

FGF 21 Bovine

Description: 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.

Synonyms: Fibroblast growth factor 21, FGF-21, FGF21.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered white lyophilized powder.

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.

Purity: Greater than 98.0% as determined by: (a) Analysis by Gel Filtration. (b) Analysis by SDS-PAGE.

Formulation:

The protein was lyophilized from a concentrated (0.8 mg/ml) solution with 0.4 mg/ml of NaHCO₃, pH 8.

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.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. They may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

Solubility:

It is recommended to reconstitute the lyophilized Bovine FGF-21 in sterile water or 0.4% NaHCO₃, not less than 100

Introduction:

The FGFs are a family of more than 20 small (~1726 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 cells leads to diabetes in mice, which thus implies that proper FGF signaling is required for normal 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

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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.

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