RP01042

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Recombinant Human FGF-2/bFGF Protein

Catalog No.: RP01042 Recombinant 2 Publications

Sequence Information

Species	Gene ID	Swiss Prot
<I>E. coli</I>	2247	P09038-4

Tags
No tag

Synonyms
BFGF; FGF-2; FGFB; HBGF-2;FGF2;FGF-2;FGFB;HBGF-2;Basic FGF; BFGF; fibroblast growth factor 2

Product Information

Source	Purification
<I>E. coli</I>	> 95% by SDS-PAGE.

Endotoxin
< 1.0 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of 20mM Tris，150 mM NaCl,pH7.5.Contact us for customized product form or formulation.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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Background

This protein is a member of the fibroblast growth factor (FGF) family. FGF family members bind heparin and possess broad mitogenic and angiogenic activities. This protein has been implicated in diverse biological processes, such as limb and nervous system development, wound healing, and tumor growth. The mRNA for this gene contains multiple polyadenylation sites, and is alternatively translated from non-AUG (CUG) and AUG initiation codons, resulting in five different isoforms with distinct properties. The CUG-initiated isoforms are localized in the nucleus and are responsible for the intracrine effect, whereas, the AUG-initiated form is mostly cytosolic and is responsible for the paracrine and autocrine effects of this FGF.

Basic Information

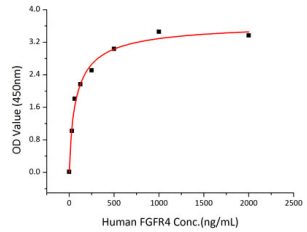
Description
Recombinant Human FGF-2/bFGF Protein is produced by <I>E. coli</I> expression system. The target protein is expressed with sequence (Pro143-Ser288) of human FGF2 (Accession #NP_001997.5).

Bio-Activity
1.Measured by its binding ability in a functional ELISA. Immobilized Human FGF2 at 0.5 μg/mL (100 μL/well) can bind Human GPC3 with a linear range of 7-20 ng/mL.|2.Measured in a cell proliferation assay using BALB/c 3T3 mouse embryonic fibroblasts. The ED₅₀ for this effect is typically 0.635-2.54 ng/mL, corresponding to a specific activity of 3.94 × 10⁵~1.57 × 10⁶ units/mg.|3.Recombinant Human VEGFA(40 ng/mL, Cat. RP01162) and bFGF(50 ng/mL) induce mesoderm cells to differentiate into hematopoietic stem and progenitor cells. After 4 days induction, pebbly-like CD43+ hematopoietic stem and progenitor cells appeared in the hematogenic endothelium.|4.The primary neural stem cells were cultured with 20 ng/mL bFGF and observed every 24 h. Results showed that the particle size of the suspended neural stem cells gradually increased.

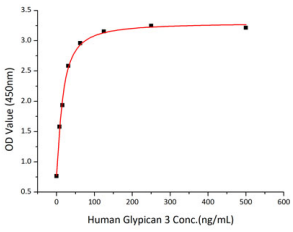
Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Validation Data

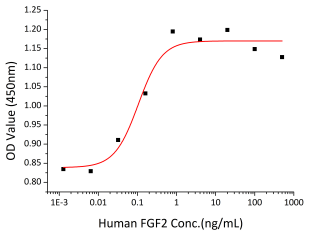
Recombinant Human FGF-2/bFGF Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



Immobilized recombinant human FGF2 at 1 μg/mL (100 μL/well) can bind recombinant human FGFR4 with a linear range of 30-125 ng/mL.



Immobilized Human FGF2 at 0.5 μg/mL (100 μL/well) can bind Human GPC3 with a linear range of 7-20ng/mL.



Recombinant Human FGF-2 promotes the proliferation of Balb3T3 mouse embryonic fibroblasts cells. The ED_{50} for this effect is 0.05-0.21 ng/mL, corresponding to a specific activity of 4.76×10^{6}~2.00×10^{7} units/mg.