SANTA CRUZ BIOTECHNOLOGY, INC.

p-EGFR (15A2): sc-81488

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 TGFα 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; Egfr (mouse) mapping to 11 A2.

SOURCE

p-EGFR (15A2) is a mouse monoclonal antibody raised against a synthetic phosphopeptide surrounding Tyrosine 1068 of EGFR of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

p-EGFR (15A2) is recommended for detection of Tyr 1068 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 µg per 100-500 µg 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, 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: 170-180 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, SK-N-SH cell lysate: sc-2410 or SK-OV-3 whole cell lysate: sc-364299.

STORAGE

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

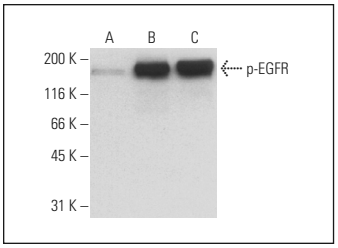
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

RESEARCH USE

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

DATA



p-EGFR (15A2): sc-81488. Western blot analysis of EGFR phosphorylation in non-stimulated (**A**), EGF stimulated (**B**) and pervanadate treated (**C**) SK-OV-3 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, L., et al. 2013. Prolidase directly binds and activates epidermal growth factor receptor and stimulates downstream signaling. J. Biol. Chem. 288: 2365-2375.
2. Altamura, G., et al. 2016. *Felis catus* papillomavirus type 2 E6 oncogene enhances mitogen-activated protein kinases and Akt activation but not EGFR expression in an *in vitro* feline model of viral pathogenesis. Vet. Microbiol. 195: 96-100.
3. Menegotto, P.R., et al. 2017. Gastrin-releasing peptide receptor knockdown induces senescence in glioblastoma cells. Mol. Neurobiol. 54: 888-894.
4. Park, M., et al. 2018. Docoxahexaenoic acid induces apoptosis of pancreatic cancer cells by suppressing activation of Stat3 and NFκB. Nutrients 10: 1621.
5. Kim, G.T., et al. 2020. PLAG exerts anti-metastatic effects by interfering with neutrophil elastase/PAR2/EGFR signaling in A549 lung cancer orthotopic model. Cancers 12: 560.
6. Hanaoka, M. and Domae, E. 2021. IL-1α released from oral epithelial cells upon candidalysin exposure initiates an early innate epithelial response. Int. Immunol. 33: 161-170.
7. Aytatli, A., et al. 2022. AZD4547 targets the FGFR/Akt/SOX2 axis to overcome paclitaxel resistance in head and neck cancer. Cell. Oncol. 45: 41-56.
8. Anim, M.T., et al. 2023. Deacetylated sialic acid sensitizes lung and colon cancers to novel Cucurbitacin-inspired estrone epidermal growth factor receptor (EGFR) inhibitor analogs. Molecules 28: 6257.
9. Joon, A., et al. 2023. Role of TLRs in EGFR-mediated IL-8 secretion by enteroaggregative *Escherichia coli*-infected cultured human intestinal epithelial cells. J. Cell Commun. Signal. 17: 1355-1370.

CONJUGATES

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.