

# p-EGFR (Tyr 845)-R: sc-23420-R

## 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 $\alpha$  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.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-EGFR (Tyr 845)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 845 phosphorylated EGFR of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23420 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-EGFR (Tyr 845)-R is recommended for detection of Tyr 845 phosphorylated EGFR (also designated as Tyr 869) of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

p-EGFR (Tyr 845)-R is also recommended for detection of correspondingly phosphorylated EGFR in additional species, including equine, canine, bovine, porcine and avian.

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 + EGF whole cell lysate: sc-2202, A-431 whole cell lysate: sc-2201 or MDA-MB-468 cell lysate: sc-2282.

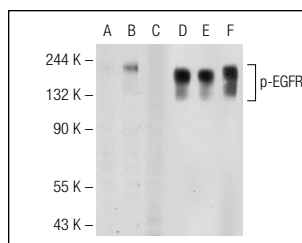
## STORAGE

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

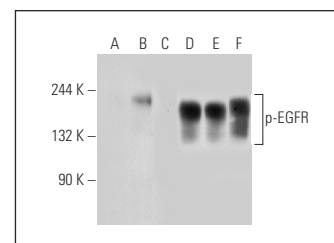
## RESEARCH USE

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

## DATA



Western blot analysis of EGFR phosphorylation in untreated (A,D), EGF treated (B,E) and EGF and lambda protein phosphatase (sc-200312A) treated (C,F) A-431 whole cell lysates. Antibodies tested include p-EGFR (Tyr 845)-R: sc-23420-R (A,B,C) and EGFR (1005): sc-03 (D,E,F).



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## SELECT PRODUCT CITATIONS

- Koon, H.W., et al. 2004. Metalloproteinases and transforming growth factor- $\alpha$  mediate substance P-induced mitogen-activated protein kinase activation and proliferation in human colonocytes. *J. Biol. Chem.* 279: 45519-45527.
- Giannoni, E., et al. 2008. Redox regulation of anoikis: reactive oxygen species as essential mediators of cell survival. *Cell Death Differ.* 15: 867-878.
- Li, J., et al. 2009. Anti-tumor activity of a novel EGFR tyrosine kinase inhibitor against human NSCLC *in vitro* and *in vivo*. *Cancer Lett.* 279: 213-220.
- Li, J., et al. 2010. F84, a quinazoline derivative, exhibits high potent antitumor activity against human gynecologic malignancies. *Invest. New Drugs* 28: 132-138.
- Tung, W.H., et al. 2011. Enterovirus 71 modulates a COX-2/PGE2/cAMP-dependent viral replication in human neuroblastoma cells: role of the c-Src/EGFR/p42/p44 MAPK/CREB signaling pathway. *J. Cell. Biochem.* 112: 559-570.

## PROTOCOLS

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Try **p-EGFR (12A3): sc-57542**, our highly recommended monoclonal alternative to p-EGFR (Tyr 845).