

p-EGFR (Tyr 1092): sc-16802

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 induce 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-EGFR (Tyr 1092) is a goat polyclonal antibody raised against a short amino acid sequence containing Tyr 1092 phosphorylated EGFR of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16802 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-EGFR (Tyr 1092) is recommended for detection of Tyr 1092 phosphorylated EGFR of human origin and Tyr 1091 phosphorylated EGFR of rat origin (also designated as Tyr 1068) 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)], 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).

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

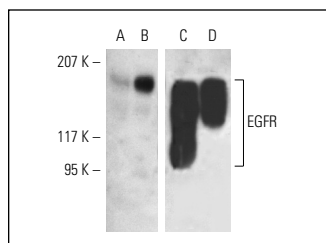
Molecular Weight of p-EGFR: 170 kDa.

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

RECOMMENDED STORAGE 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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 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.

DATA



Western blot analysis of EGFR phosphorylation in untreated (A,C) and EGF-treated (B,D) A-431 whole cell lysates. Antibodies tested include p-EGFR (Tyr 1092): sc-16802 (A,B) and EGFR (1005): sc-03 (C,D).

SELECT PRODUCT CITATIONS

1. Alexandru, O., et al. 2011. Helianthin induces antiproliferative effect on human glioblastoma cells *in vitro*. *J. Neurooncol.* 102: 9-18.
2. Dougherty, U., et al. 2011. American ginseng suppresses Western diet-promoted tumorigenesis in model of inflammation-associated colon cancer: role of EGFR. *BMC Complement. Altern. Med.* 11: 111.
3. Mustafi, R., et al. 2012. Both stromal cell and colonocyte epidermal growth factor receptors control HCT116 colon cancer cell growth in tumor xenografts. *Carcinogenesis* 33: 1930-1939.

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.

MONOS
Satisfaction
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Try **p-EGFR (F-3): sc-377547**, our highly recommended monoclonal alternative to p-EGFR (Tyr 1092).