CTRP3 Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: Secretory protein CORS26, C1QTNF3, CTRP3, UNQ753/PRO1484, Complement C1q tumor necrosis factor-related protein 3

Cat. No.:
RD172121100 (0.1 mg)

Description

Total 234 AA. MW: 25.4 kDa (calculated). UniProtKB acc.no. Q9BXJ4. N-terminal His-tag, 10extra AA (highlighted). The AA sequence is identical to UniProtKB/Swiss-Prot entry Q9BXJ4 (AA23-246).

Introduction to the Molecule

C1q- and tumor necrosis factor-related protein, CTRP or C1QTNF, is a rapidly-expanding cytokine family. There are 13 members of the CTRP family that have been identified. Each CTRP is comprised of the NH2 terminal half representing a proline-rich collagen domain preceded by a signal sequence and a hypervariable region, which can accelerate multimeric forms, and the COOH terminal half globular domain resembling TNF-alpha and RANKL in terms of 3D structure. Their overall structure is very similar to adiponectin. Therefore, CTRPs are the adiponectin paralogs. One interesting feature of the CTRP family is that their amino acids are quite conserved between species, implying their biological importance. CTRP3 or C1QTNF3 encodes a deduced 246-amino acid protein with a calculated molecular mass of 26 kDa. RT-PCR analysis detected expression in cDNAs from human osteosarcoma, chondroblastoma, and giant cell tumor, as well as in normal fibroblasts, white adipose tissue, and placenta. Circulating CTRP3 was observed in both mouse and human serum or plasma. CTRP3 was also known as Cors26 whose primary expression is in cartilage and overexpression of CTRP3 increased the growth of murine mesenchymal stem cells, suggesting that it plays a role in skeletal development. Circulating CTRP3 levels correlated inversely with circulating leptin levels in mice. CTRP3 expression decreased with diet-induced obesity in wild type mice with high leptin levels and increased with fasting in wild type mice and in obese leptin-deficient and insulin-resistant ob/ob mice. Administration of sufficient recombinant CTRP3 to increase its plasma levels 3-fold activated Akt signaling in liver, directly and independently of insulin suppressed hepatic glucose output via inhibition of gluconeogenesis, and lowered blood glucose levels in both normal and ob/ob mice. Visceral adipocytes or monocytes secrete CTRP3 that antagonizes lipopolysaccharide (LPS) via a physical interaction with the TLR4/MD-2 receptor complex. Due to these metabolically beneficial or anti-inflammatory feature(s) associated with CTRP3 the measurement of CTRP3 becomes intriguing.

Research topic

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

Amino Acid Sequence

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MKHHHHHHAS QDEYMESPQT GGLPPDCSKC CHGDYSFRGY QGPPGPPGPP GIPGNHGNNG NNGATGHEGA KGEKGDKGDL
GPRGERGQHG PKGEKGYPGI PPELQIAFMA SLATHFSNQN SGIIFSSVET NIGNFFDVMT GRFGAPVSGV YFFTFSMMKH
EDVEEVYVYL MHNGNTVFSM YSYEMKGKSD TSSNHAVLKL AKGDEVWLRM GNGALHGDHQ RFSTFAGFLL FETK
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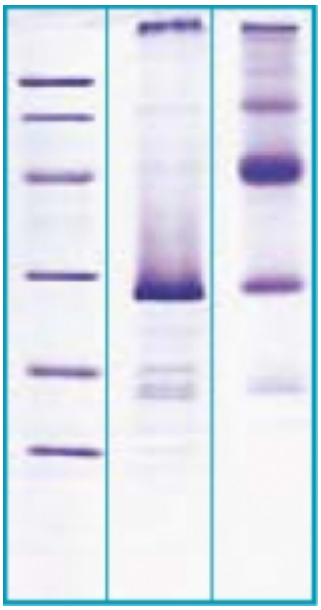
Source

E. coli

Purity

Purity as determined by densitometric image analysis: >95%

SDS-PAGE gel



12% SDS-PAGE separation of Human CORS26
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

0.5 mg/ml in 0.03M acetate buffer, pH=4.0 - filtered (0.4 µm), frozen

Reconstitution

Defrost at ambient temperature. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At temperature 2 - 8°C Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store protein at -80°C. Protein remains stable until the expiry date when stored 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.
LAL to determine quantity of endotoxin.

Applications

Western blotting

Note

This product is intended for research use only.

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