



Fibroblast Growth Factor-19, His Tag, human recombinant (rHuFGF-19-His)

Catalog No: 94912
Lot No: XXXXX
Source: *E. coli*
Synonyms: Fibroblast growth factor 19, FGF-19

Background

The FGFs are a family of more than 20 small (~17–26 kDa) secreted peptides. The initial characterization of these proteins focused on their ability to stimulate fibroblast proliferation. This mitogenic activity was mediated through FGF receptors (FGFRs) 1, 2, or 3. A fourth closely related tyrosine kinase receptor (FGFR4) was able to bind the FGFs but did not lead to a mitogenic response. FGFs modulate cellular activity via at least 5 distinct subfamilies of high-affinity FGF receptors (FGFRs): FGFR-1, -2, -3, and -4, all with intrinsic tyrosine kinase activity and, except for FGFR-4, multiple splice isoforms, and FGFR-5, which lacks an intracellular kinase domain. There is growing evidence that FGFRs can be important for regulation of glucose and lipid homeostasis. The overexpression of a dominant negative form of FGFR-1 in β cells leads to diabetes in mice, which thus implies that proper FGF signaling is required for normal β cell function and glycemia maintenance. FGFR-2 appears to be a key molecule during pancreatic development. Moreover, FGFR-4 has been implicated in cholesterol metabolism and bile acid synthesis. FGF-19, has been shown to cause resistance to diet-induced obesity and insulin desensitization and to improve insulin, glucose, and lipid profiles in diabetic rodents. Since these effects, at least in part, are mediated through the observed changes in metabolic rates, FGF-19 can be considered as a regulator of energy expenditure. FGF-21 is preferentially expressed in liver, but an exact knowledge of FGF-21 bioactivity and its mode of action have been lacking to date. FGF-21 is a potent activator of glucose uptake on adipocytes, protects animals from diet-induced obesity when overexpressed in transgenic mice, and lowers blood glucose and triglyceride levels when therapeutically administered to diabetic rodents.

Description

Fibroblast Growth Factor -19 human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 206 amino acids and having a molecular mass of 23 kDa. The amino acid sequence of the human recombinant FGF19 is 100% homologous to the amino acid sequence of the human FGF19 without signal sequence and contains His Tag at N-terminus. FGF-19 is purified by proprietary chromatographic techniques.

Physical Appearance

Filtered white lyophilized powder.

Formulation

Filtered (0.4 μ m) and lyophilized from 0.5 mg/ml in 20 mM Tris, 20 mM NaCl, pH 7.5.

Solubility

Add deionized water to a working concentration approximately 0.5 mg/ml and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by appropriate sterile filter before using it in the cell culture.

Stability

Lyophilized FGF-19, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Fibroblast Growth Factor-19 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 95.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

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Amino Acid Sequence

MRGSHHHHHH GMASLAFSDA GPHVHYGWGD PIRLRHLYTS GPHGLSSCFL RIRADGVVDC ARGQSAHSLL EIKAVALRTV
AIKGVHVSRY LCMGADGKMQ GLLQYSEEDC AFEEEEIRPDG YNVYRSEKHR LPVSLSSAKQ RQLYKNRGFL PLSHFLPMLP
MVPEEPEDLR GHLESDMFSS PLETDSMDPF GLVTGLEAVR SPSFEK

Usage

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