

# EGFR Antibody (Ab-1172)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP50011

## **Product Information**

ApplicationWB, IHCPrimary AccessionP00533

**Reactivity** Human, Mouse, Rat

HostRabbitClonalitypolyclonalCalculated MW134277

## **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

**Dilution** WB~~ 1:1000 IHC~~1:50-1:100

Format Rabbit IgG in phosphate buffered saline (without Mg2+ and Ca2+), pH 7.4,

150mM NaCl, 0.09% (W/V) sodium azide and 50% glycerol.

Storage Conditions -20°C

### **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:<u>10805725</u>, PubMed:<u>27153536</u>, PubMed:<u>2790960</u>, PubMed:<u>35538033</u>). Known ligands include EGF, TGFA/TGF- alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding

EGF (PubMed:<u>12297049</u>, PubMed:<u>15611079</u>, PubMed:<u>17909029</u>,

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. 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**

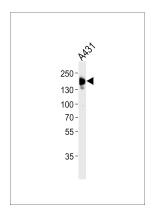
Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses. Known ligands include EGF, TGFA/TGF-alpha, amphiregulin, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF. 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.

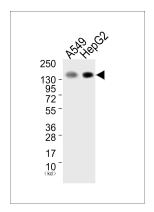
# References

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).

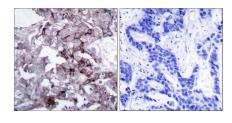
# **Images**

Western blot analysis of lysate from A431 cell line, using EGFR Antibody (Ab-1172)(B7063). B7063 was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35 ug.





Western blot analysis of extracts from A549 cells (Lane 1) and HepG2 cells (Lane 2), using EGFR (Ab-1172) Antibody. The lane on the left is treated with synthesized peptide.



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma tissue, using EGFR (Ab-1172) Antibody.

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