SANTA CRUZ BIOTECHNOLOGY, INC.

EGFR (A-10): sc-373746

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The EGF receptor family comprises several related receptor tyrosine kinases that are frequently overexpressed in a variety of carcinomas. Members of this receptor family include EGFR (HER1), Neu (ErbB-2, HER2), ErbB-3 (HER3) and ErbB-4 (HER4), which form either homodimers or heterodimers upon ligand binding. Exons in the EGFR gene product are frequently either deleted or duplicated to produce deletion mutants (DM) or tandem duplication mutants (TDM), respectively, which are detected at various molecular weights. EGFR binds several ligands including epidermal growth factor (EGF), transforming growth factor α (TGFα), Amphiregulin and heparin binding-EGF (HB-EGF). Ligand binding promotes the internalization of EGFR via Clathrin-coated pits and its subsequent degradation in response to its intrinsic tyrosine kinase. EGFR is involved in organ morphogenesis and maintenance and repair of tissues, but upregulation of EGFR is associated with tumor progression. The oncogenic effects of EGFR include initiation of DNA synthesis, enhanced cell growth, invasion and metastasis. Abrogation of EGFR results in cell cycle arrest, apoptosis or dedifferentiation of cancer cells, suggesting that EGFR may be an effective therapeutic target.

CHROMOSOMAL LOCATION

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

SOURCE

EGFR (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1114-1147 within a C-terminal cytoplasmic domain of EGFR of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EGFR (A-10) is available conjugated to agarose (sc-373746 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373746 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373746 PE), fluorescein (sc-373746 FITC), Alexa Fluor® 488 (sc-373746 AF488), Alexa Fluor® 546 (sc-373746 AF546), Alexa Fluor® 594 (sc-373746 AF594) or Alexa Fluor® 647 (sc-373746 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373746 AF680) or Alexa Fluor® 790 (sc-373746 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373746 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

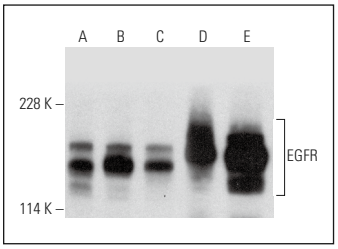
EGFR (A-10) is recommended for detection of EGFR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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, shRNA (h) Lentiviral Particles: sc-29301-V, EGFR shRNA (m) Lentiviral Particles: sc-29302-V and EGFR shRNA (r) Lentiviral Particles: sc-108050-V.

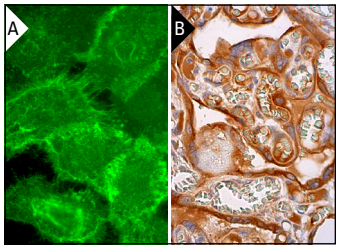
Molecular Weight of EGFR: 170 kDa.

Positive Controls: A549 cell lysate: sc-2413, MDA-MB-231 cell lysate: sc-2232 or HeLa whole cell lysate: sc-2200.

DATA



EGFR (A-10) HRP: sc-373746 HRP. Direct western blot analysis of EGFR expression in A549 (**A**), MDA-MB-231 (**B**), HeLa (**C**), BT-20 (**D**) and A-431 (**E**) whole cell lysates.



EGFR (A-10): sc-373746. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells (**B**).

SELECT PRODUCT CITATIONS

1. Tezcan, B., et al. 2010. Dose dependent effect of C-type natriuretic peptide signaling in glycosaminoglycan synthesis during TGF-β1 induced chondrogenic differentiation of mesenchymal stem cells. J. Mol. Histol. 41: 247-258.
2. Moreira, K.G., et al. 2021. Accelerative action of topical piperonylic acid on mice full thickness wound by modulating inflammation and collagen deposition. PLoS ONE 16: e0259134.
3. Odeniyide, P., et al. 2022. Targeting farnesylation as a novel therapeutic approach in HRAS-mutant rhabdomyosarcoma. Oncogene 41: 2973-2983.
4. Huang, Y., et al. 2023. An EGCG derivative in combination with nimotuzumab for the treatment of wild-type EGFR NSCLC. Int. J. Mol. Sci. 24: 14012.

PROTOCOLS

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