

Recombinant Human Fibroblast Growth Factor 21

Information

Gene ID	26291
Accession #	Q9NSA1
Alternate Names	
Source	Escherichia coli.
M.Wt	Approximately 19.4 kDa, a single non-glycosylated polypeptide chain containing 181 amino acids.
AA Sequence	HPIPDSSPLL QFGGQVRQRY LYTDDAQTE AHLEIREDT VGGAADQSPE SLLQLKALKP GVIQILGVKT SRFLCQRPDG ALYGSLHFDPE EACSFRELLL EDGYNVYQSE AHGLPLHLPG NKSPHRDPAP RGPAPFLPLP GLPPALPEPP GILAPQPPDV GSSDPLSMVG PSQGRSPSYA S
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED as determined by thymidine uptake assay using FGF-receptors transfected BaF3 cells is less than 0.5 µg/ml, corresponding to a specific activity of > 2.0 × 10 IU/mg in the presence of 5 µg/ml of rMuKlotho-β and 10 µg/ml of heparin.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5µg	100µg	500µg
Recombinant Human Fibroblast Growth Factor 21	5µg	100µg	500µg

Use a manual defrost freezer and avoid repeated freeze-thaw cycles

- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 96 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rHuFGF-21 as determined by LAL method.

Description

Fibroblast growth factor-21 (FGF-21) belongs to the large FGF family which is encoded by the FGF-21 gene and it is specifically induced by HMGCS2 activity. All FGF family members are heparin binding growth factors with a core 120 amino acid (a.a.) FGF domain that allows for a common tertiary structure and they are involved in a variety of biological processes including embryonic development, cell growth, morphogenesis, tissue repair, tumor growth and invasion. FGF-21 stimulates glucose uptake in differentiated adipocytes via the induction of glucose transporter SLC2A1/GLUT1 expression (but not SLC2A4/GLUT4 expression) and the activity depends on the presence of KLB. FGF-21 contains a 28 a.a. signal sequence and a 181 a.a. mature region but show limited binding to heparin. In addition, Mature human FGF-21 respectively shows 81 % a.a. identity to murine and rat FGF-21, and is known to be active on murine cells.

Reference

1. Nishimura T, Nakatake Y, Konishi M, et al. 2000. Biochim Biophys Acta. 1492:203-6
2. Kharitononkov A, Shiyanova TL, Koester A, et al. 2005. J Clin Invest. 115:1627-35
3. Kurosu H, Choi M, Ogawa Y, et al. 2007. J Biol Chem. 282:26687-95

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