

p-EGFR (8B8): sc-81490

BACKGROUND

Epidermal growth factors mediate their effects on cell growth through interactions with a cell surface glycoprotein designated EGFR (EGF receptor). Binding of EGF or TGF α to EGFR activates tyrosine-specific protein kinase activity intrinsic to EGFR. The carboxy terminal tyrosine residues on EGFR, Tyr 1092 and Tyr 1173, designated Tyr 1196 in rat, 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 1092 and Tyr 1110 in human and mouse or Tyr 1109 in rat, 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 1092 and Tyr 1110 is required for conformational change in the C-terminal tail of EGFR. Tyr 1092, Tyr 1173 and Tyr 1110 are also designated Tyr 1068, Tyr 1197, and Tyr 1086, respectively.

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. Sato, K., et al. 1995. C-Src phosphorylates epidermal growth factor receptor on tyrosine 845. *Biochem. Biophys. Res. Commun.* 215: 1078-1087.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: EGFR (human) mapping to 7p11.2.

SOURCE

p-EGFR (8B8) is a mouse monoclonal antibody raised against synthetic phosphopeptide corresponding to amino acid residues surrounding Thr 1086 of EGFR of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2b} 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.

RESEARCH USE

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

APPLICATIONS

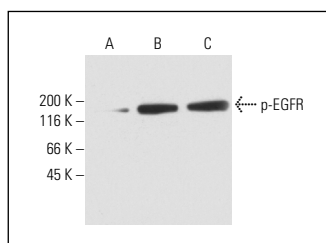
p-EGFR (8B8) is recommended for detection of Tyr 1086 phosphorylated EGFR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; non cross-reactive with non-phosphorylated EGFR or unrelated p-Tyr proteins.

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

Molecular Weight of p-EGFR: 170 kDa.

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

DATA



p-EGFR (8B8): sc-81490. Western blot analysis of EGFR phosphorylation in non-treated (A), EGF stimulated (B) and pervanadate treated (C) MDA-MB-468 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, H., et al. 2011. Identification of an exon 4-deletion variant of epidermal growth factor receptor with increased metastasis-promoting capacity. *Neoplasia* 13: 461-471.
2. Wang, G.P. and Han, X.F. 2015. CD9 modulates proliferation of human glioblastoma cells via epidermal growth factor receptor signaling. *Mol. Med. Rep.* 12: 1381-1386.
3. Zhao, Y., et al. 2017. MEK inhibitor, PD98059, promotes breast cancer cell migration by inducing β -catenin nuclear accumulation. *Oncol. Rep.* 38: 3055-3063.
4. Hou, J.Z., et al. 2019. Inhibition of PIKfyve using YM201636 suppresses the growth of liver cancer via the induction of autophagy. *Oncol. Rep.* 41: 1971-1979.
5. Li, D., et al. 2019. Glioma-associated human endothelial cell-derived extracellular vesicles specifically promote the tumorigenicity of glioma stem cells via CD9. *Oncogene* 38: 6898-6912.



See **EGFR (A-10): sc-373746** for EGFR antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.