



Daresbury Proteins

## Product description

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**Name:** Recombinant Human Fibroblast Growth Factor Receptor 2, FGFR2b

**Synonyms:** Keratinocyte growth factor receptor (KGRF)

**Species:** Human

**Source:** HEK293

**Amino Acids:** 22-378

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

**Predicted Molecular Weight:** 41.2 kDa

**Protein ID:** P21802-3

### **Sequence:**

RPSFSLVEDTTLEPEEPPTKYQISQPEVYVAAPGESLEVRCLLKDAAVISWTKDGVHLGPNNRTVLI GEYLQIKGATPRDSGL  
YACTASRTVDSETWYFMVNVTDAISSGDEDDTDGAEDFVSENSNNKRAPYWTNTEKMEKRLHAVPAANTVKFRCPAGGNPMP  
TMRWLKNGKEFKQEHRIGGYKVRNQHWLIMESVVP SDKGNYTCV VENEYGSINHTYHLDVVERS PHRPILQAGLPANASTVV  
GGDVEFVCKVYSDAQPHIQWIKHVEKNGSKYGPDGLPYLKV LKHSGINSSNAEVLALFNVTEADAGEYICKVSNYIGQANQSA  
WLTVLPKQQAPGREKEITASPDYLEGSGHHHHHHHHHHH

## Product specifications

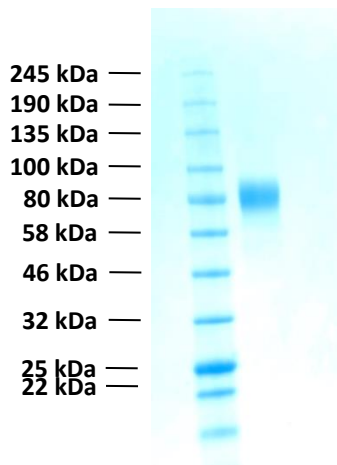
**Estimated Molecular Weight, SDS-PAGE:** ≈80 kDa

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



**Endotoxins:** Less than 0.1 ng/ $\mu$ g (1 IEU/ $\mu$ g), as measured by LAL method.

**Formulation:** PBS 20% Glycerol

## **Shipping**

Product is shipped either on dry or wet ice. Upon receipt, store at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$ .

## **Product application and Storage**

**Storage:** The protein should be stored at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  preferably in small aliquots to avoid repeated freeze-thaw cycles.

**Stability:** At least 12 months at  $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  and at least 1 month at  $2^{\circ}\text{C}$  to  $8^{\circ}\text{C}$ .

**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, migration and apoptosis, and in the regulation of embryonic development (3, 4, 5, 6). Required for normal embryonic patterning, trophoblast function, limb bud development, lung morphogenesis, osteogenesis and skin development. Plays an essential role in the regulation of osteoblast differentiation, proliferation and apoptosis, and is required for normal skeleton development. Promotes cell proliferation in keratinocytes and immature osteoblasts, but promotes apoptosis in differentiated osteoblasts. Phosphorylates PLCG1, FRS2 and PAK4 (7). Ligand binding leads to the activation of several signalling cascades. 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 (8). FGFR2 signalling is down-regulated by ubiquitination, internalization and degradation. Mutations that lead to constitutive kinase activation or impair normal FGFR2 maturation, internalization and degradation lead to aberrant signalling (9). Over-expressed FGFR2 promotes activation of STAT1.

FGFR2b is an alternatively spliced isoform representing epithelial variant of FGFR2.

### **References:**

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9. Katoh. (2009) *J. Invest. Dermatol.*, 1861-1867