SANTA CRUZ BIOTECHNOLOGY, INC.

EGFR (D-8): sc-365829

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 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 129-160 within an N-terminal extracellular domain of EGFR of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EGFR (D-8) is available conjugated to agarose (sc-365829 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365829 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365829 PE), fluorescein (sc-365829 FITC), Alexa Fluor® 488 (sc-365829 AF488), Alexa Fluor® 546 (sc-365829 AF546), Alexa Fluor® 594 (sc-365829 AF594) or Alexa Fluor® 647 (sc-365829 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365829 AF680) or Alexa Fluor® 790 (sc-365829 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365829 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

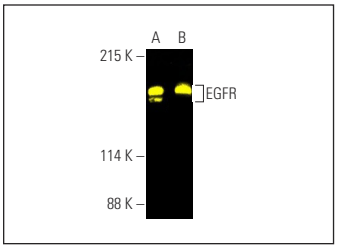
EGFR (D-8) is recommended for detection of EGFR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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.

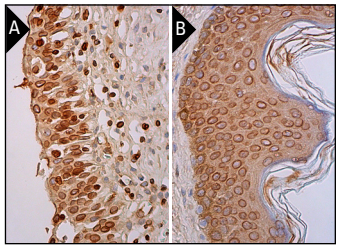
Molecular Weight of EGFR: 170 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-431 + EGF whole cell lysate: sc-2202 or Hep G2 cell lysate: sc-2227.

DATA



EGFR (D-8) Alexa Fluor® 488: sc-365829 AF488. Direct fluorescent western blot analysis of EGFR expression in A-431 (**A**) and EGF-treated A-431 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



EGFR (D-8): sc-365829. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear envelope, nuclear and cytoplasmic staining of urothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear envelope, nuclear and cytoplasmic staining of keratinocytes, Langerhans cells and melanocytes (**B**).

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. Zhu, K., et al. 2019. Discovery of glabridin as potent inhibitor of epidermal growth factor receptor in SK-BR-3 cell. Pharmacology 104: 113-125.
3. Purba, E.R., et al. 2022. Allosteric activation of preformed EGF receptor dimers by a single ligand binding event. Front. Endocrinol. 13: 1042787.
4. Valadan, R., et al. 2023. A cell-based subtractive panning strategy for selection of conformation-specific single-chain variable-fragment (scFv) against dimerization domain of EGFR. J. Immunol. Methods 515: 113456.

PROTOCOLS

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