

EGFR Protein, Human (HEK293, Fc)

Cat. No.:	HY-P70608
Synonyms:	Epidermal growth factor receptor; Proto-oncogene c-ErbB-1; Receptor tyrosine-protein kinase erbB-1; EGFR; ERBB; ERBB1; HER1
Species:	Human
Source:	HEK293
Accession:	P00533/NP_001333870 (L25-S378)
Gene ID:	1956
Molecular Weight:	90-120 kDa

PROPERTIES

AA Sequence	<pre> L E E K K G N Y V V T D H G S C V R A C G A D S Y E M E E D G V R K C K K C E G P C R K V C N G I G I G E F K D S L S I N A T N I K H F K N C T S I S G D L H I L P V A F R G D S F T H T P P L D P Q E L D I L K T V K E I T G F L L I Q A W P E N R T D L H A F E N L E I I R G R T K Q H G Q F S L A V V S L N I T S L G L R S L K E I S D G D V I I S G N K N L C Y A N T I N W K K L F G T S G Q K T K I I S N R G E N S C K A T G Q V C H A L C S P E G C W G P E P R D C V S C R N V S R G R E C V D K C N L L E G E P R E F V E N S E C I Q C H P E C L P Q A M N I T C T G R G P D N C I Q C A H Y I D G P H C V K T C P A G V M G E N N T L V W K Y A D A G H V C H L C H P N C T Y G C T G P G L E G C P T N G P K I P S </pre>
Biological Activity	Immobilized Human EGF, No Tag at 2µg/ml (100µl/well) on the plate. Dose response curve for Human EGFR, hFc Tag with the EC ₅₀ of 2.4µg/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The EGFR protein, a receptor tyrosine kinase, binds ligands of the EGF family, including EGF, TGFA/TGF-alpha, AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG, and HBEGF/heparin-binding EGF. This interaction initiates cascades that convert extracellular signals into cellular responses, involving receptor homo- and/or heterodimerization and autophosphorylation on key cytoplasmic residues. The phosphorylated receptor recruits adapter proteins like GRB2, activating downstream signaling cascades, including RAS-RAF-MEK-ERK, PI3 kinase-AKT, PLCgamma-PKC, and STATs modules. Additionally, EGFR may trigger the NF-kappa-B signaling cascade and directly phosphorylate proteins like RGS16, activating its GTPase activity, potentially linking EGF receptor signaling to G protein-coupled receptor signaling. Furthermore, EGFR phosphorylates MUC1, enhancing its interaction with SRC and CTNNB1/beta-catenin. It positively regulates cell migration through interaction with CCDC88A/GIV, retaining EGFR at the cell membrane post-ligand stimulation, thereby promoting EGFR signaling and triggering cell migration. Beyond its canonical functions, EGFR contributes to enhancing learning and memory performance and plays a role in mammalian pain signaling, with isoform 2 potentially acting as an antagonist to EGF action.

Caution: Product has not been fully validated for medical applications. For research use only.

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