

Human FGF-4

Human Fibroblast Growth Factor-4, recombinant

Synonyms: FGF4, HST, KFGF, HST-1, HSTF1, K-FGF, HBGF-4.

PLEASE NOTE: ALWAYS CENTRIFUGE VIAL BEFORE OPENING

Size	Order #	Lot #	Expiry Date
10 µg	1372.950.010		
25 µg	1372.950.025		
50 µg	1372.950.050		
100 µg	1372.950.100		
500 µg	1372.950.500		
1 mg	1372.950.199		

Please enquire for bulk quantities and other vial sizes

Description

Recombinant human FGF-4 (fibroblast growth factor 4), also known as K-FGF (Kaposi's sarcoma associated FGF), is a 25 kDa secreted, is a heparin binding Protein consisting of 177 amino acids with a molecular weight of 19,7 KDa. Human FGF-4 is a member of the FGF family, the cDNA encodes 206 amino acids (aa) with a 33 aa signal sequence and a 173 aa mature protein with an FGF homology domain that contains a heparin binding region near the C terminus. Mature human FGF-4 shares a high aa identity with mouse, rat, canine and bovine FGF-4, respectively. The expression of FGF-4 and its receptors, FGF-R1c, -R2c, -R3c and R4, is spatially and temporally regulated during embryonic development. Its expression in the mouse trophoblast inner cell mass promotes expression of FGF-R2, and is required for maintenance of the trophectoderm and primitive endoderm. FGF-4 is proposed to play a physiologically relevant role in human embryonic stem cell self-renewal. It promotes stem cell proliferation, but may also aid differentiation depending on context and concentration, and is often included in embryonic stem cell media in-vitro. FGF-4 is mitogenic for fibroblasts and endothelial cells in-vitro and has autocrine transforming potential. It is a potent angiogenesis promoter in-vivo and has been investigated as therapy for coronary artery disease.

- **Biological Activity** $\geq 2.0 \times 10^5$ units/mg
- **Source** *E. Coli*
- **Purity** $\geq 95\%$ (SDS-PAGE)
- **Endotoxin level** ≤ 0.1 ng/µg of protein (≤ 1 EU/µg)
- **Stabilizer** None
- **Buffer** PBS*
- **Physical state** Sterile filtered, lyophilized

Biological Activity

The ED₅₀ of ≤ 5 ng/ml was determined by the induction of proliferation in NHDF cells (Normal Human Dermal Fibroblasts). It corresponds to a specific activity of $\geq 2.0 \times 10^5$ U/mg. This corresponds to an activity of $\geq 1.0 \times 10^5$ U/mg in an assay with Balb/c 3T3 cells.

Reconstitution

We recommend a quick spin followed by reconstitution in water to a concentration of 0.1-1.0mg/ml. This solution can then be diluted into other aqueous buffers and stored at 4 °C for 1 week or -20 °C for future use.

Stability

The lyophilized protein is stable at room temperature for up to three weeks and at least until the expiry date if stored below -20°C. Reconstituted human FGF-4 should be stored in suitable aliquots at $\leq -20^\circ\text{C}$. **Please avoid repeated freeze-thaw cycles.**

*The Buffer may vary depending on the Lot #. Please contact our technical support if you have specific requirements.

Amino Acid Sequence

APTAPNGTLE AELERRWESL VALSLARLPV AAQPKEAAVQ SGAGDYLLGI KRLRRLYCNV GIGFHLQALP
DGRIGGAHAD TRDSLLELSP VERGVVSIFG VASRFFVAMS SKGKLYGSPF FTDECTFKEI LLPNNYNAYE
SYKYPGMFIA LSKNGKTKKG NRVSPMTKVT HFLPRL

SDS-Page and Biological Activity of recombinant Human FGF-4

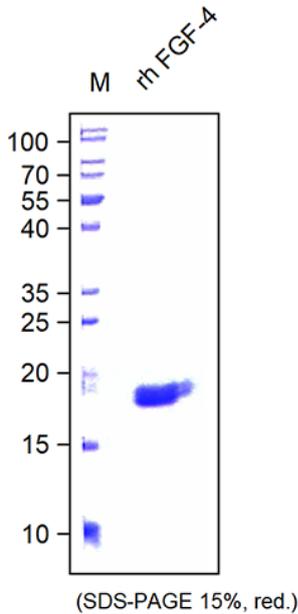


Fig. 1: SDS-PAGE analysis of recombinant human FGF-4. Sample was loaded in 15% SDS-polyacrylamide gel under reducing conditions and stained with Coomassie blue.

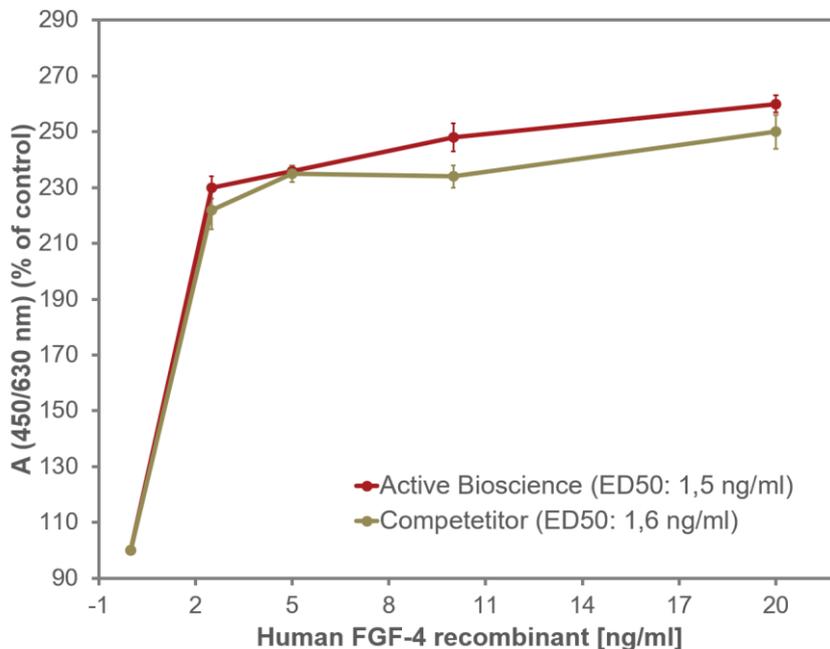


Fig. 2: FGF-4 induced proliferation of NHDF cells. The cells were stimulated using recombinant human FGF-4. Values are the means (\pm SD) of triplicate determinations and expressed as percentage of control.

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Usage: For research use only. Not for use in diagnostic or therapeutic procedures. Not for human use.

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