

Recombinant Human EGFR Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50276

Size: 10ug, 100ug

Protein Name: Epidermal growth factor receptor (EC 2.7.10.1) (Proto-oncogene c-ErbB-1)
(Receptor tyrosine-protein kinase erbB-1)

Synonym: EGFR, ERBB, ERBB1, HER1

UniProt ID: P00533

UniProt Link: www.uniprot.org/uniprotkb/P00533/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1210 AA

Molecular Weight: 134 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MRPSGTAGAALLALLAALCPASRALEEKKVCQGTSNKLTLQLGTFEDHFLSLQRMFNNCEVVLGNLEI
TYVQRNYDLSFLKTIQEVAGYVLIALNTVERIPLNLQIRGNMYEENSALAVLSNYDANKTGLKELP
MRNLQEILHGAVRFSNNPALCNVESIQWRDIVSSDFLSNMSMDFQNLHLGSCQKCDPSCPNGSCWG
AGEENCQKLTKIICAQQCSGRCRGKSPSDCCHNQCAAGCTGPRESCLVCRKFRDEATCKDTCPP
LMLYNPTTYQMDVNPEGKYSFGATCVKKCPRNYVVDHGSVCVRACGADSYEMEEDGVRKCKKCE
GPCRKVCNGIGIGEFKDSLSINATNIKHFKNCTSSISGDLHILPVAFRGDSFTHTPPLDPQELDILKTVKEI
TGFLLIQAWPENRTDLHAFENLEIIRGRTKQHGGQFSLAVVSLNITSLGLRSLKEISDGDVIISGNKNLCY
ANTINWKKLFGTSGQKTKIISNRGENSCKATGQVCHALCSPEGCWGPEPRDCVSCRNVSRGRECV
DKCNLLEGEPREFVENSECIQCHPECLPQAMNITCTGRGPDNCIQCAHYIDGPHCVKTCPAGVMGE
NNTLVWKYADAGHVCHLCHPNCTYGCTGPGLEGCPNTNGPKIPSIATGMVGALLLLVVALGIGLFMR
RRHIVRKRTLRLQLERELVEPLTPSGEAPNQALLRILKETEFKKIKVLGSGAFGTVYKGLWIPEGEKV
KIPVAIKELREATSPKANKEILDEAYVMASVDNPHVCRLLGICLTSTVQLITQLMPFGCLLDYVREHKD
NIGSQYLLNWCVQIAKGMNYLEDRLVHRDLAARNVLVKTPQHVKITDFGLAKLLGAEKEYHAEGG
KVPIKWMALLESILHRIYTHQSDVWSYGVTVWELMTFGSKPYDGIPASEISSILEKGERLPQPPICTIDV
YMIMVKCWMIDADSRPKFRELIIEFSKMARDPQRYLVIQGDERMHLPSPTDNMFYRALMDEEDMDDV
VDADEYLIPQQGFFSSPSTSRTPLSSLSATSNNSTVACIDRNLQSCPIKEDSFLQRYSSDPTGALT
EDSIDDFTFLPVPEYINQSVPKRPAGSVQNPVYHNQPLNPAPSRDPHYQDPHSTAVGNPEYLNVTQVP
TCVNSTFDSPAHWAAQKGSHQISLDNPDYQQDFFPKEAKPNGIFKGSTAENAEYLRVAPQSSEFIGA



3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Epidermal growth factor receptor (EC 2.7.10.1) (Proto-oncogene c-ErbB-1) (Receptor tyrosine-protein kinase erbB-1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Receptor tyrosine kinase binding ligands of the EGF family and activating several signaling cascades to convert extracellular cues into appropriate cellular responses (PubMed:10805725, PubMed:12297050, PubMed:12620237, PubMed:12873986, PubMed:15374980, PubMed:15590694, PubMed:17115032, PubMed:19560417, PubMed:21258366, PubMed:27153536, PubMed:2790960, PubMed:35538033, PubMed:9488479). Known ligands include EGF, TGFA/TGF- α , AREG, epigen/EPGN, BTC/betacellulin, epiregulin/EREG and HBEGF/heparin-binding EGF (PubMed:12297049, PubMed:15611079, PubMed:17909029, PubMed:20837704, PubMed:27153536, PubMed:2790960, PubMed:7679104, PubMed:8144591, PubMed:9419975). Ligand binding triggers receptor homo- and/or heterodimerization and autophosphorylation on key cytoplasmic residues (PubMed:10026169, PubMed:17349580, PubMed:18046415, PubMed:19560417, PubMed:19836242). The phosphorylated receptor recruits adapter proteins like GRB2 which in turn activates complex downstream signaling cascades (PubMed:10026169, PubMed:17349580, PubMed:18046415, PubMed:19560417, PubMed:19836242). 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). Acts as a positive regulator of cGAS-STING signaling by mediating tyrosine phosphorylation of STING1, promoting production of type I interferon (IFN- α and IFN- β), while inhibiting STING1 ability to regulate autophagy (PubMed:32926474). Plays a role in enhancing learning and memory performance (By similarity). Plays a role in mammalian pain signaling (long-lasting hypersensitivity) (By similarity).; [Isoform 2]: May act as an antagonist of EGF action.; (Microbial infection) Acts as a receptor for hepatitis C virus (HCV) in hepatocytes and facilitates its cell entry. Mediates HCV entry by promoting the formation of the CD81-CLDN1 receptor complexes that are essential for HCV entry and by enhancing membrane fusion of cells expressing HCV envelope glycoproteins.

Subcellular Localization: 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).; [Isoform 2]: Secreted.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.