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EGFR mutant Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO2321a

Specification

EGFR mutant 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 mutant (AA: 693-893) expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

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

EGFR mutant 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, 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 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). 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. 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.

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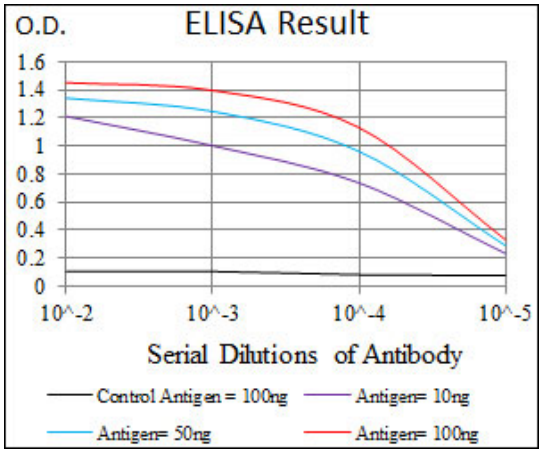
EGFR mutant Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture



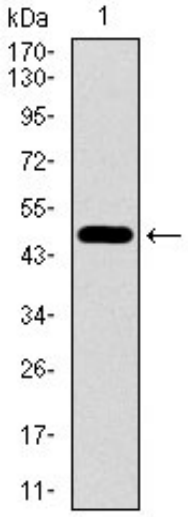


Figure 1: Western blot analysis using EGFR mutant mAb against human EGFR mutant recombinant protein. (Expected MW is 36.9 kDa)

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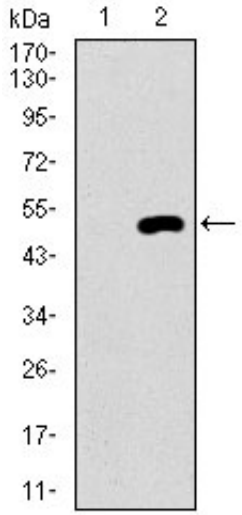

Figure 2: Western blot analysis using EGFR mutant mAb against HEK293 (1) and EGFR mutant (AA: 693-893)-hIgGFc transfected HEK293 (2) cell lysate.

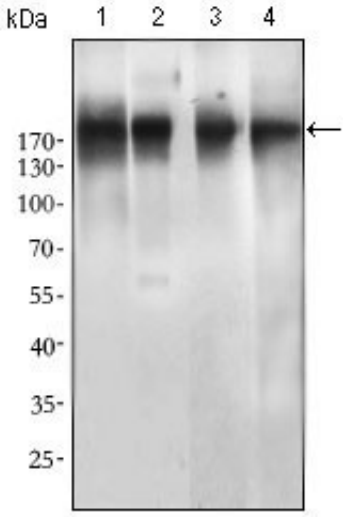

Figure 3: Western blot analysis using EGFR mutant mouse mAb against SPC-A-1 (1), A549 (2), HepG2 (3) and MCF-7 (4) cell lysate.

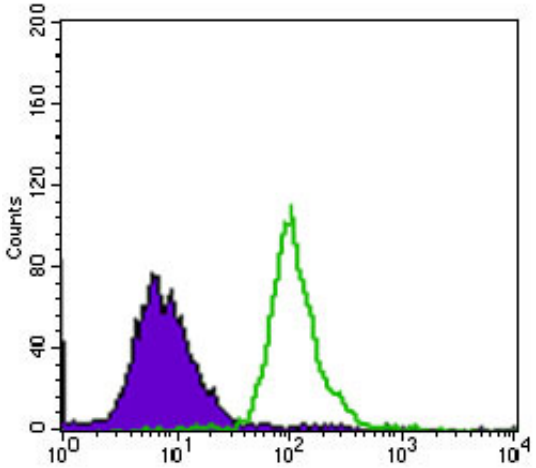

Figure 4: Flow cytometric analysis of HepG2 cells using EGFR mutant mouse mAb (green) and negative control (purple).

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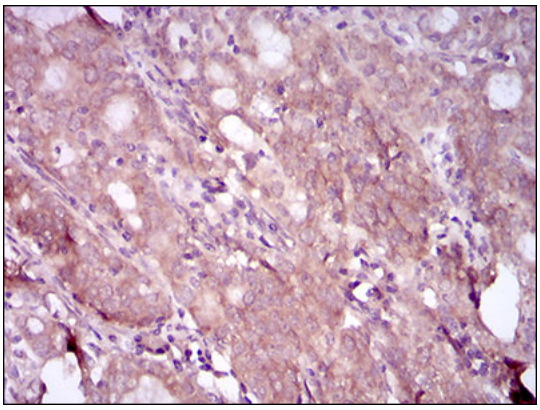

Figure 5: Immunohistochemical analysis of paraffin-embedded cervical cancer tissues using EGFR mutant mouse mAb with DAB staining.

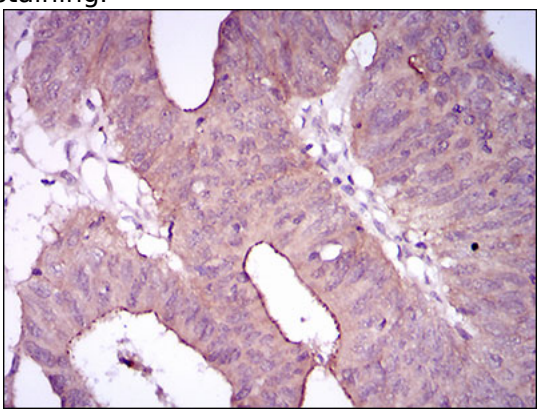

Figure 6: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using EGFR mutant mouse mAb with DAB staining.

EGFR mutant Antibody - References

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