

EGFR Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1854a

Specification

EGFR Antibody - Product Information

Application	E, WB, FC, IHC
Primary Accession	P00533
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	175kDa KDa

Description

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.

Immunogen

Purified recombinant fragment of human EGFR (AA: 693-893) expressed in E. Coli.

Formulation

Purified antibody in PBS with 0.05% sodium azide

EGFR Antibody - Additional Information

Gene ID 1956

Other Names

Epidermal growth factor receptor, 2.7.10.1, Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, EGFR, ERBB, ERBB1, HER1

Dilution

E~~1/10000
WB~~1/500 - 1/2000
FC~~1/200 - 1/400
IHC~~1/200 - 1/1000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

EGFR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

EGFR Antibody - 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](http://www.uniprot.org/citations/10805725), PubMed:[27153536](http://www.uniprot.org/citations/27153536), PubMed:[2790960](http://www.uniprot.org/citations/2790960), PubMed:[35538033](http://www.uniprot.org/citations/35538033)). Known ligands include EGF, TGFA/TGF- alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF (PubMed:[12297049](http://www.uniprot.org/citations/12297049), PubMed:[15611079](http://www.uniprot.org/citations/15611079), PubMed:[17909029](http://www.uniprot.org/citations/17909029), PubMed:[20837704](http://www.uniprot.org/citations/20837704), PubMed:[27153536](http://www.uniprot.org/citations/27153536), PubMed:[2790960](http://www.uniprot.org/citations/2790960), PubMed:[7679104](http://www.uniprot.org/citations/7679104), PubMed:[8144591](http://www.uniprot.org/citations/8144591), PubMed:[9419975](http://www.uniprot.org/citations/9419975)). Ligand binding triggers receptor homo- and/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](http://www.uniprot.org/citations/27153536)). May also activate the NF-kappa-B signaling cascade (PubMed:[11116146](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/11602604)). Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin (PubMed:[11483589](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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. 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.

EGFR Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

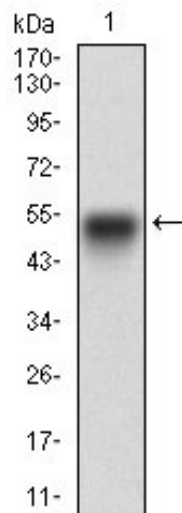
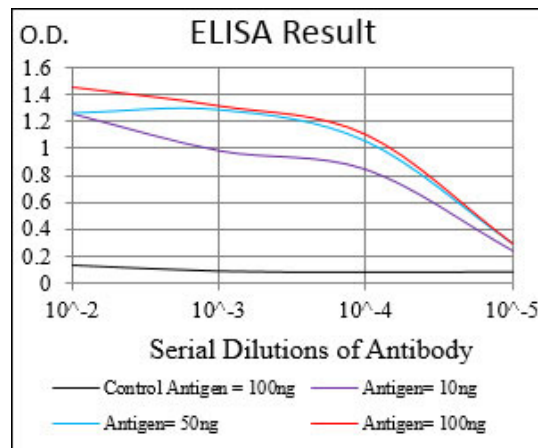


Figure 1: Western blot analysis using EGFR mAb against human EGFR recombinant protein. (Expected MW is 48.2 kDa)

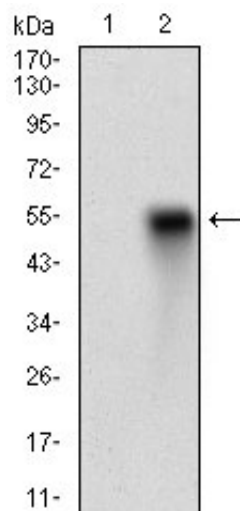


Figure 2: Western blot analysis using EGFR mAb against HEK293 (1) and EGFR (AA: 693-893)-hIgGFc transfected HEK293 (2) cell lysate.

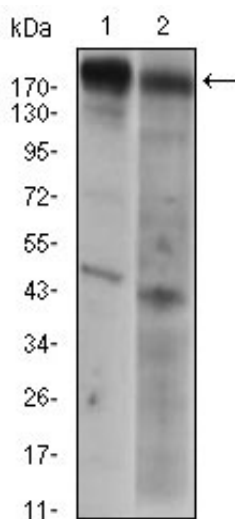


Figure 3: Western blot analysis using EGFR mouse mAb against A431 (1) AND HeLa (2) cell lysate.

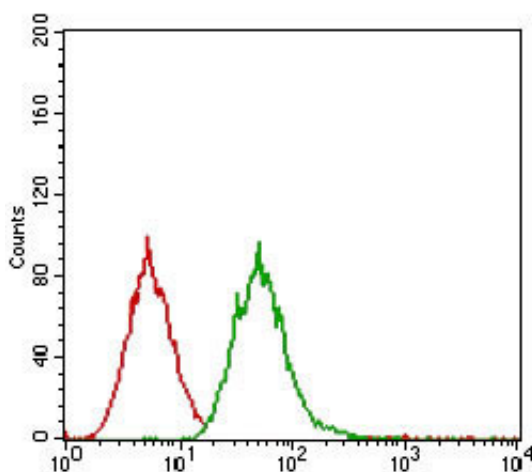


Figure 4: Flow cytometric analysis of A431 cells using EGFR mouse mAb (green) and negative control (red).

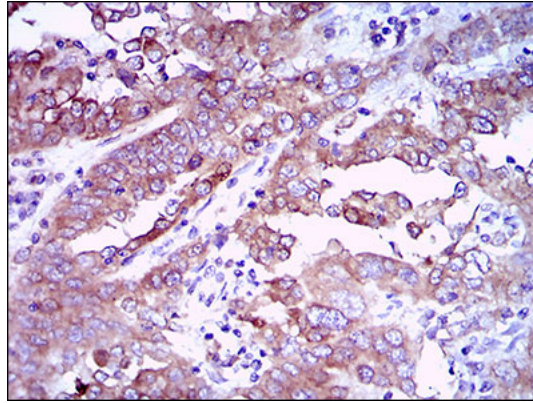


Figure 5: Immunohistochemical analysis of paraffin-embedded endometrial cancer tissues using EGFR mouse mAb with DAB staining.

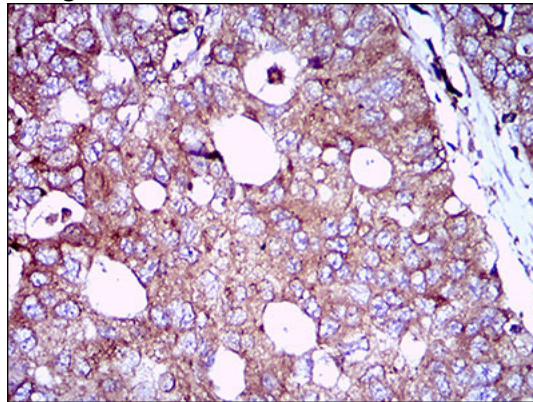


Figure 6: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using EGFR mouse mAb with DAB staining.

EGFR Antibody - Background

This gene encodes an essential structural component of the synaptonemal complex. This complex is involved in synapsis, recombination and segregation of meiotic chromosomes. Mutations in this gene are associated with azoospermia in males and susceptibility to pregnancy loss in females. Alternate splicing results in multiple transcript variants that encode the same protein.

EGFR Antibody - References

1. J Immunol. 2012 Dec 1;189(11):5230-9.
2. J Biol Chem. 2012 Oct 12;287(42):35201-11.