SANTA CRUZ BIOTECHNOLOGY, INC.

EGFR (1005)-G: sc-03-G

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 (1005)-G is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of EGFR 6 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EGFR (1005) is available conjugated to agarose (sc-03 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-03 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EGFR (1005)-G is recommended for detection of EGFR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); may detect highly overexpressed ErbB-2.

EGFR (1005)-G is also recommended for detection of EGF receptor in additional species, including equine, canine, bovine and porcine.

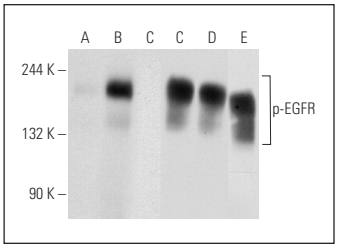
Suitable for use as control antibody for EGFR siRNA (h): sc-29301, EGFR siRNA (m): sc-29302, EGFR shRNA Plasmid (h): sc-29301-SH, EGFR shRNA Plasmid (m): sc-29302-SH, EGFR shRNA (h) Lentiviral Particles: sc-29301-V and EGFR shRNA (m) Lentiviral Particles: sc-29302-V.

Molecular Weight of EGFR: 170 kDa.

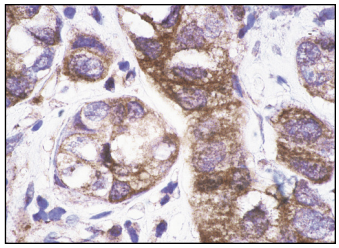
RESEARCH USE

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

DATA



Western blot analysis of EGFR phosphorylation in untreated (**A**,**D**), EGF treated (**B**,**E**) and EGF and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) A-431 whole cell lysates. Antibodies tested include p-EGFR (Tyr 1173)-R: sc-12351-R (**A**,**B**,**C**) and EGFR (1005): sc-03 (**D**,**E**,**F**).



EGFR (1005)-G: sc-03-G. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing membrane staining.

SELECT PRODUCT CITATIONS

1. Ardenne, M., et al. 1975. Demonstration of tumor inhibiting properties of a strongly immunostimulating low-molecular weight substance. Comparative studies with ifosfamide on the immunolabile DS carcinosarcoma. Stimulation of the autoimmune activity for approx. 20 days by BA 1, a N-(2-cyanoethylene)-urea. Novel prophylactic possibilities. Arzneimittelforschung 25: 1369-1379.
2. Kaur, J. and Tikoo, K. 2013. p300/CBP dependent hyperacetylation of histone potentiates anticancer activity of gefitinib nanoparticles. Biochim. Biophys. Acta 1833: 1028-1040.
3. Andrysík, Z., et al. 2013. Aryl hydrocarbon receptor-mediated disruption of contact inhibition is associated with connexin43 downregulation and inhibition of gap junctional intercellular communication. Arch. Toxicol. 87: 491-503.
4. Zhang, P., et al. 2013. Exon 4 deletion variant of epidermal growth factor receptor enhances invasiveness and cisplatin resistance in epithelial ovarian cancer. Carcinogenesis 34: 2639-2646.
5. Vatsyayan, R., et al. 2013. Nutlin-3 enhances sorafenib efficacy in renal cell carcinoma. Mol. Carcinog. 52: 39-48.
6. Yin D., et al. 2013. miR-34a functions as a tumor suppressor modulating EGFR in glioblastoma multiforme. Oncogene 32: 1155-1163.

STORAGE

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