9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

FGF 21 Rat

Fibroblast Growth Factor-21 Rat Recombinant
GRF0076

Product Overview

Name	FGF 21 Rat

Description

Fibroblast Growth Factor-21 Rat Recombinant

Synonyms

Fibroblast growth factor 21, FGF-21.

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 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 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.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 μm filtered concentrated solution in 1×PBS, pH 7.4.

9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

Stability

Lyophilized FGF 21 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution FGF 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.

Purity

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

Amino acid sequence

AYPISDSSPL LQFGGQVRQR YLYTDDDQDT EAHLEIREDG TVVGTAHRSP ESLLELKALK PGVIQILGVK ASRFLCQQPD GTLYGSPHFD PEACSFRELL LKDGYNVYQS EAHGLPLRLP QKDSQDPATR GPVRFLPMPG LPHEPQEQPG VLPPEPPDVG SSDPLSMVEP LQGRSPSYAS

Biological Activity

The ED50 determined by a cell proliferation assay using murine NIH/3T3 cells is less than 700 ng/ml, corresponding to a specific activity of > 1.4 × 1000 IU/mg in the presence of 5 µg/ml of rMuKlotho-beta.

Solubility

It is recommended to reconstitute the lyophilized FGF 21 Rat Recombinant in sterile 18M-cm H 2 O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Precautions

FGF 21 Rat is for research use only and not for use in diagnostic or therapeutic procedures.