

Recombinant FGF-21 (Mouse)

Type:	Recombinant	Cat. No.:	42189
Tag:	None (his-tag removed)	Size:	100 µg
Source:	<i>E.Coli</i>	Purity:	>95%
Other names:	FGF21	Species:	Mouse

Introduction to the Molecule

FGF-21, a polypeptide with 210 amino acid residues produced mostly from the liver tissue.[1] Mouse FGF-21 shares 75% identity as human FGF-21. Recent animal studies indicate it possesses potent beneficial effects on glucose and lipid metabolism and insulin sensitivity.[2] Increasing data shows FGF-21 can significantly stimulate glucose uptake in mature adipocytes. And The lowered LDL-cholesterol and increased HDL-cholesterol can also be observed.[2,3] FGF-21 exerts its bioactivity through interaction with membrane bound FGF receptors (FGFRs) which requires β -Klotho as a co-factor to bind and activate FGFR signaling.[4,5]The activation of FGF-21 can induce the stimulation of diverse downstream pathways mediated by MAPK,FRS-2, SHP-2, PI3K, raf, stat and other signaling molecules.[6-9] In sum, FGF-21 induces a variety of significant beneficial metabolic changes without apparent adverse effects which makes this factor a hot candidate to treat some metabolic diseases.[10]

Description

Total 184 AA Mw: 20kDa (calculated). N-terminal His-tag removed, 2 extra AA left (highlighted).

Amino Acid Sequence

GA AY	PIPDSSPLLQ	FGGQVRQRYL	YTDDDQDTEA	HLEIREDGTV
VGAAHRSPES	LLELKALKPG	VIQILGVKAS	RFLCQQPDGA	LYGSPHFDPE
ACSFRELLLE	DGYNVYQSEA	HGLPLRLPQK	DSPNQDATSW	GPVRFLLPMPG
LLHEPQDQAG	FLPPEPPDVG	SSDPLSMVEP	LQGRSPSYAS	

Formulation

Lyophilized in 1 mg/mL in PBS.

Endotoxin Level

<0.2 EU/ug.

Reconstitution

Add sterile deionized water to prepare a working stock solution of approximately 1 mg/mL and let the lyophilized pellet dissolve completely.

Storage

Store lyophilized protein at -20°C. Aliquot reconstituted protein and store at -80°C. Avoid repeated freezing /thawing cycles.

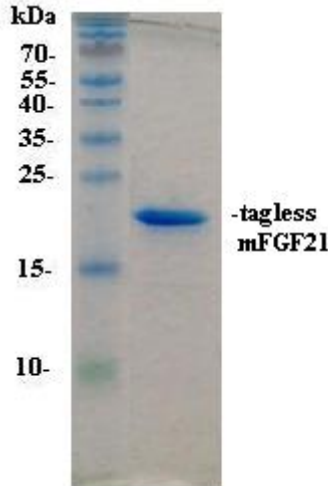
Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.

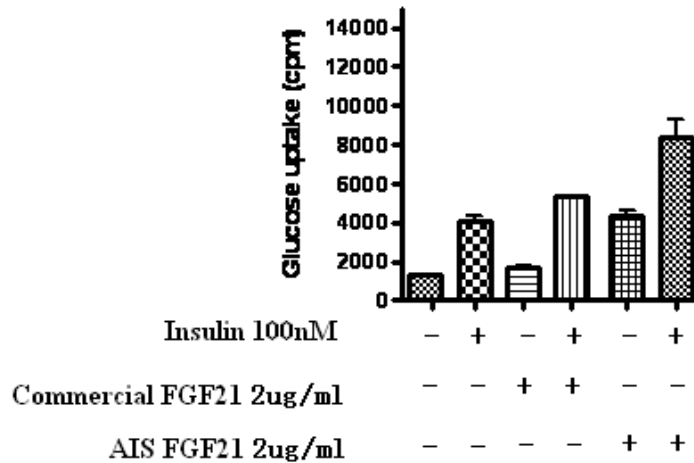
Applications

Cell culture, animal studies, ELISA and Western blotting.

SDS-PAGE gel



Glucose uptake assay



Reference:

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- [4] Hiroshi Kurosu et al. Tissue-specific Expression of β Klotho and Fibroblast Growth Factor (FGF) Receptor Isoforms Determines Metabolic Activity of FGF19 and FGF21. *J Biol Chem*. 282(37): 26687–26695. 2007
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- [7] Rosa Carballada et al. Phosphatidylinositol-3 kinase acts in parallel to the ERK MAP kinase in the FGF pathway during *Xenopus* mesoderm induction. *Development* 128, 35-44 (2001)
- [8] Dayanand D. Deo et al. Phosphorylation of STAT-3 in Response to Basic Fibroblast Growth Factor Occurs through a Mechanism Involving Platelet-activating Factor, JAK-2, and Src in Human Umbilical Vein Endothelial Cells. *The journal of molecular chemistry*. Vol. 277, No. 24, Issue of June 14, pp. 21237–21245, 2002
- [9] Maria I. Kontaridis et al. Role of SHP-2 in Fibroblast Growth Factor Receptor-Mediated Suppression of Myogenesis in C2C12 Myoblasts. *Molecular and cellular biology*, Vol. 22, No. 11, p. 3875–3891. 2002
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