SANTA CRUZ BIOTECHNOLOGY, INC.

p-EGFR (11C2): sc-57541

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 (11C2) is a mouse monoclonal antibody raised against an EGFR phosphopeptide of human origin.

PRODUCT

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

APPLICATIONS

p-EGFR (11C2) is recommended for detection of Tyr 1045 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, 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: MDA-MB-468 cell lysate: sc-2282, A-431 + EGF whole cell lysate: sc-2202 or A-431 whole cell lysate: sc-2201.

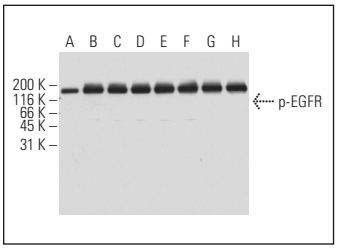
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

DATA



p-EGFR (11C2): sc-57541. Western blot analysis of EGFR phosphorylation in serum starved MDA-MB-468 cells (**A**) and serum starved MDA-MB-468 cells treated with 10 ng/ml EGF for 5 min (**B**), 15 min (**C**), 30 min (**D**), 1 hr (**E**), 2 hrs (**F**), 4 hrs (**G**) and 8 hrs (**H**).

SELECT PRODUCT CITATIONS

1. Shen, Z., et al. 2008. The kringle 1 domain of hepatocyte growth factor has antiangiogenic and antitumor cell effects on hepatocellular carcinoma. Cancer Res. 68: 404-414.
2. Corsetto, P.A., et al. 2011. Effects of n-3 PUFAs on breast cancer cells through their incorporation in plasma membrane. Lipids Health Dis. 10: 73.
3. Maiti, G.P., et al. 2013. Overexpression of EGFR in head and neck squamous cell carcinoma is associated with inactivation of SH3GL2 and Cdc25A genes. PLoS ONE 8: e63440.
4. Shangguan, Y., et al. 2017. Glucocorticoid mediates prenatal caffeine exposure-induced endochondral ossification retardation and its molecular mechanism in female fetal rats. Cell Death Dis. 8: e3157.
5. Liu, Q., et al. 2018. Role of EGFL7/EGFR-signaling pathway in migration and invasion of growth hormone-producing pituitary adenomas. Sci. China Life Sci. 61: 893-901.
6. Islam, M.S., et al. 2020. Reduction of nuclear Y654-p-β-catenin expression through SH3GL2-meditated downregulation of EGFR in chemotolerance TNBC: clinical and prognostic importance. J. Cell. Physiol. 235: 8114-8128.
7. Huang, X., et al. 2020. Gangliosides and CD82 inhibit the motility of colon cancer by downregulating the phosphorylation of EGFR at different tyrosine sites and signaling pathways. Mol. Med. Rep. 22: 3994-4002.

RESEARCH USE

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

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.