

Eps15 (17): sc-135898

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. Eps8 and Eps15 become tyrosine phosphorylated subsequent to EGF stimulation. Overexpression of Eps15 in NIH/3T3 cells causes cellular transformation, implying involvement in the regulation of cell proliferation. Eps15 is capable of binding the amino terminal portion of Crk via a conserved proline-rich domain, characteristic of all Crk binding proteins. Overexpression of Eps8 in both fibroblasts and hematopoietic cells results in an increased mitogenic response to EGF. Eps8 has been shown to associate with the EGF receptor despite its lack of a functional SH₂ domain. Further characterization suggests the protein has both a PH domain and a SH₃ domain, the functional significance of which is not yet known.

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. Wong, W.T., et al. 1994. Evolutionary conservation of the EPS8 gene and its mapping to human chromosome 12q23-q24. *Oncogene* 9: 3057-3061.
6. Schumacher, C., et al. 1995. The SH3 domain of Crk binds specifically to a conserved proline-rich motif in Eps15 and Eps15R. *J. Biol. Chem.* 270: 15341-15347.
7. Castagnino, P., et al. 1995. Direct binding of Eps8 to the juxtamembrane domain of EGFR is phosphotyrosine- and SH2-independent. *Oncogene* 10: 723-729.

CHROMOSOMAL LOCATION

Genetic locus: EPS15 (human) mapping to 1p32.3; Eps15 (mouse) mapping to 4 C7.

SOURCE

Eps15 (17) is a mouse monoclonal antibody raised against amino acids 694-888 of Eps15 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 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

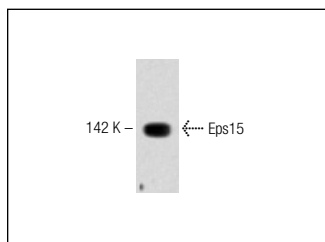
Eps15 (17) is recommended for detection of Eps15 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); not recommended for immunoprecipitation.

Suitable for use as control antibody for Eps15 siRNA (h): sc-35321, Eps15 siRNA (m): sc-35322, Eps15 shRNA Plasmid (h): sc-35321-SH, Eps15 shRNA Plasmid (m): sc-35322-SH, Eps15 shRNA (h) Lentiviral Particles: sc-35321-V and Eps15 shRNA (m) Lentiviral Particles: sc-35322-V.

Molecular Weight of Eps15: 142 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

DATA



Eps15 (17): sc-135898. Western blot analysis of Eps15 expression in Jurkat whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.