

## Fibroblast Growth Factor 21 (FGF21) Human (E. coli), Tagless

### Product Data Sheet

<b>Type:</b> Recombinant	<b>Cat. nr.:</b>
<b>Tag:</b> Tagless	RD172108100-B (0.1 mg)
<b>Source:</b> E. coli	RD172108100-B+ (10 x 0.1 mg)
<b>Species:</b> Human	
<b>Other names:</b> FGF-21	

### Description

Total 182 AA. Mw: 19.7 kDa (calculated). 181AA of the Human FGF21 and one extra AA, N-terminal methionin (highlighted).

### Amino Acid Sequence

**M**HPIDSSPL LQFGGQVRQR YLYTDDAQQT EAHLEIREDG TVGGAADQSP ESLLQLKALK PGVIQILGVK  
TSRFLCQRPD GALYGSLHFD PEACSFRELL LEDGYNVYQS EAHGLPLHLP GNKSPHRDPA PRGPARFLPL  
PGLPPALPEP PGILAPQPPD VGSSDPLSMV GPSQGRSPSY AS

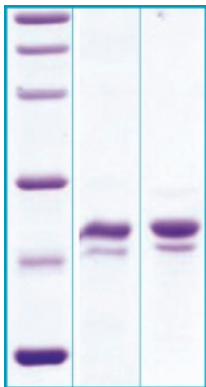
### Source

E. coli

### Purity

>95%

### SDS-PAGE gel



- 12% SDS-PAGE separation of Human FGF21
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
  2. reduced and heated sample, 5µg/lane
  3. non-reduced and on-heated sample, 5µg/lane

### Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 20mM NaCl, pH 7.5

### Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture. Add DTT (0.2 mM ) and NaCl (0.1-0.15 M) before freezing to prevent potential aggregation.

## Storage, Stability/Shelf Life

Store lyophilized protein at -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

## Quality Control Test

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

## Applications

ELISA, Western blotting

## Note

This product is intended for research use only.

## Introduction to the Molecule

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 beta cells leads to diabetes in mice, which thus implies that proper FGF signaling is required for normal beta 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 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.

## References

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<b>HEADQUARTERS:</b>				
BioVendor Laboratorní medicína, a.s.	CTPark Modrice Evropska 873	664 42 Modrice CZECH REPUBLIC	Phone: +420-549-124-185 Fax: +420-549-211-460	E-mail: info@biovendor.com Web: www.biovendor.com
EUROPEAN UNION: BioVendor GmbH	Im Neuenheimer Feld 583	D-69120 Heidelberg GERMANY	Phone: +49-6221-433-9100 Fax: +49-6221-433-9111	E-mail: infoEU@biovendor.com
USA, CANADA AND MEXICO: BioVendor LLC	1463 Sand Hill Road Suite 227	Candler, NC 28715 USA	Phone: +1-828-670-7807 +1-800-404-7807 Fax: +1-828-670-7809	E-mail: infoUSA@biovendor.com
CHINA - Hong Kong Office: BioVendor Laboratories Ltd	Room 4008 Hong Kong Plaza, No.188	Connaught Road West Hong Kong, CHINA	Phone: +852-2803-0523 Fax: +852-2803-0525	E-mail: infoHK@biovendor.com
CHINA - Mainland Office: BioVendor Laboratories Ltd	Room 2405 YiYa Tower TianYu Garden, No.150	Lihe Zhong Road Guang Zhou, CHINA	Phone: +86-20-3884-0399 +86-20-3884-0386 Fax: +86-20-3884-0386	E-mail: infoCN@biovendor.com