

# epsin 1 (B-12): sc-365914

## BACKGROUND

Epsin 1 (EPN1) is an endocytic accessory protein, with significant similarity to the *Xenopus* mitotic phosphoprotein MP90. Epsin 1 interacts with Eps15 (the  $\alpha$  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

- Chen, H., et al. 1998. Epsin is an EH-domain-binding protein implicated in clathrin-mediated endocytosis. *Nature* 394: 793-797.
- 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.
- Morinaka, K., et al. 1999. Epsin binds to the EH domain of POB1 and regulates receptor-mediated endocytosis. *Oncogene* 18: 5915-5922.
- 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.
- Oldham, C.E., et al. 2002. The ubiquitin-interacting motifs target the endocytic adaptor protein epsin for ubiquitination. *Curr. Biol.* 12: 1112-1116.
- Ford, M.G., et al. 2002. Curvature of clathrin-coated pits driven by epsin. *Nature* 419: 361-366.

## CHROMOSOMAL LOCATION

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

## SOURCE

epsin 1 (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 550-575 at the C-terminus of epsin 1 of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365914 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## 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 (B-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  $\mu$ g per 100-500  $\mu$ g 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).

epsin 1 (B-12) is also recommended for detection of epsin 1 in additional species, including canine and bovine.

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.

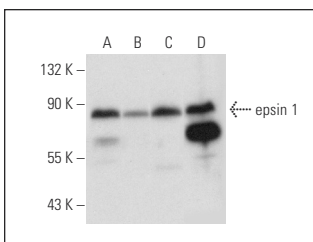
Molecular Weight of epsin 1: 94 kDa.

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

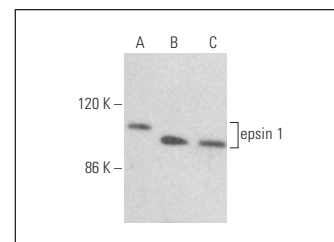
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (B-12): sc-365914. Western blot analysis of epsin 1 expression in HeLa (A), A-431 (B), K-562 (C) and KNRK (D) whole cell lysates.



epsin 1 (B-12): sc-365914. Western blot analysis of epsin 1 expression in HeLa (A), C6 (B) and Hep G2 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Brod, J., et al. 2020. Epsin but not AP-2 supports reconstitution of endocytic clathrin-coated vesicles. *FEBS Lett.* 594: 2227-2239.

## RESEARCH USE

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