

EGFR Protein, Human (621a.a, HEK293, His)

Cat. No.:	HY-P70613
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 (L25-S645)
Gene ID:	1956
Molecular Weight:	90-120 kDa

PROPERTIES

AA Sequence

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L E E K K V C Q G T   S N K L T Q L G T F   E D H F L S L Q R M   F N N C E V V L G N
L E I T Y V Q R N Y   D L S F L K T I Q E   V A G Y V L I A L N   T V E R I P L E N L
Q I I R G N M Y Y E   N S Y A L A V L S N   Y D A N K T G L K E   L P M R N L Q E I L
H G A V R F S N N P   A L C N V E S I Q W   R D I V S S D F L S   N M S M D F Q N H L
G S C Q K C D P S C   P N G S C W G A G E   E N C Q K L T K I I   C A Q Q C S G R C R
G K S P S D C C H N   Q C A A G C T G P R   E S D C L V C R K F   R D E A T C K D T C
P P L M L Y N P T T   Y Q M D V N P E G K   Y S F G A T C V K K   C P R 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
  
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Biological Activity	Measured by its binding ability in a functional ELISA. Immobilized EGFR at 1 µg/mL can bind Anti- EGFR antibody, the ED ₅₀ of human EGFR protein is 13.1 ng/mL, corresponding to a specific activity is 7.63×10 ⁴ units/mg.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
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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