

# EGFR (Epidermal Growth Factor Receptor) Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone 31G7 + GFR1195 ]

Catalog # AH11183

## Product Information

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Application	IHC, IF, FC
Primary Accession	<a href="#">P00533</a>
Other Accession	<a href="#">1956</a> , <a href="#">488293</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG's
Clone Names	31G7 + GFR1195
Calculated MW	134277

## Additional Information

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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
Application Note	IHC~~1:100~500 IF~~1:50~200 FC~~1:10~50
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	EGFR (Epidermal Growth Factor Receptor) Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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Name	EGFR ( <a href="#">HGNC:3236</a> )
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: <a href="#">10805725</a> , PubMed: <a href="#">27153536</a> , PubMed: <a href="#">2790960</a> , PubMed: <a href="#">35538033</a> ). Known ligands include EGF, TGFA/TGF- alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF (PubMed: <a href="#">12297049</a> , PubMed: <a href="#">15611079</a> , PubMed: <a href="#">17909029</a> , PubMed: <a href="#">20837704</a> , PubMed: <a href="#">27153536</a> , PubMed: <a href="#">2790960</a> , PubMed: <a href="#">7679104</a> , PubMed: <a href="#">8144591</a> , PubMed: <a href="#">9419975</a> ). 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.

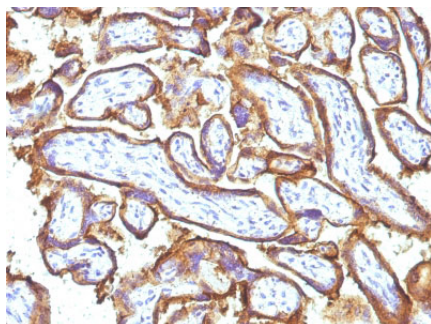
## Background

This MAb recognizes a protein of 170kDa, identified as EGFR. EGFR is type I receptor tyrosine kinase with sequence homology to erbB-1, -2, -3 -4 or HER-1, -2, -3 -4. It binds to Epidermal Growth Factor (EGF), Transforming Growth Factor- $\alpha$  (TGF- $\alpha$ ), Heparin-binding EGF (HB-EGF), amphiregulin,  $\beta$ cellulin and epiregulin. EGFR is overexpressed in tumors of breast, brain, bladder, lung, gastric, head & neck, esophagus, cervix, vulva, ovary, and endometrium. It is predominantly present in squamous cell carcinomas.

## References

Tungekar MF et. al. Journal of Clinical Pathology. 51: 583-587 (1998). |

## Images



Formalin-fixed, paraffin-embedded human Placenta stained with EGFR Monoclonal Antibody (31G7 + GFR1195).