Cytokines

Mouse Recombinant FGF-21

Fibroblast growth factor 21

Catalog #	78108	10 µg
	78108.1	50 µg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Fibroblast growth factor 21 (FGF-21) is a member of the FGF family. Using β-Klotho as a cofactor, FGF-21 signals through FGF receptor 1c and 4 to activate PI3K and MAPK pathways (Mattila & Härkönen; Kharitonenkov et al.). FGF-21 expression is regulated by tissue-specific peroxisome proliferator-activated receptors (PPARs). Upon PPAR-α stimulation FGF-21 is produced in the liver, and activation of PPAR-γ leads to FGF-21 production in adipose tissue. FGF-21 promotes insulin-independent glucose uptake and lipid accumulation in primary human adipocytes and in mouse 3T3-L1 cells. In pancreatic islets and INS-1 cells it inhibits glucose-mediated glucagon release and stimulates insulin production. FGF-21 does not induce proliferation in immortalized cell lines, unlike other FGFs (Kharitonenkov & Shanafelt). FGF-21 regulates thermogenesis in white and brown adipose tissue, and metabolic processes in cells of pancreatic origin (Kharitonenkov et al.).

Product Information

Alternative Names:	Fibroblast growth factor 21
Accession Number:	Q9JJN1
Amino Acid Sequence:	AYPIPDSSPL LQFGGQVRQR YLYTDDDQDT EAHLEIREDG TVVGAAHRSP ESLLELKALK PGVIQILGVK ASRFLCQQPD GALYGSPHFD PEACSFRELL LEDGYNVYQS EAHGLPLRLP QKDSPNQDAT SWGPVRFLPM PGLLHEPQDQ AGFLPPEPPD VGSSDPLSMV EPLQGRSPSY AS
Predicted Molecular Mass:	19.9 kDa
Species:	Mouse
Cross Reactivity:	Not determined
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	E. coli

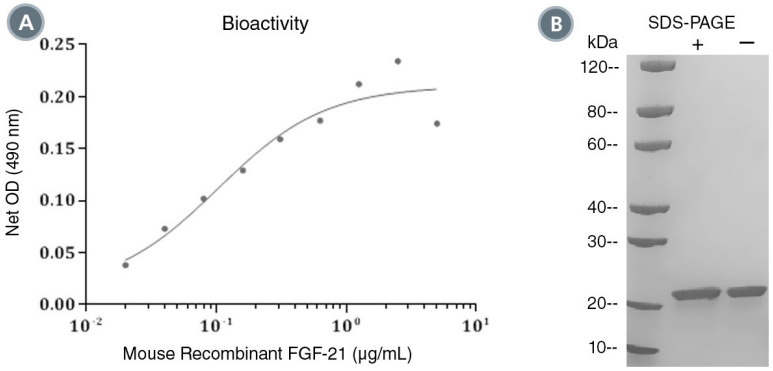
Specifications

Activity:	The specific activity is ≥ 2.0 x 10^3 units/mg (EC50 ≤ 0.5 µg/mL) as determined by a cell proliferation assay using NIH-3T3 cells in the presence of 1.25 µg/mL mouse Klotho and 10 µg/mL heparin.
Purity:	≥ 97%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at 2 - 8°C for more than 1 week or at -20°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Mouse Recombinant FGF-21 was tested by its ability to promote the proliferation of NIH-3T3 cells in the presence of 1.25 µg/mL mouse Klotho and 10 µg/mL heparin. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is less than 0.5 µg/mL.
(B) 2 µg of Mouse Recombinant FGF-21 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant FGF-21 has a predicted molecular mass of 19.9 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Kharitonenkov A. & Shanafelt AB. (2009) FGF21: A novel prospect for the treatment of metabolic diseases. Curr Opin Investig Drugs 10(4): 359–64.
Kharitonenkov A et al. (2008) FGF-21/FGF-21 receptor interaction and activation is determined by betaKlotho. J Cell Physiol 215(1): 1–7.
Mattila MM & Härkönen PL. (2007) Role of fibroblast growth factor 8 in growth and progression of hormonal cancer. Cytokine Growth Factor Rev 18(3–4): 257–66.