

EGFR Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P75260
Synonyms:	Epidermal growth factor receptor; EGFR; ERBB; ERBB1; HER1
Species:	Cynomolgus
Source:	HEK293
Accession:	XP_005549616 (L25-S645)
Gene ID:	102138724
Molecular Weight:	Approximately 93.8 kDa

PROPERTIES

AA Sequence

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MRPSGTAGAA    LLALLAALCP    ASRALEEKKV    CQGTSNKLTQ
LGT FEDHFLS    LQRMFN NCEV    VLG NLEITYV    QRNYDLSFLK
TIQEVAGYVL    IALNTVERIP    LENLQIIRGN    MYYENSYALA
VLSNYDANKT    GLKELPMRNL    QEILHGAVRF    SNNPALCNVE
SIQWRDIVSS    EFLSNMSMDF    QNHLGSCQKC    DPSCPNGSCW
GAGEENCQKL    TKIICAQQCS    GRCRGKSPSD    CCHNQCAAGC
TGPRESDCLV    CRKFRDEATC    KDTCPPLMLY    NPTTYQMDVN
PEGKYSFGAT    CVKKCPRNYV    VTDHGSCVRA    CGADSYEMEE
DGV RKCKKCE    GPCRKVCNGI    GIGEFKDTLS    INATNIKHFK
NCTSISGDLH    ILPVAFRGDS    FTHTPPLDPQ    ELDILKTVKE
ITGFLLIQAW    PENRTDLHAF    ENLEIIRGRT    KQHGFSLAV
VSLNITSLGL    RSLKEISDGD    VIISGNKNLC    YANTINWKKL
FGTSSQKTKI    ISNRGENSCK    ATGQVCHALC    SPEGCWGPEP
RDCVSCQNVS    RGRECVDKCN    ILEGEPREFV    ENSECIQCHP
ECLPQVMNIT    CTGRGPDNCI    QCAHYIDGPH    CVKTCPAGVM
GENNTLVWKY    ADAGHVCHLC    HPNCTYGCTG    PGLEGCARNG
PKIPS
  
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Biological Activity

Measured by its binding ability in a functional ELISA.

1. Immobilized EGF Protein, Human, Recombinant (ECD, hFc Tag) at 2 µg/mL (100 µL/well) can bind EGFR Protein, Cynomolgus, Recombinant (ECD, His Tag), the EC₅₀ is 150-500 ng/mL.
2. Immobilized Anti-EGFR(MK)-IgG1 Antibody (Cetuximab) at 2 µg/mL (100 µL/well) can bind EGFR Protein, Cynomolgus, Recombinant (ECD, His Tag), the EC₅₀ is 2-8 ng/mL.

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.
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- α , 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, PLC γ -PKC, and STATs modules. Additionally, EGFR may trigger the NF- κ -B signaling cascade and directly phosphorylate proteins like RGS16, activating its GTPase activity, and 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^{[1][2][3][4][5]}.

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

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