitotic phosphoprotein MP90. Epsin 1 interacts with Eps15 (the α subunit of the Clathrin adaptor AP2), Clathrin and other accessory proteins. The mitotic phosphorylation of these proteins may be one of the mechanisms by which the invagination of Clathrin-coated pits is blocked in mitosis. Both epsin and Eps15, like other cytosolic components of the synaptic vesicle endocytic machinery, undergo constitutive phosphorylation and depolarization-dependent dephosphorylation in nerve terminals. Epsin 1 also contributes to the mechanism of Clathrin vesicle-dependent endocytosis. The human epsin 1 protein contains an epsin N-terminal homology (ENTH) region and a single Clathrin-binding (LVDLD) motif. Epsin 1 localizes to the leading edge of a vesicular coated pit where the membrane is being actively bent.

REFERENCES

1. Chen, H., et al. 1998. Epsin is an EH domain-binding protein implicated in Clathrin-mediated endocytosis. Nature 394: 793-797.
2. Rosenthal, J.A., et al. 1999. The epsins define a family of proteins that interact with components of the Clathrin coat and contain a new protein module. J. Biol. Chem. 274: 33959-33965.
3. Morinaka, K., et al. 1999. Epsin binds to the EH domain of POB1 and regulates receptor-mediated endocytosis. Oncogene 18: 5915-5922.
4. Drake, M.T., et al. 2000. Epsin binds to Clathrin by associating directly with the Clathrin-terminal domain. Evidence for cooperative binding through two discrete sites. J. Biol. Chem. 275: 6479-6489.
5. Oldham, C.E., et al. 2002. The ubiquitin-interacting motifs target the endocytic adaptor protein epsin for ubiquitination. Curr. Biol. 12: 1112-1116.
6. Ford, M.G., et al. 2002. Curvature of Clathrin-coated pits driven by epsin. Nature 419: 361-366.
7. Wendland, B. 2002. Epsins: adaptors in endocytosis? Nat. Rev. Mol. Cell Biol. 3: 971-977.

CHROMOSOMAL LOCATION

Genetic locus: EPN1 (human) mapping to 19q13.42; Epn1 (mouse) mapping to 7 A1.

SOURCE

epsin 1 (G-12) is a mouse monoclonal antibody raised against amino acids 311-440 of epsin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} 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

epsin 1 (G-12) is recommended for detection of epsin 1 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).

Suitable for use as control antibody for epsin 1 siRNA (h): sc-35323, epsin 1 siRNA (m): sc-35324, epsin 1 shRNA Plasmid (h): sc-35323-SH, epsin 1 shRNA Plasmid (m): sc-35324-SH, epsin 1 shRNA (h) Lentiviral Particles: sc-35323-V and epsin 1 shRNA (m) Lentiviral Particles: sc-35324-V.

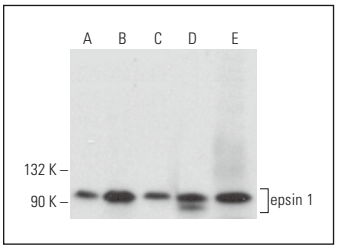
Molecular Weight of epsin 1: 94 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

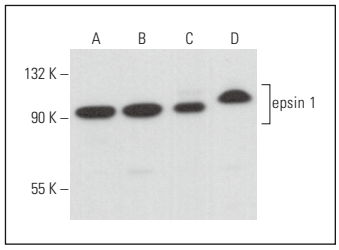
RECOMMENDED SUPPORT REAGENTS

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



epsin 1 (G-12): sc-48372. Western blot analysis of epsin 1 expression in K-562 (**A**), HEL 92.1.7 (**B**), WEHI-231 (**C**) and BYDP (**D**) whole cell lysates and rat lymph node tissue extract (**E**).



epsin 1 (G-12): sc-48372. Western blot analysis of epsin 1 expression in Jurkat (**A**), CCRF-CEM (**B**), A-431 (**C**) and 3T3-L1 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bhattacharyya, S., et al. 2016. Endocytic recycling protein EHD1 regulates primary cilia morphogenesis and SHH signaling during neural tube development. Sci. Rep. 6: 20727.
2. Bhattacharyya, S., et al. 2017. Corrigendum: endocytic recycling protein EHD1 regulates primary cilia morphogenesis and SHH signaling during neural tube development. Sci. Rep. 7: 42320.

RESEARCH USE

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