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EGF Receptor Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52828

Product Information

Primary Accession	P00533
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	134277

Additional Information

Gene ID	1956
Other Names	Avian erythroblastic leukemia viral (v erb b) oncogene homolog;Cell growth inhibiting protein 40;Cell proliferation inducing protein 61;EGF R;EGFR;EGFR_HUMAN;Epidermal growth factor receptor (avian erythroblastic leukemia viral (v erb b) oncogene homolog);Epidermal growth factor receptor (erythroblastic leukemia viral (v erb b) oncogene homolog avian);Epidermal growth factor receptor;erbb 1;Erbb;Erbb1;ERBB1;Errp;HER1;mENA;Oncogene ERBB;PIG61;Proto-oncogene c-ErbB-1;Receptor tyrosine protein kinase ErbB 1;Receptor tyrosine-protein kinase ErbB-1;Urogastrone;wa2;Wa5.
Format	Purified mouse monoclonal antibody in PBS(pH 7.4) containing with 0.09% (W/V) sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

Name	EGFR {ECO:0000303|PubMed:32926474, ECO:0000312|HGNC:HGNC:3236}
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:12297050, PubMed:12620237, PubMed:12873986, PubMed:15374980, PubMed:15590694, PubMed:17115032, PubMed:19560417, PubMed:21258366, PubMed:27153536, PubMed:2790960, PubMed:35538033, PubMed:9488479). 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 (PubMed:10026169, PubMed:17349580, PubMed:18046415,

	PubMed:19560417, PubMed:19836242). The phosphorylated receptor recruits adapter proteins like GRB2 which in turn activates complex downstream signaling cascades (PubMed:10026169, PubMed:17349580, PubMed:18046415, PubMed:19560417, PubMed:19836242). 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). Acts as a positive regulator of cGAS-STING signaling by mediating tyrosine phosphorylation of STING1, promoting production of type I interferon (IFN-alpha and IFN-beta), while inhibiting STING1 ability to regulate autophagy (PubMed:32926474). 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.

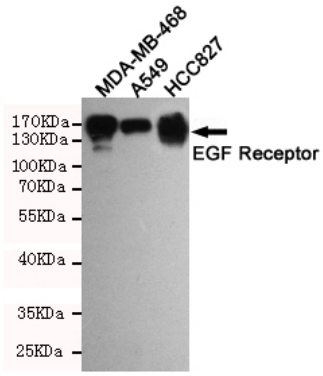
Background

Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses. Known ligands include EGF, TGFA/TGF-alpha, amphiregulin, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF. 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. May also activate the NF-kappa-B signaling cascade. 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. Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin.

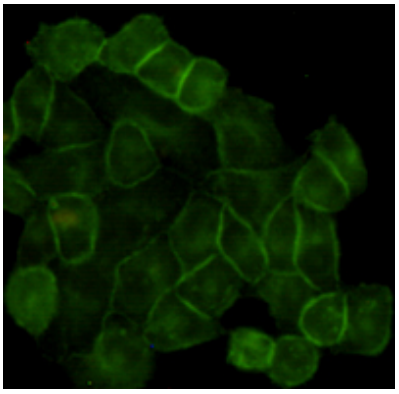
References

Ullrich A.,et al.Nature 309:418-425(1984).
Ilekis J.V.,et al.Mol. Reprod. Dev. 41:149-156(1995).
Reiter J.L.,et al.Nucleic Acids Res. 24:4050-4056(1996).
Ilekis J.V.,et al.Gynecol. Oncol. 65:36-41(1997).
Reiter J.L.,et al.Genomics 71:1-20(2001).

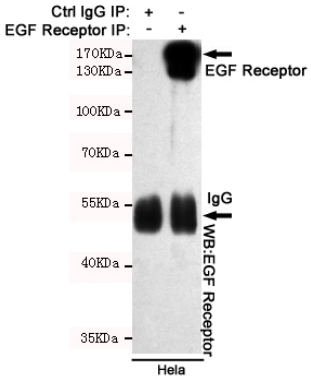
Images



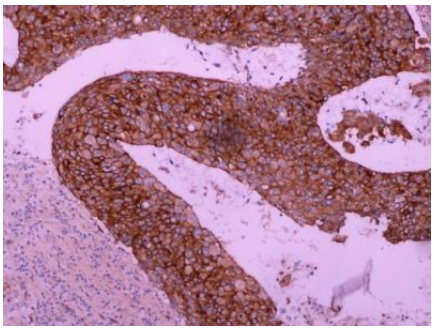
Western blot detection of EGFR in HCC827,A549 and MDA-MB-468 cell lysates using EGFR mouse mAb(dilution 1:1000).Predicted band size:134 Kda.Observed band size:175KDa.



Immunocytochemistry staining of HeLa cells using EGFR mouse mAb (dilution 1:200).



Immunoprecipitation analysis of Hela cell lysates using EGFR mouse mAb.



Immunohistochemical analysis of paraffin-embedded Lung carcinoma using EGF Receptor (3F12) mouse mAb (1/800 dilution) at the Roche Benchmark XT system.

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