

# p-EGFR (3F2): sc-57544

## 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  $\alpha$  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

- Hunter, T. 1984. The epidermal growth factor receptor gene and its product. *Nature* 311: 414-416.
- Reynolds, F.H. Jr., et al. 1981. Human transforming growth factors induces tyrosine phosphorylation of EGF receptors. *Nature* 292: 259-262.
- 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.
- Sakaguchi, K., et al. 1998. Shc phosphotyrosine-binding domain dominantly interacts with epidermal growth factor receptors and mediates Ras activation in intact cells. *Mol. Endocrinol.* 12: 536-543.
- 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.
- 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.
- Wright, J.D., et al. 1996. Identification of sites on epidermal growth factor receptors which are phosphorylated by pp60src *in vitro*. *Biochim. Biophys. Acta* 1312: 85-93.
- Bishayee, A., et al. 1999. Phosphorylation of tyrosine 992, 1068 and 1086 is required for conformational change of the human epidermal growth factor receptor c-terminal tail. *Mol. Biol. Cell* 10: 525-536.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-EGFR (3F2) is a mouse monoclonal antibody raised against a synthetic phosphopeptide of EGFR of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

## APPLICATIONS

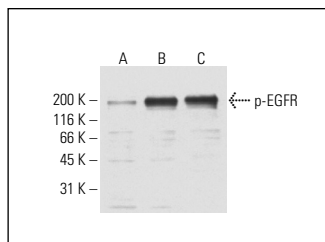
p-EGFR (3F2) is recommended for detection of Thr 654 phosphorylated EGFR of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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, A-431 whole cell lysate: sc-2201 or A549 cell lysate: sc-2413.

## DATA



p-EGFR (3F2): sc-57544. Western blot analysis of EGFR phosphorylation in untreated (A), PMA-stimulated (B) and pervanadate treated (C) OVCAR-5 whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



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.