

# epsin 2 (C-16): sc-5414

## 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 designated EGF-receptor pathway substrates 8 and 15, or Eps8 and Eps15, have been described. 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. Epsin 2 and epsin 2a are also associated with Clathrin-mediated endocytosis and are enriched in the brain in the peri-Golgi region.

## REFERENCES

1. Reynolds, F.H., Jr., et al. 1981. Human transforming growth factors induces tyrosine phosphorylation of EGF receptors. *Nature* 292: 259-262.
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. 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.
7. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

epsin 2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of epsin 2 of human origin.

## 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-5414 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

epsin 2 (C-16) is recommended for detection of epsin 2a and epsin 2b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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).

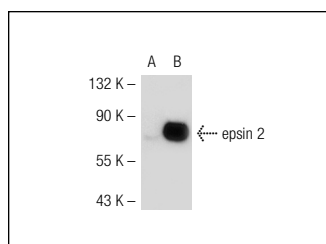
epsin 2 (C-16) is also recommended for detection of epsin 2a and epsin 2b in additional species, including equine.

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.

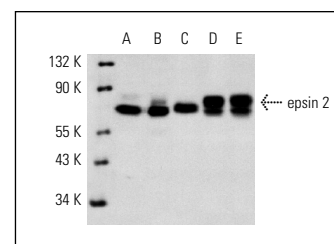
Molecular Weight of epsin 2: 65 kDa.

Positive Controls: epsin 2 (m): 293T Lysate: sc-125306, SK-N-SH cell lysate: sc-2410 or IMR-32 cell lysate: sc-2409.

## DATA



epsin 2 (C-16): sc-5414. Western blot analysis of epsin 2 expression in non-transfected: sc-117752 (A) and mouse epsin 2 transfected: sc-125306 (B) 293T whole cell lysates.



epsin 2 (C-16): sc-5414. Western blot analysis of epsin 2 expression in SK-N-SH (A), IMR-32 (B) and PC-12 (C) whole cell lysates and rat cerebellum (D) and mouse brain (E) extracts.

## 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.

## PROTOCOLS

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

**MONOS**  
Satisfaction  
Guaranteed

Try **epsin 2 (F-10): sc-376788**, our highly recommended monoclonal alternative to epsin 2 (C-16).