

p-EGFR (1H9): sc-57543

BACKGROUND

Epidermal growth factor mediates its effects on cell growth through its interaction with a cell surface glycoprotein designated the EGF receptor. Binding of EGF or TGF α to the EGF receptor activates tyrosine-specific protein kinase activity intrinsic to the EGF receptor. The carboxy-terminal tyrosine residues on EGFR, Tyr 1068 and Tyr 1173 are the major sites of autophosphorylation, which occurs as a result of EGF binding. Once activated, EGFR mediates the binding of the phosphotyrosine binding (PTB) domain of GRB2 through direct interactions with Tyr 1068 and Tyr 1086 and through indirect interactions with Tyr 1173 in the Ras signaling pathway. Tyr 1173 of EGFR also functions as a kinase substrate. Phosphorylation of Tyr 992, Tyr 1068 and Tyr 1086 is required for conformational change in the C-terminal tail of the EGF receptor.

REFERENCES

1. Reynolds, F.H., Jr., et al. 1981. Human transforming growth factors induces tyrosine phosphorylation of EGF receptors. *Nature* 292: 259-262.
2. Hunter, T. 1984. The epidermal growth factor receptor gene and its product. *Nature* 311: 414-416.
3. Batzer, A.G., et al. 1994. Hierarchy of binding site for GRB2 and Shc on the epidermal growth factor receptor. *Mol. Cell. Biol.* 14: 5192-5201.
4. Ward, C.W., et al. 1996. Systematic mapping of potential binding sites for Shc and GRB2 SH2 domains on Insulin receptor substrate-1 and the receptors for Insulin, epidermal growth factor, platelet-derived growth factor, and fibroblast growth factor. *J. Biol. Chem.* 271: 5603-5609.
5. Rojas, M., et al. 1996. Controlling epidermal growth factor (EGF)-stimulated Ras activation in intact cells by a cell-permeable peptide mimicking phosphorylated EGF receptor. *J. Biol. Chem.* 271: 27456-27461.

CHROMOSOMAL LOCATION

Genetic locus: EGFR (human) mapping to 7p11.2; Egfr (mouse) mapping to 11 A2.

SOURCE

p-EGFR (1H9) is a mouse monoclonal antibody raised against synthetic phosphopeptide corresponding to amino acid residues surrounding Ser 1047 of EGFR of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

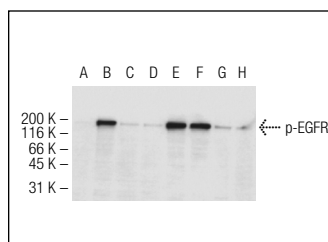
p-EGFR (1H9) is recommended for detection of Ser 1047 phosphorylated EGFR of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for EGFR siRNA (h): sc-29301, EGFR siRNA (m): sc-29302, EGFR siRNA (r): sc-108050, EGFR shRNA Plasmid (h): sc-29301-SH, EGFR shRNA Plasmid (m): sc-29302-SH, EGFR shRNA Plasmid (r): sc-108050-SH, EGFR shRNA (h) Lentiviral Particles: sc-29301-V, EGFR shRNA (m) Lentiviral Particles: sc-29302-V and EGFR shRNA (r) Lentiviral Particles: sc-108050-V.

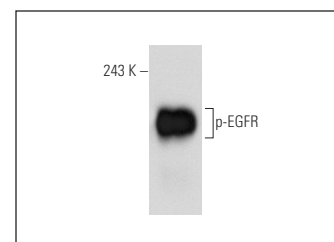
Molecular Weight of p-EGFR: 170 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-431 + EGF whole cell lysate: sc-2202 or SK-N-SH cell lysate: sc-2410.

DATA



p-EGFR (1H9): sc-57543. Western blot analysis of EGFR phosphorylation in serum starved Hep G2 whole cell lysate (A) and serum starved PMA-treated (B), Forskolin-treated (C), LPA-treated (D), Sorbit-treated (E), Anisomycin-treated (F), Ionomycin-treated (G) and Taxol-treated (H) Hep G2 whole cell lysates.



p-EGFR (1H9): sc-57543. Western blot analysis of EGFR phosphorylation in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kaur, J. and Tikoo, K. 2013. p300/CBP dependent hyperacetylation of histone potentiates anticancer activity of gefitinib nanoparticles. *Biochim. Biophys. Acta* 1833: 1028-1040.
2. Xu, T., et al. 2014. Knockdown of phosphodiesterase 4D inhibits nasopharyngeal carcinoma proliferation via the epidermal growth factor receptor signaling pathway. *Oncol. Lett.* 8: 2110-2116.

RESEARCH USE

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