

# Eps8 (C-19): sc-30778

## 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 are 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: EPS8 (human) mapping to 12p12.3; Eps8 (mouse) mapping to 6 G1.

## SOURCE

Eps8 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Eps8 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-30778 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Eps8 (C-19) is recommended for detection of Eps8 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Eps8 (C-19) is also recommended for detection of Eps8 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for Eps8 siRNA (h): sc-40503, Eps8 siRNA (m): sc-40504, Eps8 shRNA Plasmid (h): sc-40503-SH, Eps8 shRNA Plasmid (m): sc-40504-SH, Eps8 shRNA (h) Lentiviral Particles: sc-40503-V and Eps8 shRNA (m) Lentiviral Particles: sc-40504-V.

Molecular Weight of Eps8: 97 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 + PDGF cell lysate: sc-3803.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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 **Eps8 (F-8): sc-390257** or **Eps8 (D-4): sc-398643**, our highly recommended monoclonal alternatives to Eps8 (C-19).