



# Recombinant Human Soluble FGFR-1/Fc Chimera

20210614BB



**FOR RESEARCH ONLY! NOT FOR HUMAN USE!**

<b>Cat.-no:</b>	<b>SFC-016</b>
<b>Size:</b>	50 µg
<b>Lot. No.:</b>	According to product label
<b>Country of origin:</b>	Germany

## Scientific Background

<b>Gene:</b>	<i>FGFR1</i>
<b>Synonyms:</b>	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<sub>1</sub>. 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 beta 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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RPSFTLPEQAQPWGAPEVEVESFLVHPGDLQLRCLRDRDDVQSSINWLRDGVQL
AESNRTRITGEEVEVQDSVPADSGLYACVTSSPSGSDTTYFSVNVSDALPSS
EDDDDDSSSEEKETDNTKPNRMPVAPYWTSPKMEKKLHAVPAAKTVKFK
CPSSGTPNPTLRWLKNGKEFKPDHRIGGYKVRATWSIIMDSVVPDKGNYT
CIVENEYGSINHTYQLDVVERSPhRPIQLAGLPANKTVALGNSVEFMCKVYS
DPQPHIQWLKHEVNGSKIGPDNLPHYVQILKTAGVNTTDKEMEVLHLRNVSE
EDAGEYTCLAGNSIGLSHHSAWLTVLEALEERPAVMTSPYLEDPRRASIEG
RGDPEEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWL
NGKEYKCKVSNKALPAPIEKTI SKAKGQPREPQVYTLPPSRDELTKNQVSLT
CLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMEALHNYTQKSLSLSPGK
    
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## Database References

<b>Protein RefSeq:</b>	NP_075598
<b>Uniprot ID:</b>	P11362
<b>mRNA RefSeq:</b>	NM_023110

## Product Specifications

<b>Expressed in</b>	Insect cells
<b>Purity</b>	> 90% by SDS-PAGE & silver stain
<b>Buffer</b>	PBS
<b>Stabilizer</b>	None
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	601
<b>MW:</b>	~67 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.



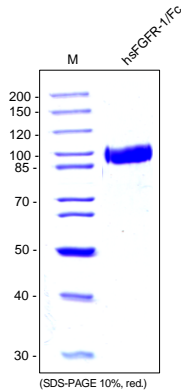
**AVOID REPEATED FREEZE AND THAW CYCLES!**

**Biological Activity:** Determined by its ability to inhibit human FGF basic-dependent proliferation on HUVE cells.

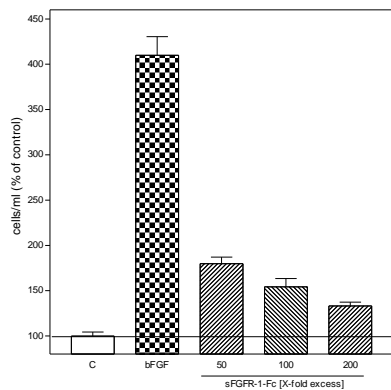


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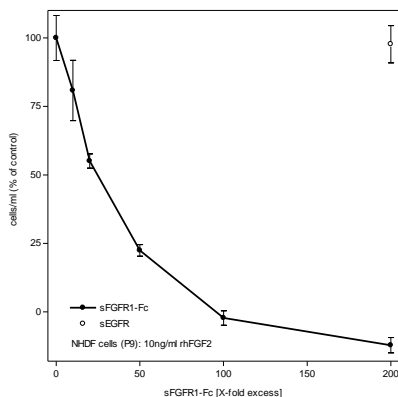
## Handling/Application



**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 HUVECs by recombinant human sFGFR-1-Fc. HUVECs were stimulated with 10 ng/ml bFGF, the soluble receptor was added with a 50 - 200X excess.



**Figure 3.** Inhibition of the basic FGF-induced proliferation of NHDF cells by recombinant human sFGFR-1-Fc. NHDF cells were stimulated with 10 ng/ml bFGF, the soluble receptor was added with a 50 - 200X excess.