



Recombinant Human soluble TIE-2/Fc Chimera

20131126BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

| | |
|---------------------------|----------------------------|
| Cat.-no: | SFC-013 |
| Size: | 20 µg |
| Lot. No.: | According to product label |
| Country of origin: | Germany |

Scientific Background

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|------------------|---|
| 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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AMDLLILNSLPLVSDAETSLSLTCIASGWRPHEPITIGRDFEALMNHQHPLEV
TQDVTREWAKKVVWKRKASKINGAYFCBGRVGEAIRIRTMKMRQQASFLP
ATLTMTVDKGDVNIISFKKVLIKEDDAVIYKNGSFIHSVPRHEVPDILEVHL
PHAQPQDAGVYSARYIGGNLFTSAFTRLIVRRCEAQKWGPECNHLCTACMNN
GVCHEDTGECICPPGFMGRTEKACELHTFGRCTCKERCSGQEGCKSYVFCPLP
DPYGCSCATGWKGLQCNEACHPGFYGPCKLRCSNNGEMCDRFQGCCLCSPG
WQGLQCEREIGIQRMTPKIVDLPDHIIEVNSGKFNPICKASGWPLPTNEEMTLV
KPDGTVLHPKDFNHTDHFVVAIFTIHRILPPDSGVVWCVSVNTVAGMVEKPFN
ISVKVLPKPLNAPNVIDTGHNFVAINISSEPYFGDGPICKSKLLYKPVNHYE
AWQHIQVTNEIVTLNLYEPRTEYELCVQLVRRGEGGEGHGPVRRFTTASIG
LPPRGLNLLPKSQTTLLNTWQPIFPSSDDFYVEVERRSVQKSDQQNIKVP
GNLTSVLLNHLPREQYVVRARVNTKAQGEWSEDLTAWTSLSDIILPPQENIK
ISNITHSAVISWTFILDGYSISSITIRYKVGKNEQHVVDVKIKNATITQYQ
LKGLEPETAYQVDIFAENNISSNPAFASHELVTNRSDKTHCPCPPAPELLGG
PSVFLFPKPKDTLMISRTPVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKT
KPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKT
TPPMLDSDSGFFLYSKLTVDKSRWQQGNVFCSSVMHEALHNHYTQKSLSLSP
GK
  
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Database References

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

Product Specifications

| | |
|--|-------------------|
| Expressed in | Insect cells |
| Purity | > 90% by SDS-PAGE |
| 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

ReliaTech GmbH



Recombinant Human soluble TIE-2/Fc Chimera

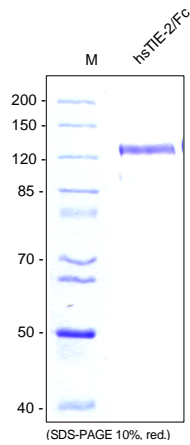


Fig. 1: SDS-PAGE analysis of recombinant human soluble TIE-2/Fc produced from insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.