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**Product Data Sheet**


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Product Name: FGF 19 Human, His  
 Cat. No.: GP20243  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Fibroblast growth factor 19; FGF-19.		
Amino Acid Sequence	MRGSHHHHHH GMASLAFSDA GPHVHYGWGD PIRLRHLYTS GPHGLSSCFL RIRADGVVDC ARGQSAHSLLEIKAVLR TV AIKGVH SVRY LCMGADGKMQ GLLQYSEEDC AFEEEEIRPDG YNVYRSEKHR LPVSLSSAKQ RQLYKNRGFL PLSHFLPMLP MVPEEPEDLR GHLES DMFSS PLETDSMDPF GLVTGLEAVR SPSFEK.		
Solubility	Add deionized water to a working concentration approximately 0.5mg/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.		
Formulation	Filtered (0.4µm) and lyophilized from 0.5mg/ml in 20mM TRIS, 20mM NaCl, pH 7.5.		

**Introduction**

The FGFs are a family of more than 20 small (~17kDa) 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  $\beta$  cells leads to diabetes in mice, which thus implies that proper FGF signaling is required for normal  $\beta$  cell function

**Caution: Product has not been fully validated for medical applications. For research use only.**

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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.

### Stability

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

### Background

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 recombinant human FGF19 is 100% homologous to the amino acid sequence of the human FGF19 without signal sequence and contains his tag at N-terminal. The FGF-19 is purified by proprietary chromatographic techniques.

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