SANTA CRUZ BIOTECHNOLOGY, INC.

p-EGFR (9H2): sc-57545

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 (9H2) is a mouse monoclonal antibody raised against an EFGR phosphopeptide 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 (9H2) is recommended for detection of Tyr 1173 phosphorylated EGFR of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with the non-phosphorylated EGFR nor with unrelated Tyrosine-phosphorylated proteins.

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

RESEARCH USE

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

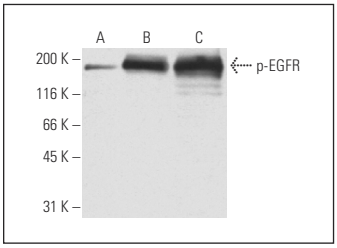
PROTOCOLS

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

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 (9H2): sc-57545. Western blot analysis of EGFR phosphorylation in non-stimulated (**A**), EGF stimulated (**B**) and pervanadate stimulated (**C**) A549 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kwak, S.Y., et al. 2014. Ionizing radiation-inducible miR-494 promotes glioma cell invasion through EGFR stabilization by targeting p190B rhoGAP. Biochim. Biophys. Acta 1843: 508-516.
2. Midde, K.K., et al. 2015. Multimodular biosensors reveal a novel platform for activation of G proteins by growth factor receptors. Proc. Natl. Acad. Sci. USA 112: E937-E946.
3. Wiedemann, A., et al. 2016. Identification of the epidermal growth factor receptor as the receptor for *Salmonella* Rck-dependent invasion. FASEB J. 30: 4180-4191.
4. Li, H.J., et al. 2018. Inhibition of miR-21 ameliorates excessive astrocyte activation and promotes axon regeneration following optic nerve crush. Neuropharmacology 137: 33-49.
5. Tanaka, J., et al. 2020. Generation of CSF1-independent ramified microglia-like cells from leptomeninges *in vitro*. Cells 10: 24.
6. Zacharias, N.M., et al. 2021. Prolyl hydroxylase 3 knockdown accelerates VHL-mutant kidney cancer growth *in vivo*. Int. J. Mol. Sci. 22: 2849.
7. Gao, S.H., et al. 2022. Mutations and clinical significance of calcium voltage-gated channel subunit α 1E (CACNA1E) in non-small cell lung cancer. Cell Calcium 102: 102527.
8. Han, X., et al. 2022. Pyrotinib targeted EGFR-STAT3/CD24 loop-mediated cell viability in TSC. Cells 11: 3064.
9. Wu, F., et al. 2023. Neuroglobin inhibits pancreatic cancer proliferation and metastasis by targeting the GNAI1/EGFR/AKT/ERK signaling axis. Biochem. Biophys. Res. Commun. 664: 108-116.

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.