Human FGFR1 / CD331 Protein (His & Fc Tag)

Catalog Number: **10616-H03H**

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

bFGF-R-1; BFGFR; CD331; CEK; FGFBR; FGFR-1; FLG; FLT-2; FLT2; HBGFR; HH2; HRTFDS; KAL2; N-SAM; OGD

Protein Construction:

A DNA sequence encoding the human FGFR1 (NP_075594.1) extracellular domain (Met 1-Glu 285) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Measured by its ability to inhibit FGF-acidic dependent proliferation of Balb/c 3T3 mouse fibroblasts. The ED_{50} for this effect is typically 4-20 ng/mL

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Arg 22

Molecular Mass:

The recombinant human FGFR1/Fc is a disulfide-linked homodimer after removal of the signal peptide. The reduced monomer consists of 512 amino acids and has a predicted molecular mass of 57.5 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhFGFR1/Fc monomer is approximately 100-110 kDa due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

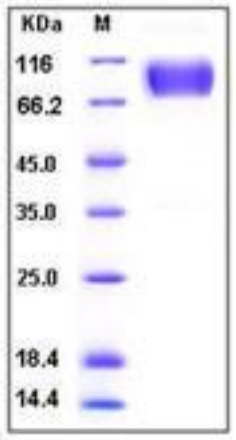
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

FGFR1, also known as CD331, belongs to the fibroblast growth factor receptor subfamily where amino acid sequence is highly conserved between members and throughout evolution. FGFR family members differ from one another in their ligand affinities and tissue distribution. Fibroblast growth factors (FGFs) (FGF1 - 10 and 16 - 23) are mitogenic signaling molecules that have roles in angiogenesis, wound healing, cell migration, neural outgrowth and embryonic development. FGFs bind heparan sulfate glycosaminoglycans, which facilitates dimerization (activation) of FGF receptors. FGFR1 is a full-length representative protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of FGFR1 interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. This particular family member binds both acidic and basic fibroblast growth factors and is involved in limb induction. CD331 can be detected in astrocytoma, neuroblastoma and adrenal cortex cell lines. Some isoforms are detected in foreskin fibroblast cell lines, however isoform 17, isoform 18 and isoform 19 are not detected in these cells. Defects in FGFR1 are a cause of Pfeiffer syndrome , idiopathic hypogonadotropic hypogonadism, Kallmann syndrome type 2, osteoglophonic dysplasia and trigonocephaly non-syndromic.

References

1.Schlessinger J, *et al.* (2000) Crystal structure of a ternary FGF-FGFR-heparin complex reveals a dual role for heparin in FGFR binding and dimerization. Mol Cell. 6(3):743-50. 2.Dodé C, *et al.* (2007) Novel FGFR1 sequence variants in Kallmann syndrome, and genetic evidence that the FGFR1c isoform is required in olfactory bulb and palate morphogenesis. Hum Mutat. 28(1): 97-8. 3.Kim HG, *et al.* (2005) Hypogonadotropic hypogonadism and cleft lip and palate caused by a balanced translocation producing haploinsufficiency for FGFR1. J Med Genet. 42(8):666-72.