Cytokines

Human Recombinant EGFR

Epidermal growth factor receptor

Catalog #	78171	10 µg
	78171.1	50 µg

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Product Description

Epidermal growth factor receptor (EGFR) is a type I transmembrane protein and receptor tyrosine kinase. EGFR has been shown to bind to some members of the EGF family ligands including EGF, amphiregulin, TGF-α, betacellulin, epiregulin, heparin-binding EGF, and neuregulin-2α. EGFR ligand binding induces homodimerization, as well as heterodimerization of EGFR with ErbB2 or with ligand-activated ErbB3 or ErbB4 (Schlessinger). Dimerization results in kinase activation, phosphorylation, and cell signaling, mediated primarily through MEK/ERF and AKT pathways (Navlonic et al.). EGFR signaling has been shown to regulate cell proliferation, differentiation, motility, and apoptosis. Elevated levels of EGFR have been correlated with carcinogenesis (Maihle et al.). Protein contains a His-residue tag at the carboxyl end of the polypeptide chain.

Product Information

Alternative Names:	Avian erythroblastic leukemia viral oncogene homolog, Epidermal growth factor receptor, Erb-b2 receptor tyrosine kinase 1, ERBB1, Proto-oncogene c-ErbB-1, Receptor tyrosine-protein kinase erbB-1, v-erb-b
Accession Number:	P00533
Amino Acid Sequence:	LEEKKVCQGT SNKLTQLGTF EDHFLSLQRM FNNCEVVLGN LEITYVQRNY DLSFLKTIQE VAGYVLIALN TVERIPLENL QIIRGNMYYE NSYALAVLSN YDANKTGLKE LPMRNLQEIL HGAVRFSNNP ALCNVESIQW RDIVSSDFLS NMSMDFQNHL GSCQKCDPSC PNGSCWGAGE ENCQKLTKII CAQQCSGRCR GKSPSDCCHN QCAAGCTGPR ESDCLVCRKF RDEATCKDTC PPLMLYNPTT YQMDVNPEGK YSFGATCVKK CPRNYVVTDH GSCVRACGAD SYEMEEDGVR KCKKCEGPCR KVCNGIGIGE FKDSLSINAT NIKHFKNCTS ISGDLHILPV AFRGDSFTHT PPLDPQELDI LKTVKEITGF LLIQAWPENR TDLHAFENLE IIRGRTKQHG QFSLAVVSLN ITSLGLRSLK EISDGDVIIS GNKNLCYANT INWKKLFGTS GQKTKIISNR GENSCKATGQ VCHALCSPEG CWGPEPRDCV SCRNVSRGRE CVDKCNLLEG EPREFVENSE CIQCHPECLP QAMNITCTGR GPDNCIQCAH YIDGPHCVKT CPAGVMGENN TLVWKYADAG HVCHLCHPNC TYGCTGPGLE GCPTNGPKIP SHHHHHH
Predicted Molecular Mass:	69.4 kDa
Species:	Human
Cross Reactivity:	Reported to be species-specific
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

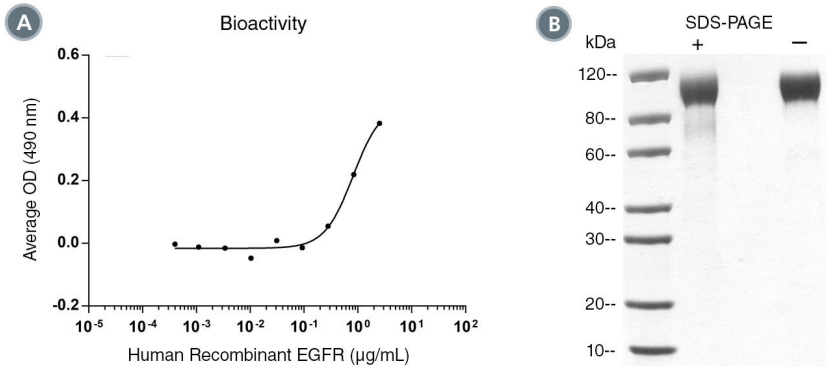
Specifications

Activity:	The specific activity is 1 x 10^3 units/mg (EC50 ≤ 1 µg/mL) as determined by a cell proliferation assay using BALB/c 3T3 cells in the presence of 25 pg/mL human EGF.
Purity:	≥ 95%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant EGFR was tested by its ability to promote the proliferation of BALB/c 3T3 cells in the presence of 25 pg/mL EGF. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 0.81 µg/mL.
(B) 2 µg of Human Recombinant EGFR was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant EGFR has a predicted molecular mass of 69.4 kDa.

Related Products

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References

Maihle NJ et al. (2002) EGF/ErbB receptor family in ovarian cancer. Cancer Treat Res 107: 247–58.
Navolanic PM et al. (2003) EGFR family signaling and its association with breast cancer development and resistance to chemotherapy (Review). Int J Oncol 22(2): 237–52.
Schlessinger J. (2000) Cell signaling by receptor tyrosine kinases. Cell 103(2): 211–25.