

# epsin 2b (H-18): sc-5412

## BACKGROUND

Elucidation of the mechanism by which receptor tyrosine kinases (RTKs) modulate cellular physiology in response to stimuli is critical to the understanding of growth regulation. Miscues in RTK signaling pathways can result in cellular transformation and ultimately in cancer. Two novel EGF receptor substrates have been described, designated EGF-receptor pathway substrates 8 and 15, or Eps8 and Eps15. Epsin is a 90 kDa binding partner to Eps15. Both epsin and Eps15 have an ubiquitous tissue distribution but are concentrated in presynaptic nerve terminals specialized for the Clathrin-mediated endocytosis of synaptic vesicles. Disruption of epsin function blocks Clathrin-mediated endocytosis. Epsin, along with its binding partner Eps15, is proposed to be involved in the assistance of Clathrin coat rearrangement during Clathrin coated pit invagination. Epsin2 and epsin2a are also associated with Clathrin-mediated endocytosis and are enriched in the brain in the peri-Golgi region.

## REFERENCES

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2. Ciardiello, F., et al. 1991. Differential expression of epidermal growth factor-related proteins in human colorectal tumors. *Proc. Natl. Acad. Sci. USA* 88: 7792-7796.
3. Fazioli, F., et al. 1993. Eps8, a substrate for the epidermal growth factor receptor kinase, enhances EGF-dependent mitogenic signals. *EMBO J.* 12: 3799-3808.
4. Fazioli, F., et al. 1993. Eps15, a novel tyrosine kinase substrate, exhibits transforming activity. *Mol. Cell. Biol.* 13: 5814-5828.
5. Chen, H., et al. 1998. Epsin is an EH-domain-binding protein implicated in Clathrin-mediated endocytosis. *Nature* 394: 793-797.
6. Chen, H., et al. 1999. The interaction of epsin and Eps15 with the Clathrin adaptor AP-2 is inhibited by mitotic phosphorylation and enhanced by stimulation-dependent dephosphorylation in nerve terminals. *J. Biol. Chem.* 274: 3257-3260.
7. 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.
8. Sengar, A.S., et al. 1999. The EH and SH3 domain ESE proteins regulate endocytosis by linking to dynamin and Eps15. *EMBO J.* 18: 1159-1171.

## CHROMOSOMAL LOCATION

Genetic locus: EPN2 (human) mapping to 17p11.2; Epn2 (mouse) mapping to 11 B2.

## SOURCE

epsin 2b (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of epsin 2b of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5412 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

epsin 2b (H-18) is recommended for detection of epsin 2b of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with epsin 2a.

epsin 2b (H-18) is also recommended for detection of epsin 2b in additional species, including equine and canine.

Suitable for use as control antibody for epsin 2 siRNA (h): sc-40511, epsin 2 siRNA (m): sc-40512, epsin 2 shRNA Plasmid (h): sc-40511-SH, epsin 2 shRNA Plasmid (m): sc-40512-SH, epsin 2 shRNA (h) Lentiviral Particles: sc-40511-V and epsin 2 shRNA (m) Lentiviral Particles: sc-40512-V.

Molecular Weight of epsin 2b: 65 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **epsin 2 (F-10): sc-376788**, our highly recommended monoclonal alternative to epsin 2b (H-18).