

# Human FGFR1 beta (IIIb) Protein (His Tag)

Catalog Number: 16480-H08H



## General Information

### Gene Name Synonym:

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

### Protein Construction:

A DNA sequence encoding the human FGFR1 beta (IIIb) (NP\_075594.1) (Met1-Lys221 and Ala270-Glu285 linked by the FGFR1 IIIb Ig domain (AAB19502.1) (His1-Pro47)) was expressed with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE.

### Endotoxin:

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

**Predicted N terminal:** Arg 22

### Molecular Mass:

The recombinant human FGFR1 beta (IIIb) consists of 274 amino acids and predicts a molecular mass of 30.8 kDa. As a result of glycosylation, it migrates as an approximately 45-60 kDa band in SDS-PAGE under reducing conditions.

### 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

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

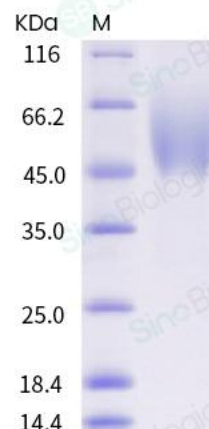
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**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 - 1 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

- 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.
- 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.
- 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.

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**Tel: +86-400-890-9989 (Global), +1-215-583-7898 (USA), +49(0)6196 9678656 (Europe)**

**Website: <http://www.sinobiological.com>**