
Product Data Sheet

Product Name: FGF 21 Bovine
 Cat. No.: GP20251
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Fibroblast growth factor 21; FGF-21; FGF21.		
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-His-Pro-Ile-Pro.		
Solubility	It is recommended to reconstitute the lyophilized Bovine FGF-21 in sterile water or 0.4% NaHCO ₃ , not less than 100µg/ml, which can then be further diluted to other aqueous solutions, preferably in presence of carrier protein.		
Formulation	The protein was lyophilized from a concentrated (0.8 mg/ml) solution with 0.4 mg/ml of NaHCO ₃ , pH 8.		

Introduction

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

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desensitization and to improve, 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-21 Bovine Recombinant although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution Fibroblast Growth Factor 21 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.

Background

Fibroblast Growth Factor -21 Bovine Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 182 amino acids, having a molecular weight of 19.5 kDa. The FGF-21 is purified by proprietary chromatographic techniques.

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