



## Recombinant Human Visfatin

20170725BB



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<b>Cat.-no.:</b>	<b>100-363</b>
<b>Size:</b>	25 µg
<b>Lot. No.:</b>	According to product label

## Scientific Background

<b>Gene-ID (NCBI):</b>	10135
<b>Synonyms:</b>	NAMPT; VF; PBEF; PBEF1; VISFATIN; 1110035O14Rik

Visfatin is a 55 kDa protein produced and secreted primarily by white adipose tissue. Recently, Visfatin was isolated from visceral fat deposits and shown to possess insulin-mimetic activity. Like insulin, Visfatin exerts hypoglycemic effects by interacting with the insulin receptor. The binding affinity of Visfatin for the insulin receptor is similar to that of insulin, but it does not compete with insulin, suggesting that the two proteins interact with different receptor sites. The circulating levels of Visfatin are much lower than those of insulin and are not affected by feeding, implying that the hypoglycemic effect of Visfatin may not be of physiological importance. The plasma Visfatin levels, like those of Leptin, correlate positively with the percent of body fat and increase during the development of obesity. Another similarity between Visfatin and Leptin is that their amino acid sequence is highly conserved across different mammalian species and shows no homology to any known protein. Receptors for both Leptin (Ob-R) and Visfatin (i.e. the insulin receptor) are expressed by neurons within the arcuate nucleus of the hypothalamus, a brain area that plays a pivotal role in the regulation of energy metabolism. Although the metabolic function of Visfatin is still unknown, it appears that this newly identified adipocytokine might play an important role, similar to that of Leptin, in the regulation of body weight, i.e. as an afferent signal reflecting excess body fat. Recombinant human Visfatin is a 52.5 kDa protein containing 465 amino acid residues (isoform 1).

## Sequence

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MPPNTSKVYS YFECREKKTE NSKLRKVKYE ETVFYGLQYI
LNKYLKGVV TKEKIQEAKD VYKEHFQDDV FNEKGWNYIL
EKYDGHLPTE IKAVPEGFVI PRGNVLFVTE NTDPECYWLT
NWIETILVQS WYPITVATNS REQKKILAKY LLETSGNLDG
LEYKLDHDFGY RGVSSQETAG IGASAHLVNF KGTDTVAGLA
LIKYYGTGD PVPGYSPVAA EHSTITAWGK DHE KDAFEHI
VTQFSSVPVS VVSDSYDIYN ACEKIWGEDL RHLIVSRSTQ
APLIIRPDGS NPLDTVLKVL EILGKKFPVT ENSKGYKLLP
PYLRVIQGDG VDINTLQEIY EGMKQKMWSI ENIAFGSGGG
LLQKLTRDLL NCSFKCSYVV TNLGLINVFK DPVADPNKRS
KKGRSLHRT PAGNFVLEE GKGDLEEYGO DLLHTVFKNG
KVTKSYSFDE IRKNAQLNIE LEAAHH

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## Database References

<b>Protein RefSeq:</b>	NP_005737.1
<b>Uniprot ID:</b>	P43490
<b>mRNA RefSeq:</b>	NM_005746

## Product Specifications

<b>Expressed in</b>	E. coli
<b>Purity</b>	> 98% by SDS-PAGE & HPLC analyses
<b>Endotoxin level</b>	< 0.1 ng /µg of protein (<1EU/µg).
<b>Formulation</b>	lyophilized
<b>Length (aa):</b>	466
<b>MW:</b>	52.6 kDa

**Stability:** The lyophilized protein is stable at room temperature for 1 month and at 4°C for 3 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

**Reconstitution:** Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. **NOTE: Due to solubility reasons the protein should be kept at low pH. Do not vortex.** This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

**Biological Activity:** The ED<sub>50</sub> was determined by the dose-dependant proliferation of RPMI 8226 cells. The expected ED<sub>50</sub> for this effect is 15.0-20.0 ng/ml.