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# EGFR Antibody (C-term)

Mouse Monoclonal Antibody (Mab)
Catalog # AW5388

## Product Information

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| **Application** | IHC-P, WB |
| **Primary Accession** | P00533 |
| **Other Accession** | NP_005219.2 |
| **Reactivity** | Mouse, Rat, Human |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Calculated MW** | 134277 |
| **Isotype** | IgG1 |
| **Antigen Source** | HUMAN |

## Additional Information

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| **Gene ID** | 1956 |
| **Antigen Region** | 1163-1191 |
| **Other Names** | Epidermal growth factor receptor, Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, EGFR, ERBB, ERBB1, HER1 |
| **Dilution** | IHC-P~~1:100~500 WB~~1:1000 |
| **Target/Specificity** | This EGFR antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 1163-1191 amino acids from the C-terminal region of human EGFR. |
| **Format** | Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS. |
| **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 (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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 |

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| | 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

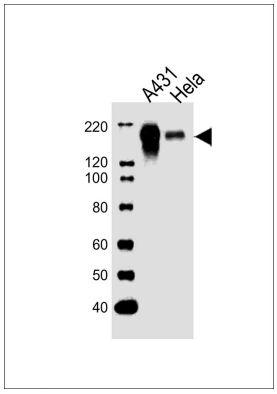
The protein encoded by this gene is a transmembrane glycoprotein that is a member of the protein kinase superfamily. This protein is a receptor for members of the epidermal growth factor family. EGFR is a cell surface protein that binds to epidermal growth factor. Binding of the protein to a ligand induces 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

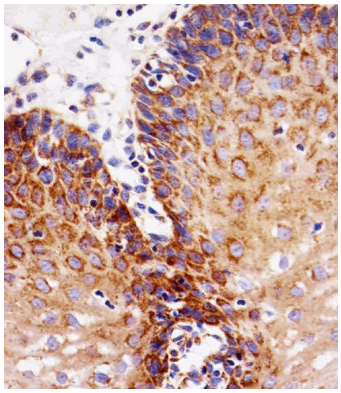
Abdallah, R.T., et al. J. Biol. Chem. 285(45):35206-35215(2010)
Lu, C., et al. Mol. Cell. Biol. 30(22):5432-5443(2010)

Rosell, R., et al. Ann. N. Y. Acad. Sci. 1210, 45-52 (2010) :
Hata, A., et al. J Thorac Oncol 5(10):1524-1528(2010)
Aguirre, A., et al. Nature 467(7313):323-327(2010)

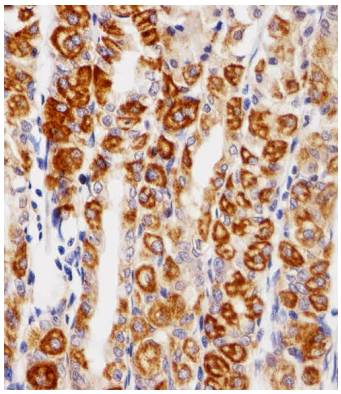
## Images



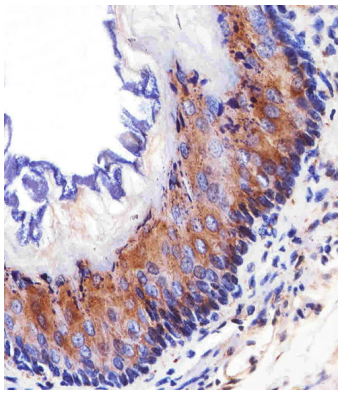

All lanes : Anti-EGFR Antibody (C-term) at 1:1000 dilution Lane 1: A431 whole cell lysates Lane 2: Hela whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L),Peroxidase conjugated at 1/10000 dilution Predicted band size : 134 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded H. esophagus section using EGFR Antibody (C-term)(Cat#AW5388). AW5388 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

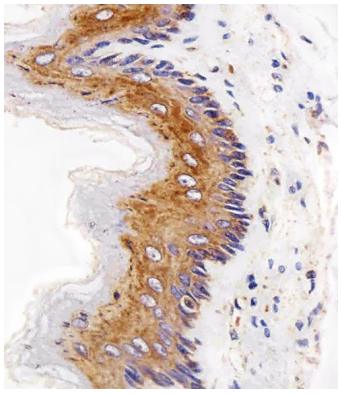


Immunohistochemical analysis of paraffin-embedded H. stomach section using EGFR Antibody (C-term)(Cat#AW5388). AW5388 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded M. esophagus section using EGFR Antibody (C-term)(Cat#AW5388). AW5388 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

Immunohistochemical analysis of paraffin-embedded R.



esophagus section using EGFR Antibody (C-term)(Cat#AW5388). AW5388 was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-mouse IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.