SANTA CRUZ BIOTECHNOLOGY, INC.

epsin 1 (F-7): sc-55555

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

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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.
8. Hussain, N.K., et al. 2003. A role for epsin N-terminal homology/AP180 N-terminal homology (ENTH/ANTH) domains in Tubulin binding. J. Biol. Chem. 278: 28823-28830.

CHROMOSOMAL LOCATION

Genetic locus: EPN1 (human) mapping to 19q13.42.

SOURCE

epsin 1 (F-7) is a mouse monoclonal antibody raised against amino acids 311-440 of epsin 1 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.

APPLICATIONS

epsin 1 (F-7) is recommended for detection of epsin 1 of human origin by Western Blotting (starting dilution 1:2500, dilution range 1:2500-1:5000), 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), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-35323-SH and epsin 1 shRNA (h) Lentiviral Particles: sc-35323-V.

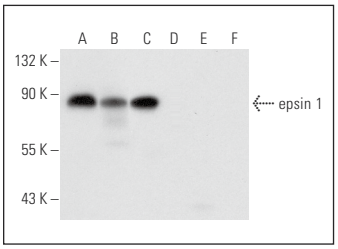
Molecular Weight of epsin 1: 94 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or K-562 whole cell lysate: sc-2203.

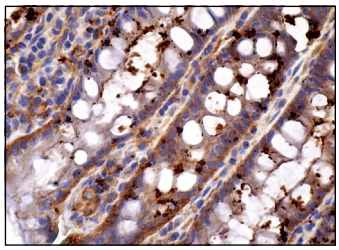
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



epsin 1 (F-7): sc-55555. Western blot analysis of epsin 1 expression in HeLa (**A**), A-431 (**B**), K-562 (**C**), NIH/3T3 (**D**), C6 (**E**) and KNRK (**F**) whole cell lysates. Note lack of reactivity with mouse and rat epsin 1 in lanes **D**, **E** and **F**.



epsin 1 (F-7): sc-55555. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

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.