

# Eps15 (E-3): sc-390259

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Eps15 (E-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 791-825 near the C-terminus of Eps15 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Eps15 (E-3) is available conjugated to agarose (sc-390259 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390259 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390259 PE), fluorescein (sc-390259 FITC), Alexa Fluor® 488 (sc-390259 AF488), Alexa Fluor® 546 (sc-390259 AF546), Alexa Fluor® 594 (sc-390259 AF594) or Alexa Fluor® 647 (sc-390259 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390259 AF680) or Alexa Fluor® 790 (sc-390259 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390259 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

Eps15 (E-3) is recommended for detection of Eps15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

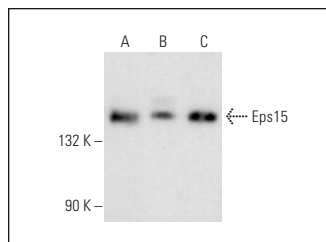
Eps15 (E-3) is also recommended for detection of Eps15 in additional species, including equine, bovine and porcine.

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.

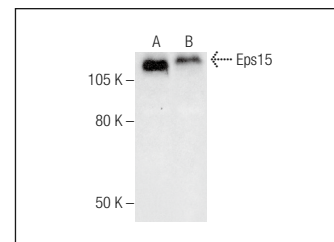
Molecular Weight of Eps15: 142 kDa.

Positive Controls: AML-193 whole cell lysate: sc-364182, NIH/3T3 whole cell lysate: sc-2210 or CCRF-CEM cell lysate: sc-2225.

## DATA



Eps15 (E-3): sc-390259. Western blot analysis of Eps15 expression in AML-193 (A), Neuro-2A (B) and NIH/3T3 (C) whole cell lysates.



Eps15 (E-3): sc-390259. Western blot analysis of Eps15 expression in AML-193 (A) and CCRF-CEM (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Yang, K.H., et al. 2020. 1-palmitoyl-2-linoleoyl-3-acetyl-rac-glycerol ameliorates EGF-induced MMP-9 expression by promoting receptor desensitization in MDA-MB-231 cells. *Oncol. Rep.* 44: 241-251.
2. Tang, J., et al. 2021. ALS-causing SOD1 mutants regulate occludin phosphorylation/ubiquitination and endocytic trafficking via the ITCH/Eps15/Rab5 axis. *Neurobiol. Dis.* 153: 105315.
3. Poswiata, A., et al. 2022. Endocytic trafficking of GAS6-AXL complexes is associated with sustained Akt activation. *Cell. Mol. Life Sci.* 79: 316.
4. Adcox, H.E., et al. 2022. *Orientia tsutsugamushi* OtDUB is expressed and interacts with adaptor protein complexes during infection. *Infect. Immun.* 90: e0046922.

## 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.