

EGFR Antibody (Ascites)

Mouse Monoclonal Antibody (Mab) Catalog # AM7628a

Product Information

Application WB, E **Primary Accession** P00533 Reactivity Human Host Mouse Clonality Monoclonal Isotype IgG1ĸ **Clone Names** 51CT78.40.5 Calculated MW 134277

Additional Information

Gene ID 1956

Other Names Epidermal growth factor receptor, Proto-oncogene c-ErbB-1, Receptor

tyrosine-protein kinase erbB-1, EGFR, ERBB, ERBB1, HER1

Target/Specificity Purified His-tagged EGFR protein(Fragment) was used to produced this

monoclonal antibody.

Dilution WB~~1:2000 E~~Use at an assay dependent concentration.

Format Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V)

sodium azide.

Storage Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store

at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions EGFR Antibody (Ascites) is for research use only and not for use in diagnostic

or therapeutic procedures.

Protein Information

Name EGFR (HGNC:3236)

Synonyms ERBB, ERBB1, HER1

Function Receptor tyrosine kinase binding ligands of the EGF family and activating

several signaling cascades to convert extracellular cues into appropriate cellular responses (PubMed:10805725, PubMed:27153536, PubMed:2790960, PubMed:35538033). Known ligands include EGF, TGFA/TGF- alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding

EGF (PubMed: 12297049, PubMed: 15611079, PubMed: 17909029, PubMed:20837704, PubMed:27153536, PubMed:2790960, PubMed:7679104, PubMed:8144591, PubMed:9419975). Ligand binding triggers receptor homoand/or heterodimerization and autophosphorylation on key cytoplasmic residues. The phosphorylated receptor recruits adapter proteins like GRB2 which in turn activates complex downstream signaling cascades. Activates at least 4 major downstream signaling cascades including the RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLCgamma-PKC and STATs modules (PubMed:27153536). May also activate the NF-kappa-B signaling cascade (PubMed: 11116146). Also directly phosphorylates other proteins like RGS16, activating its GTPase activity and probably coupling the EGF receptor signaling to the G protein-coupled receptor signaling (PubMed: 11602604). Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin (PubMed: 11483589). Positively regulates cell migration via interaction with CCDC88A/GIV which retains EGFR at the cell membrane following ligand stimulation, promoting EGFR signaling which triggers cell migration (PubMed:20462955). Plays a role in enhancing learning and memory performance (By similarity). Plays a role in mammalian pain signaling (long-lasting hypersensitivity) (By similarity).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Endoplasmic reticulum membrane; Single-pass type I membrane protein Golgi apparatus membrane; Single-pass type I membrane protein. Nucleus membrane; Single-pass type I membrane protein. Endosome membrane. Nucleus. Note=In response to EGF, translocated from the cell membrane to the nucleus via Golgi and ER (PubMed:17909029, PubMed:20674546). Endocytosed upon activation by ligand (PubMed:17182860, PubMed:17909029, PubMed:27153536, PubMed:2790960). Colocalized with GPER1 in the nucleus of estrogen agonist-induced cancer-associated fibroblasts (CAF) (PubMed:20551055)

Tissue Location

Ubiquitously expressed. Isoform 2 is also expressed in ovarian cancers.

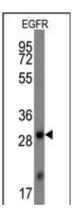
Background

The protein encoded by this gene is a transmembrane glycoprotein that is a member of the protein kinase superfamily. This protein is a receptor for members of the epidermal growth factor family. EGFR is a cell surface protein that binds to epidermal growth factor. Binding of the protein to a ligand induces receptor dimerization and tyrosine autophosphorylation and leads to cell proliferation. Mutations in this gene are associated with lung cancer. Multiple alternatively spliced transcript variants that encode different protein isoforms have been found for this gene.

References

Complex Mutations in the Epidermal Growth Factor Receptor Gene in Non-small Cell Lung Cancer. Hata A, et al. J Thorac Oncol, 2010 Aug 30. PMID 20808254. EGFR signaling is differentially activated in patient-derived glioblastoma stem cells. Howard BM, et al. J Exp Ther Oncol, 2010. PMID 20734923. [EGFR Mutations Detection in Non-small Cell Lung Cancer Tissues by Real-time PCR and DNA Sequencing.] Li Y, et al. Zhongguo Fei Ai Za Zhi, 2009 Dec 20. PMID 20723379. [Detection and Its Clinical Significance of EGFR Gene Mutation and Gene Amplification in 187 Patients with Non-small Cell Lung Cancer.] Liu H, et al. Zhongguo Fei Ai Za Zhi, 2009 Dec 20. PMID 20723374. Effect of gefitinib on the survival of patients with recurrence of lung adenocarcinoma after surgery: A retrospective case-matching cohort study. Katayama T, et al. Surg Oncol, 2010 Aug 10. PMID 20705455.

Images



Western blot analysis of anti-EGFR Monoclonal Antibody (Cat.#AM7628a) by EGFR recombinant protein (Fragment). EGFR (Fragment) protein (arrow) was detected using the ascites Mab. (1:2000)

Citations

• Acidic mammalian chitinase is secreted via an ADAM17/epidermal growth factor receptor-dependent pathway and stimulates chemokine production by pulmonary epithelial cells.

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