

PRODUCT INFORMATION



FGF21 (human, recombinant)

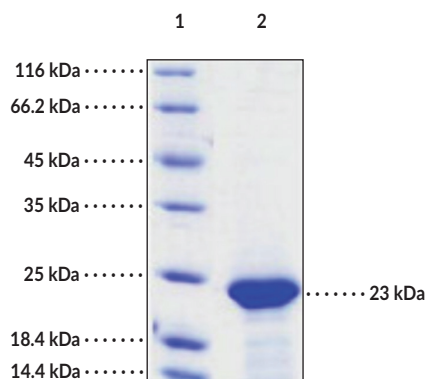
Item No. 32027

Overview and Properties

Synonyms:	FGF21, Fibroblast Growth Factor 21
Source:	Recombinant human N-terminal His-tagged mature FGF21 expressed in <i>E. coli</i>
Amino Acids:	29-209
Molecular Weight:	20.2 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	50 mM Tris, 200 mM sodium chloride, pH 8.8, 5% Trehalose, 5% Mannitol, and 0.01% Tween-80
Bioactivity:	See figures for details

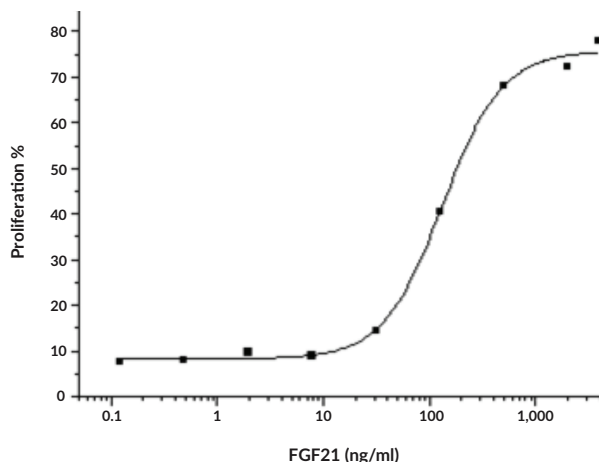
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: FGF21

SDS-PAGE Analysis of FGF21. This protein has a calculated molecular weight of 20.2 kDa. It has an apparent molecular weight of approximately 23 kDa by SDS-PAGE under reducing conditions.



Cell Proliferation Assay using NIH3T3 Mouse Embryonic Fibroblast Cells. The bioactivity of FGF21 (human, recombinant) is measured in a cell proliferation assay using NIH3T3 mouse embryonic fibroblast cells. The ED_{50} for this effect is typically 0.1-1 μ g/ml in the presence of 2.5 μ g/ml of rmKlotho β .

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Fibroblast growth factor 21 (FGF21) is a hepatokine and member of the endocrine subfamily of FGFs with roles in energy homeostasis, insulin sensitivity, and metabolic regulation.^{1,2} Mature FGF21 is a 181-amino acid peptide composed of an N-terminal FGFR binding site, a conserved 120-amino acid core, and a C-terminal sequence that facilitates binding to the klotho beta (KLB) co-receptors.² It is derived from a 209-amino acid protein that contains an additional 28-amino acid hydrophobic signaling peptide that drives constitutive secretion. FGF21 is primarily expressed in the liver but is also synthesized in white adipose tissue, skeletal muscle, pancreas, the digestive tract, and cardiac muscle.^{1,2} It forms a complex with KLB and FGFR1c, -2c, -3c, or -4 to induce FGFR dimerization and signaling.¹ Liver levels of FGF21 are increased in a mouse model of non-alcoholic fatty liver disease (NAFLD) induced by a methionine- and choline-deficient diet, and knockdown of *Fgf21* increases hepatic triglyceride accumulation and fibrosis in mice. Exogenous administration of FGF21 induces weight loss, improves glucose tolerance, and increases the browning of white adipose tissue in a mouse model of diet-induced obesity. Administration of FGF21 also reduces *ad libitum* alcohol consumption in mice, and plasma levels of FGF21 are increased in humans following acute alcohol ingestion.³ Cayman's FGF21 (human, recombinant) protein can be used for Western blot and cell-based assay applications. This protein is mature FGF21 that consists of 188 amino acids and has a calculated molecular weight of 20.2 kDa. By SDS-PAGE, under reducing conditions, the protein migrates at approximately 23 kDa.

References

1. Fisher, F.M. and Maratos-Flier, E. Understanding the physiology of FGF21. *Annu. Rev. Physiol.* **78**, 223-241 (2016).
2. Kilkenny, D.M. and Rocheleau, J.V. The FGF21 receptor signaling complex: Klotho β , FGFR1c, and other regulatory interactions. *Vitam. Horm.* **101**, 17-58 (2016).
3. S  berg, S., Andersen, E.S., Dalsgaard, N.B., *et al.* FGF21, a liver hormone that inhibits alcohol intake in mice, increases in human circulation after acute alcohol ingestion and sustained binge drinking at Oktoberfest. *Mol. Metab.* **11**, 96-103 (2018).

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