



Recombinant Human Soluble EGFR

20200617BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	S01-040
Size:	25 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>EGFR, ERBB1, HER1</i>
Synonyms:	Epidermal growth factor receptor, Proto-oncogene c-ErbB-1

Recombinant human soluble EGFR, fused to a C-terminal Strep-tag, is produced as a glycosylated monomeric protein with a mass of approximately 80kDa in insect cells.

The epidermal growth factor receptor (EGFR) subfamily of receptor tyrosine kinases comprises four members: EGFR (also known as HER1, ErbB1 or ErbB), ErbB2 (Neu, HER-2), ErbB3 (HER-3), and ErbB4 (HER-4). All family members are type I transmembrane glycoprotein that has an extracellular domain which contains two cysteine-rich domains separated by a spacer region that is involved in ligand-binding, and a cytoplasmic domain which has a membrane-proximal tyrosine kinase domain and a C-terminal tail with multiple tyrosine autophosphorylation sites. The human EGFR gene encodes a 1210 amino acid (aa) residue precursor with a 24aa putative signal peptide, a 621aa extracellular domain, a 23aa transmembrane domain, and a 542aa cytoplasmic domain. EGFR has been shown to bind a subset of the EGF family ligands, including EGF, amphiregulin, TGF-alpha, betacellulin, epiregulin, heparin-binding EGF and neuregulin-2 in the absence of a co-receptor. Ligand binding induces EGFR homodimerization as well as heterodimerization with ErbB2, resulting in kinase activation, tyrosine phosphorylation and cell signaling. EGFR can also be recruited to form heterodimers with the ligand-activated ErbB3 or ErbB4. EGFR signaling has been shown to regulate multiple biological functions including cell proliferation, differentiation, motility and apoptosis. In addition, EGFR signaling has also been shown to play a role in carcinogenesis.

References

1. Daly, R.J., Growth Factors, 16:255, 1999
2. Schlessinger, J., Cell. 103:211, 2000
3. Maihle, N.J. et al., Cancer Treat. Res. 107:247, 2002

Sequence

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LEEKKVCQGTSTNKLTLQGTGFEDHFLSLQRMFNCEVVLGNLEITYVQRNYDL  
SFLKTIQEVAGYVLIANTVERIPLLENLQIRGNMYEENSALAVLSNYDAN  
KTGLKELPMRNLQELHGAVERFSNNPALCNVESIQWRDIVSSDFLSNMSMDF  
QNHLSGSCQKCDPSCPNGSCWAGAGEENCQKLTKIICAQQCSGRCRKGKSPSDCC  
HNQCAAGCTGPRESDCLVCRKFRDEATCKDTCPPMLLYNPTTYQMDVNPGEK  
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CNGIGIGIEFKDLSINATNIKHFKNCTSIISGDLHILPVAFRGDSFTHTPPLD  
PQELDILKTVKEITGFLLIQAWPENRTDLHAFENLEIRGRTKQHGFSLAV  
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AGVMGENTLVWKYADAGHVCHLCHPNCTYGTGPGLEGCPNTPGPKIPSWSH  
PQFEK
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Database References

Protein RefSeq:	NP_005219.2
Uniprot ID:	P00533
mRNA RefSeq:	NM_005228.3

Product Specifications

Expressed in	Insect cells
Purity	> 90% by SDS-PAGE
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	629
MW:	~85 kDa

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted sEGFR should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sEGFR is soluble in water and most aqueous buffers and should be reconstituted in PBS or medium to a concentration not lower than 50µg/ml.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Measured by its ability to bind to immobilized recombinant human EGF in a functional ELISA.



Recombinant Human Soluble EGFR

Handling/Application

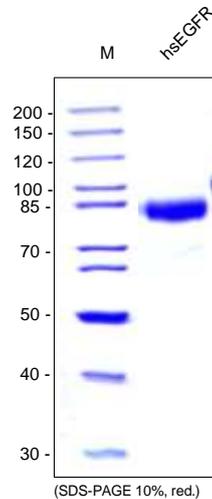


Fig. 1: SDS-PAGE analysis of recombinant human soluble EGFR from insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing conditions and stained with Coomassie Blue.

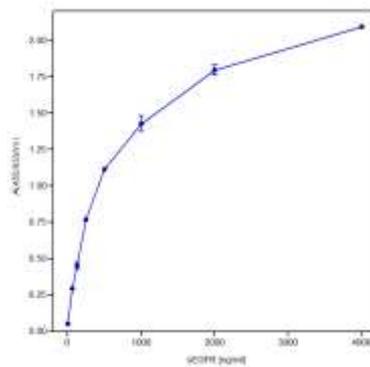


Fig. 2: Binding of sEGFR to recombinant human EGF in a functional ELISA. EGF [Cat# 100-009] was coated with 200ng/well to a 96-well plate and sEGFR was added with increasing concentrations up to 4000ng/ml. Detection was performed using a polyclonal rabbit anti-human EGFR [Cat# 102-PA06] (1 µg/ml, 100 µl/well) and a goat anti-rabbit Biotin conjugated secondary antibody.