Visfatin Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: Pre-B cell colony-enhancing factor, PBEF, Nicotinamide phosphoribosyltransferase, NAmPRTase, EC=2.4.2.12, Pre-B-cell colony-enhancing factor 1, PBEF1, NAMPT

Cat. No.:
RD172098100 (0.1 mg)

Description

Total 348 AA. UniProtKB acc.no. P43490. N-terminal Flag (11 aa) highlighted, Mw: 39.6 kDa (calculated).

Introduction to the Molecule

Excess adiposity is the most important risk in the development of insulin resistance and type 2 diabetes mellitus (T2DM). Adipose tissue produces several proteins (adipocytokines) such as leptin, adiponectin, resistin, tumor necrosis factor-alpha, and IL-6, that modulate insulin sensitivity and appear to play an important role in the pathogenesis of insulin resistance, diabetes, dyslipidemia, inflammation, and atherosclerosis. However, the mechanisms by which fat tissue induces insulin resistance and the role of adipocytokines in the pathogenesis of T2DM have not been well established.
Visfatin, also known as pre-B cell colony-enhancing factor (PBEF), is a cytokine that is highly expressed in visceral fat and was originally isolated as a secreted factor that synergizes with IL-7 and stem cell factors to promote the growth of B cell precursors. Visfatin homologs have been identified in carp, invertebrate mollusks , and bacteria, as well as in vertebrates, including humans and the mouse. It has been postulated to play a role in innate immunity.
Visfatin exerts insulin-mimetic effects that are dose-dependent and quantitatively similar to those of insulin in stimulating muscle and adipocyte glucose transport, and in inhibiting hepatocyte glucose production. Intravenous injection of recombinant visfatin in mice decreased plasma glucose in a dose-dependent fashion. In keeping with its insulin-mimetic effects, visfatin was as effective as insulin in reducing hyperglycemia in insulin-deficient diabetic mice. Visfatin was also found to be bound to and activate insulin receptor, causing receptor phosphorylation and the activation of downstream signaling molecules. However, visfatin and insulin did not compete for binding to the insulin receptor, indicating that the two proteins were recognized by different regions of the receptor. Thus, visfatin might play a role in glucose homeostasis and dysregulation in biosynthesis or signal transduction, and might contribute to the pathogenesis of diabetes.

Research topic

Cytokines and chemokines and related molecules, Energy metabolism and body weight regulation

Amino Acid Sequence

```
MDYKDDDDKA SPPNTSKVYS YFECREKKTE NSKLRKVKYE ETVFYGLQYI LNKYLKGKVV TKEKIQEAKD VYKEHFQDDV
FNEKGWNYIL EKYDGHLPIE IKAVPEGFVI PRGNVLFTVE NTDPECYWLT NWIETILVQS WYPITVATNS REQKKILAKY
LLETSGNLDG LEYKLHDFGY RGVSSQETAG IGASAHLVNF KGTDTVAGLA LIKKYYGTKD PVPGYSVPAA EHSTITAWGK
DHEKDAFEHI VTQFSSVPVS VVSDSYDIYN ACEKIWGEDL RHLIVSRSTQ APLIIRPDSG NPLDTVLKVL EILGKKFPVT
ENSKGYKLLP PYLRVIQGDG VDINTLQE
```

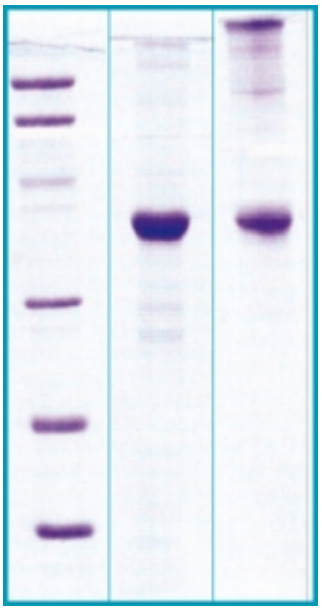
Source

E. coli

Purity

Purity as determined by densitometric image analysis: > 90 %

SDS-PAGE gel



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

Formulation

Filtered (0.4 µm) and lyophilized in 20 mM Tris buffer, 50 mM 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. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°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 one week at 4°C.

Quality Control Test

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

Applications

Western blotting

Note

This product is intended for research use only.

HEADQUARTERS: BioVendor Laboratorní medicína, a.s.	Karasek 1767/1	621 00 Brno CZECH REPUBLIC	Phone: +420-549-124-185 Fax: +420-549-211-460	E-mail: Web:	info@biovendor.com sales@biovendor.com www.biovendor.com
AUSTRIA: BioVendor GesmbH	Nußdorfer Straße 20/10	1090 Vienna AUSTRIA	Phone: +43-1-89090-25 Fax: +43-1-89090-2515	E-mail:	infoAustria@biovendor.com
GERMANY, SWITZERLAND: BioVendor GmbH	Otto-Hahn-Straße 16	34123 Kassel GERMANY	Phone: +49-6221-433-9100 Fax: +49-6221-433-9111	E-mail:	infoEU@biovendor.com
USA, CANADA AND MEXICO: BioVendor LLC	128 Bingham Rd. Suite 1300	Asheville, NC 28806 USA	Phone: +1-828-575-9250 +1-800-404-7807 Fax: +1-828-575-9251	E-mail:	infoUSA@biovendor.com