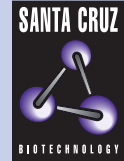


EGFR (N-20): sc-31155



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.

REFERENCES

- Downward, J., Parker, P. and Waterfield, M.D. 1984. Autophosphorylation sites on the epidermal growth factor receptor. *Nature* 311: 483-485.
- Gullick, W.J., Downward, J. and Waterfield, M.D. 1985. Antibodies to the autophosphorylation sites of the epidermal growth factor receptor protein-tyrosine kinase as probes of structure and function. *EMBO J.* 4: 2869-2877.
- Gullick, W.J., Marsden, J.J., Whittle, N., Ward, B., Bobrow, L. and Waterfield, M.D. 1986. Expression of epidermal growth factor receptors on human cervical, ovarian, and vulval carcinomas. *Cancer Res.* 46: 285-292.
- Berger, M.S., Gullick, W.J., Greenfield, C., Evans, S., Addis, B.J. and Waterfield, M.D. 1987. Epidermal growth factor receptors in lung tumours. *J. Pathol.* 152: 297-307.

CHROMOSOMAL LOCATION

Genetic locus: EGFR (human) mapping to 7p12; Egfr (mouse) mapping to 11 A2.

SOURCE

EGFR (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of EGFR of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with > 0.1% sodium azide and 0.2% gelatin.

Blocking peptide available for competition studies, sc-31155 P, (100 μ g peptide in 0.5 ml PBS containing > 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

EGFR (N-20) is recommended for detection of EGF receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) 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 and EGFR siRNA (m): sc-29302.

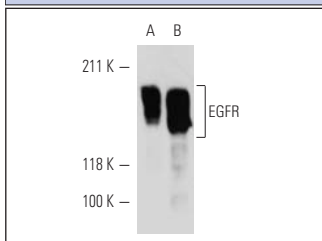
Molecular Weight of EGFR: 170 kDa.

Positive Controls: human breast carcinoma tissue, SK-BR-3 cell lysate: sc-2218 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



EGFR (N-20): sc-31155. Western blot analysis of EGFR expression in EGF-induced A-431 (A) and C3H/10T1/2 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Lai, M.D., et al. 2009. The effects of DNA formulation and administration route on cancer therapeutic efficacy with xenogenic EGFR DNA vaccine in a lung cancer animal model. *Genet. Vaccines Ther.* 7: 2.

STORAGE

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

PROTOCOLS

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