Daresbury Proteins

# Product description



**Name:** **Recombinant Human Fibroblast Growth Factor Receptor 3, FGFR3b**

**Synonyms:** Fibroblast Growth Factor Receptor 3 (FGFR3)

**Species:** Human

**Source:** HEK293

**Amino Acids:** 23-377

**Tag:** 10xHis at the C terminus.

**Predicted Molecular Weight:** 41.2 kDa

**Protein ID:** P22607-2

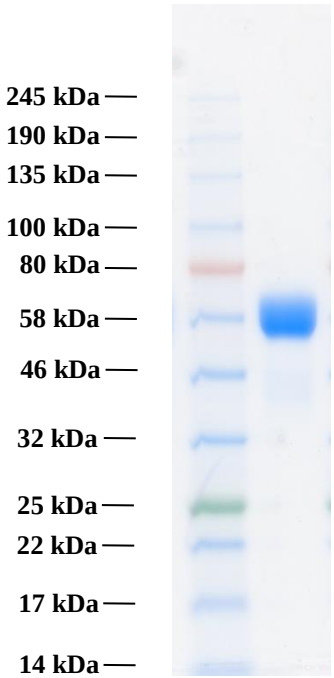
**Sequence:**

**ESLGTEQRVVGRAAEVPGPEPGQQEQLVFGSGDAVELSCPPPGGGPMGPTVWVKDGTGLVPSERVLVGPQRLQVLNASHEDSG**
**AYSCRQRLTQRVLCHFSVRVTDAPSSGDDEDGEDEAEDTGVDTGAPYWTRPERMDKKLLAVPAANTVRFRCPAAGNPTPSISW**
**LKNGREFRGEHRIGGIKLRHQQWSLVMESVVPSDRGNYTCVVENKFGSIRQTYTLDVLERSPHRPILQAGLPANQTAVLGSDV**
**EFHCKVYSDAQPHIQWLKHVEVNGSKVGPDGTPYVTVLKSWISESVEADVRLRLANVSERDGGEYLCRATNFIGVAEKAFWLS**
**VHGPRAAEEELVEADEAGSVYAG**GSGHHHHHHHHHH

# Product specifications

**Estimated Molecular Weight, SDS-PAGE:** ≈55 kDa

**Grade & Purity:** >95% as estimated by SDS-PAGE stained with Instant Blue Stain (Expedeon).




**Endotoxins:** Less than 0.1 ng/µg (1 IEU/µg), as measured by LAL method.

**Formulation:** PBS 20% Glycerol

## Shipping

Product is shipped either on dry or wet ice. Upon receipt, store at -20°C to -70°C.

## Product application and Storage

**Storage:** The protein should be stored at -20°C to -70°C preferably in small aliquots to avoid repeated freeze-thaw cycles.

**Stability:** At least 12 months at -20°C to -70°C and at least 1 month at 2°C to 8°C.

**Application Note: For research purposes only. Not for use in humans.**

## Background Information

It is a single-pass transmembrane protein composed of three extracellular Ig-like domains, a transmembrane region, and a tyrosine kinase domain (1, 2). Tyrosine-protein kinase that acts as cell-surface receptor for fibroblast growth factors and plays an essential role in the regulation of cell proliferation, differentiation and apoptosis (3, 4, 5, 6). Plays an essential role in the regulation of chondrocyte differentiation, proliferation and apoptosis, and is required for normal skeleton development. Regulates both osteogenesis and postnatal bone mineralization by osteoblasts. Promotes apoptosis in chondrocytes, but can also promote cancer cell proliferation. Required for normal development of the inner ear. Phosphorylates PLCG1, CBL and FRS2. Ligand binding leads to the activation of several signalling cascades (6). Activation of PLCG1 leads to the production of the cellular signalling molecules diacylglycerol and inositol 1,4,5-trisphosphate. Phosphorylation of FRS2 triggers recruitment of GRB2, GAB1, PIK3R1 and SOS1, and mediates activation of RAS, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signalling pathway, as well as of the AKT1 signalling pathway (7, 8, 9). Plays a role in the regulation of vitamin D metabolism. Mutations that lead to constitutive kinase activation or impair normal FGFR3 maturation, internalization and degradation lead to aberrant signalling (10, 11). Over-expressed or constitutively activated FGFR3 promotes activation of PTPN11/SHP2, STAT1, STAT5A and STAT5B. Secreted isoform 3 retains its capacity to bind FGF1 and FGF2 and hence may interfere with FGF signalling.

FGFR3b is an alternatively spliced isoform representing epithelial variant of FGFR3.

**References:**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11. Salazar et al. (2009) *Hum. Mol. Genet.*, 1951-1961