Recombinant Human Soluble FGFR-1/Fc Chimera

FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no:	**SFC-015**
Size:	10 µg
Lot. No.:	According to product label
Country of origin:	Germany

Scientific Background

Gene:	*FGFR1*
Synonyms:	Fibroblast growth factor receptor 1, Fms-like tyrosine kinase 2, CD331

Recombinant human soluble FGFR-1 alpha (IIIc) was fused via a Xa cleavage site with the Fc part of human IgG_1. Human recombinant soluble FGFR-1 alpha (IIIc)/Fc is a disulfide-linked heterodimeric protein. In the reduced form the glycosylated subunits of sFGFR-1 alpha/human Fc chimera display a molecular mass of 80-85 kDa. Fibroblast Growth Factors (FGFs) comprise a family of at least eighteen structurally related proteins that are involved in a multitude of physiological and pathological cellular processes, including cell growth, differentiation, angiogenesis, wound healing and tumorigenesis. The biological activities of the FGFs are mediated by a family of type I transmembrane tyrosine kinases which undergo dimerization and autophosphorylation after ligand binding. Four distinct genes encoding closely related FGF receptors, FGFR-1 to -4 are known. Multiple forms of FGFR-1 to -3 are generated by alternative splicing of the mRNAs.
A frequent splicing event involving FGFR-1 and -2 results in receptors containing all three Ig domains, referred to as the alpha isoform, or only IgII and IgIII, referred to as the ß isoform. Only the alpha isoform has been identified for FGFR-3 and FGFR-4. Additional splicing events for FGFR-1 to -3, involving the C-terminal half of the IgIII domain encoded by two mutually exclusive alternative exons, generate FGF receptors with alternative IgIII domains (IIIb and IIIc). A IIIa isoform which is a secreted FGF binding protein containing only the N-terminal half of the IgIII domain plus some intron sequences has also been reported for FGFR-1. Mutations in FGFR-1 to -3 have been found in patients with birth defects involving craniosynostosis.

References

1. Eisemann et al, Oncogene 6:1195, 1991
2. Givol et al., FASEB J 6:3362, 1992

Sequence

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RPSPTLPEQAQPWGAPVEVESFLVHPGDLLQLRCRLRDDVQSINWLRDGVQL
AESNRTRITGEEVEVQDSVPADSGLYACVTSSPSGSDTTYFSVNVSDALPSS
EDDDDDDDSSSEEKETDNTKPNRMPVAPYWTSPEKMEKKLHAVPAAKTVKFK
CPSSGTPNPTLRWLKNGKEFKPDHRIGGYKVRYATWSIIMDSVVPSDKGNYT
CIVENEYGSINHTYQLDVVERSPHRPILQAGLPANKTVALGSNVEFMCKVYS
DPQPHIQWLKHIEVNGSKIGPDNLPYVQILKTAGVNTTDKEMEVLHLRNVSF
EDAGEYTCLAGNSIGLSHHSAWLTVLEALEERPAVMTSPLYLEDPRRASIEG
RGDPEEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL
NGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT
CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHEALHNHYTQKSLSLSPGK
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Database References

Protein RefSeq:	NP_075598
Uniprot ID:	P11362
mRNA RefSeq:	NM_023110

Product Specifications

Expressed in	Insect cells
Purity	> 90% by SDS-PAGE & silver stain
Buffer	PBS
Stabilizer	None
Formulation	lyophilized
Length (aa):	601
MW:	~170 kDa (Dimer)

Stability: Lyophilized samples are stable for greater than six months at –20°C to –70°C. Reconstituted sFGFR-1/Fc should be stored in working aliquots at -20°C.

Reconstitution: The lyophilized sFGFR-1/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: Determined by its ability to inhibit human FGF basic-dependent proliferation on HUVE cells.

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Recombinant Human Soluble FGFR-1/Fc Chimera

Handling/Application

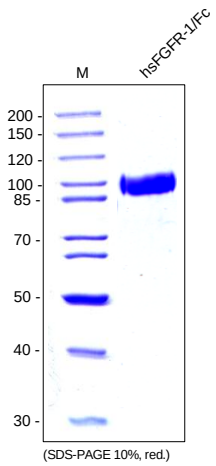

Fig. 1: SDS-PAGE analysis of recombinant human soluble FGFR-1/Fc produced in insect cells. Sample was loaded in 10% SDS-polyacrylamide gel under reducing condition and stained with Coomassie blue.

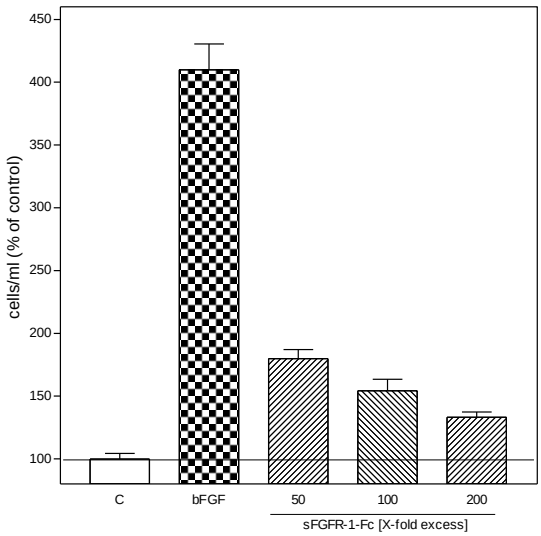

Figure 2. Inhibition of the basic FGF-induced proliferation of HUVE cells by recombinant human sFGFR-1-Fc. HUVECs were stimulated with 10 ng/ml bFGF, the soluble receptor was added with a 50 - 200X excess.

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