

# EGFR/HER1

Catalog # PVGS1784

## Product Information

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<b>Primary Accession Species</b>	<a href="#">P00533</a> Human
<b>Sequence</b>	Leu25-Ser645
<b>Purity</b>	> 95% as determined by Bis-Tris PAGE > 95% as determined by HPLC
<b>Endotoxin Level</b>	Less than 1EU per $\mu$ g by the LAL method.
<b>Biological Activity</b>	Immobilized Human EGF, No Tag at 5 $\mu$ g/ml (100 $\mu$ l/Well) on the plate can bind EGFR/HER1 hFc Chimera, Human (Cat.No.: Z03919)
<b>Expression System</b>	HEK293
<b>Theoretical Molecular Weight</b>	95.2 kDa
<b>Formulation</b>	Lyophilized from a 0.22 $\mu$ m filtered solution in PBS, pH 7.4 .
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O more than 100 $\mu$ g/ml.
<b>Storage &amp; Stability</b>	Upon receiving, the product remains stable up to 6 months at -20 °C or below. Upon reconstitution, the product should be stable for 3 months at -80 °C. Avoid repeated freeze-thaw cycles.

## Additional Information

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<b>Gene ID</b>	1956
<b>Other Names</b>	Epidermal growth factor receptor, 2.7.10.1, Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, EGFR ( <a href="#">HGNC:3236</a> ), ERBB, ERBB1, HER1
<b>Target Background</b>	The epidermal growth factor receptor is a transmembrane protein that is a receptor for members of the epidermal growth factor family of extracellular protein ligands. The epidermal growth factor receptor is a member of the ErbB family of receptors, a subfamily of four closely related receptor tyrosine kinases: EGFR, HER2/neu, Her 3 and Her 4. Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses.

## Protein Information

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<b>Name</b>	EGFR ( <a href="#">HGNC:3236</a> )
<b>Synonyms</b>	ERBB, ERBB1, HER1
<b>Function</b>	<p>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:<a href="#">27153536</a>). May also activate the NF-kappa-B signaling cascade (PubMed:<a href="#">11116146</a>). 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:<a href="#">11602604</a>). Also phosphorylates MUC1 and increases its interaction with SRC and CTNNB1/beta-catenin (PubMed:<a href="#">11483589</a>). 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:<a href="#">20462955</a>). Plays a role in enhancing learning and memory performance (By similarity). Plays a role in mammalian pain signaling (long-lasting hypersensitivity) (By similarity).</p>
<b>Cellular Location</b>	<p>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:<a href="#">17909029</a>, PubMed:<a href="#">20674546</a>). Endocytosed upon activation by ligand (PubMed:<a href="#">17182860</a>, PubMed:<a href="#">17909029</a>, PubMed:<a href="#">27153536</a>, PubMed:<a href="#">2790960</a>). Colocalized with GPER1 in the nucleus of estrogen agonist-induced cancer-associated fibroblasts (CAF) (PubMed:<a href="#">20551055</a>)</p>
<b>Tissue Location</b>	Ubiquitously expressed. Isoform 2 is also expressed in ovarian cancers.

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