



Recombinant Human soluble TIE-2/Fc Chimera

20131126BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	SFC-014
Size:	100 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	<i>tek</i>
Synonyms:	Endothelial tyrosine kinase, Tyrosine kinase with Ig and EGF homology domains-2

Recombinant human soluble TIE-2/Tek was fused with the Fc part of human IgG1. The recombinant mature sTIE-2/Fc is a disulfide-linked homodimeric protein. The sTIE-2/Fc monomers have a mass of approximately 125 kDa. The soluble receptor protein consists of the full extracellular domain (Met1-Val730).

TIE-1 (tyrosine kinase with Ig and EGF homology domains 1) and TIE-2/Tek comprise a receptor tyrosine kinase (RTK) subfamily with unique structural characteristics: two immunoglobulin-like domains flanking three epidermal growth factor (EGF)-like domains and followed by three fibronectin type III-like repeats in the extracellular region and a split tyrosine kinase domain in the cytoplasmic region.

These receptors are expressed primarily on endothelial and hematopoietic progenitor cells and play critical roles in angiogenesis, vasculogenesis and hematopoiesis. Human TIE-2 cDNA encodes a 1124 amino acid (aa) residue precursor protein with an 18 residue putative signal peptide, a 727 residue extracellular domain and a 354 residue cytoplasmic domain. Two ligands, angiopoietin-1 (Ang1) and angiopoietin-2 (Ang2), which bind TIE-2 with high affinity have been identified. Ang2 has been reported to act as an antagonist for Ang1. Mice engineered to overexpress Ang2 or to lack Ang1 or TIE-2 display similar angiogenic defects. The recombinant mature TIE-2-Fc is a disulfide-linked homodimeric protein. Human TIE-2-Fc monomer has a calculated molecular mass of approximately 105kDa.

As a result of glycosylation, the recombinant protein migrates as an approximately 125kDa protein in SDS-PAGE under reducing conditions.

References

- Scharpfenecker M et al, (2004) J Cell Science 118:771.
- Partanen J and DJ Dumont (1999) Curr Top Microbiol Immunol 237:159.
- Takakura N et al, (1998) Immunity 9:677.
- Procopio W et al, (1999) J Biol Chem 274:30196.
- Sato et al. (1993) PNAS 90:9355
- Gale et al., (1999) Gen Dev 13:1055

Sequence

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AMDLLILNSLPLVSDAETSLSLTCIASGWRPHEPITIGRDFEALMNHQDPLEV
TQDVTREWAKKVVWKRKASKINGAYFCBGRVGEAIRIRTMKMRQQASFLP
ATLTMTVDKGDVNIISFKKVLKEEDAVIYKNGSFIHVSVPHEVPDILEVHL
PHAQPQDAGVYSARYIGGNLFTSAFTRLIVRRCEAQKWGPECNHLCTACMNN
GVCHEDTGECICPPGFMGRTEKACELHTFGRCTCKERCSGQEGCKSYVFCPLP
DPYGCSCATGWKGLQCNEACHPGFYGPDKLRCSCNNGEMCDRFQGCCLCPG
WQGLQCEREGIQRMTPKIVDLPDHEVNSGKFNPICKASGWPLTNEEMTLV
KPDGTVLHPKDFNHTDHFVAIFTHRILPPDSGVVWCVSVNTVAGMVEKPFNP
ISVKVLPKPLNAPNVIDTGHNFVAINISSEPYFGDGPICKSKLLYKPVNHYE
AWQHIQVTNEIVTLNLYLEPRTEYELCVQLVRRGEGGEGHGPVRRFTTASIG
LPPRGLNLLPKSQTTLLNTWQPIFPSSSEDDFYVEVERRSVQKSDQQNIKVP
GNLTSVLLNHLNPREQYVVRARVNTKAQGEWSEDLTAWTLDSDILPPQENIK
ISNITHSAVISWTILDGYSISSITIRYKVGKNEQHVVDVKIKNATITQYQ
LKGLEPETAYQVDIFAENNISSNPAFASHELVTNRSDKTHCPCPPAPELLGG
PSVFLFPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT
KPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPMLDSDGSSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSP
GK
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Database References

Protein RefSeq:	NP_000450.2
Uniprot ID:	Q02763
mRNA RefSeq:	NM_000459.3

Product Specifications

Expressed in	Insect cells
Purity	> 90% by SDS-PAGE & silver stain
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	938
MW:	250 kDa Dimer
Result by N-terminal sequencing	AMDLLILNSL

Stability: Lyophilized samples are stable for greater than six months at -20°C to -70°C. Reconstituted sTIE-2/Fc should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sTIE-2/Fc 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: Not tested so far!

Handling/Application

1



Recombinant Human soluble TIE-2/Fc Chimera

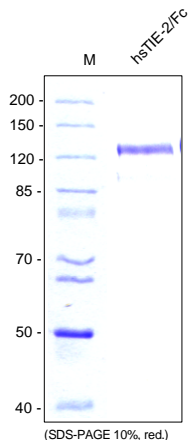


Fig. 1: SDS-PAGE analysis of recombinant human soluble TIE-2/Fc produced from insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.