

p-EGFR (Thr 654): sc-101666

BACKGROUND

Epidermal growth factor mediates its effects on cell growth through its interaction 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 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 EGFR. EGFR is also subject to phosphorylation on other amino acid residues, such as Thr 654.

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 (Thr 654) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Thr 654 phosphorylated EGFR of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

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 (Thr 654) is recommended for detection of Thr 654 phosphorylated EGFR of human origin, correspondingly phosphorylated Thr 656 of mouse origin and correspondingly phosphorylated Thr 655 of rat 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)].

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.

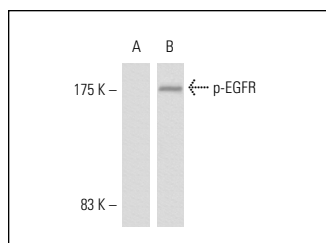
Molecular Weight of p-EGFR: 170 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



p-EGFR (Thr 654): sc-101666. Western blot analysis of phosphorylated EGFR expression in untreated (A) and EGF-treated (B) A-431 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wu, C.T., et al. 2011. Expression and function role of DNA methyltransferase 1 in human bladder cancer. *Cancer* 117: 5221-5233.

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Try **p-EGFR (3F2): sc-57544**, our highly recommended monoclonal alternative to p-EGFR (Thr 654).