

EGFR (E-8): sc-374607



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 (TGF α), 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 (E-8) is a mouse monoclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of EGFR of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-374607 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

EGFR (E-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 μ g per 100-500 μ g 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.

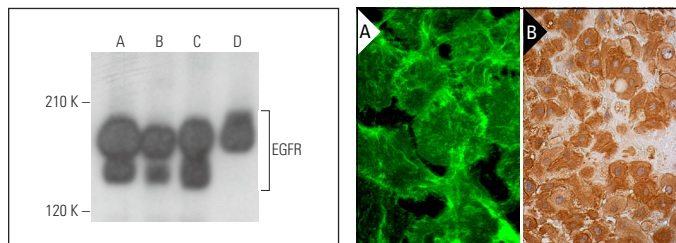
Molecular Weight of EGFR: 170 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

STORAGE

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

DATA



EGFR (E-8): sc-374607. Western blot analysis of EGFR expression in A-431 (A), HeLa (B), SCC-4 (C) and SK-BR-3 (D) whole cell lysates.

EGFR (E-8): sc-374607. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of decidual cells (B).

SELECT PRODUCT CITATIONS

- Yu, Y., et al. 2012. Effects of combined epidermal growth factor, brain-derived neurotrophic factor and Insulin-like growth factor-1 on human oocyte maturation and early fertilized and cloned embryo development. *Hum. Reprod.* 27: 2146-2159.
- Hoeben, A., et al. 2013. Role of GRB2-associated binder 1 in epidermal growth factor receptor-induced signaling in head and neck squamous cell carcinoma. *Int. J. Cancer* 132: 1042-1050.
- Cheong, A.W., et al. 2014. MicroRNA Let-7a and dicer are important in the activation and implantation of delayed implanting mouse embryos. *Hum. Reprod.* 29: 750-762.
- Wang, X., et al. 2016. The Na⁺-taurocholate cotransporting polypeptide traffics with the epidermal growth factor receptor. *Traffic* 17: 230-244.
- Peiris, D., et al. 2017. Cellular glycosylation affects Herceptin binding and sensitivity of breast cancer cells to doxorubicin and growth factors. *Sci. Rep.* 7: 43006.
- Martis, P.C., et al. 2018. MEF2 plays a significant role in the tumor inhibitory mechanism of encapsulated RENCA cells via EGF receptor signaling in target tumor cells. *BMC Cancer* 18: 1217.
- Kim, S.T., et al. 2018. The N-recogin UBR4 of the N-end rule pathway is targeted to and required for the biogenesis of the early endosome. *J. Cell Sci.* 131: jcs217646.

RESEARCH USE

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



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.