SANTA CRUZ BIOTECHNOLOGY, INC.

EGFR (C-2): sc-377229

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 (C-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1131-1169 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 (C-2) is available conjugated to agarose (sc-377229 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377229 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377229 PE), fluorescein (sc-377229 FITC), Alexa Fluor® 488 (sc-377229 AF488), Alexa Fluor® 546 (sc-377229 AF546), Alexa Fluor® 594 (sc-377229 AF594) or Alexa Fluor® 647 (sc-377229 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377229 AF680) or Alexa Fluor® 790 (sc-377229 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377229 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.

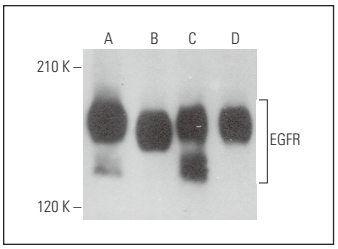
APPLICATIONS

EGFR (C-2) 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).

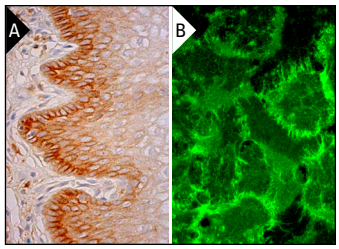
Suitable for use as control antibody for EGFR siRNA (h): sc-29301, EGFR siRNA (m): sc-29302, EGFR siRNA (r): sc-108050, EGFR shRNA Plasmid (h): sc-29301-SH, EGFR shRNA Plasmid (m): sc-29302-SH, EGFR shRNA Plasmid (r): sc-108050-SH, EGFR shRNA (h) Lentiviral Particles: sc-29301-V, EGFR shRNA (m) Lentiviral Particles: sc-29302-V and EGFR shRNA (r) Lentiviral Particles: sc-108050-V.

Molecular Weight of EGFR: 170 kDa.

DATA



EGFR (C-2): sc-377229. Western blot analysis of EGFR expression in HEK293 (**A**), HeLa (**B**), SCC-4 (**C**) and SK-BR-3 (**D**) whole cell lysates.



EGFR (C-2): sc-377229. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vagina tissue showing membrane and cytoplasmic staining of squamous epithelial cells (**A**). Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. SHI, Z., et al. 2010. The neuroprotective effect of batch-2, an aqueous extract from cat's claw *(Uncaria tomentosa)* on 6-OHDA-induced SH-SY5Y cell damage. Prog. Biochem. Biophy. 37: 769-778.
2. Parrales, A., et al. 2016. DNAJA1 controls the fate of misfolded mutant p53 through the mevalonate pathway. Nat. Cell Biol. 18: 1233-1243.
3. Li, C., et al. 2017. COPI-TRAPPII activates Rab18 and regulates its lipid droplet association. EMBO J. 36: 441-457.
4. Gong, W.J., et al. 2018. Resistin facilitates metastasis of lung adenocarcinoma through the TLR4/Src/EGFR/PI3K/NFκB pathway. Cancer Sci. 109: 2391-2400.
5. Fu, Y., et al. 2020. Abnormally activated OPN/integrin $\alpha_V\beta_3$/FAK signalling is responsible for EGFR-TKI resistance in EGFR mutant non-small-cell lung cancer. J. Hematol. Oncol. 13: 169.

PROTOCOLS

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