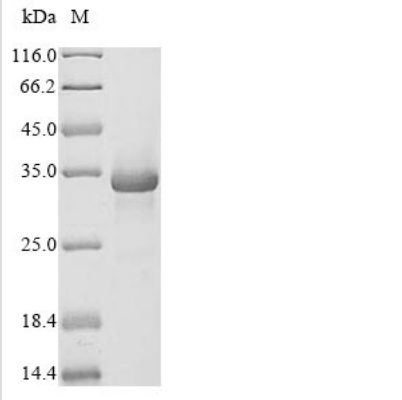
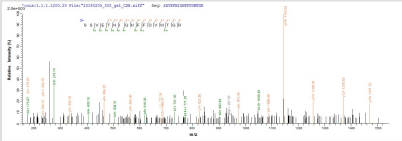
Recombinant Mouse Complement C1q tumor necrosis factor-related protein 3 (C1qtnf3)

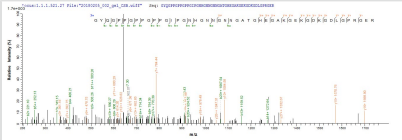
Product Code	CSB-EP875360MO
Abbreviation	Recombinant Mouse C1qtnf3 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9ES30
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QDEYMESPQAGGLPPDCSKCCHGDYGFRGYQGPPGPPGPPGIPGNHGNNG NNGATGHEGAKGEKGDKGDLGPRGERGQHGPKGEKGYPGVPPELQIAFMAS LATHFSNQNSGIIFSSVETNIGNFFDVMTGRFGAPVSGVYFFTFSMMKHEDVE EVYVYLMHNGNTVFSMYSYETKGKSDTSSNHAVLKLAKGDEVWLRMGNGAL HGDHQRFSTFAGFLLFETK
Research Area	Metabolism
Source	E.coli
Target Names	C1qtnf3
Protein Names	Collagenous repeat-containing sequence 26 kDa protein Short name:CORS26 Secretory protein CORS26 Ctrp3
Expression Region	23-246aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	31.1 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of E.coli host and target protein, the LC-MS/MS Analysis result of CSB-EP875360MO could indicate that this peptide derived from E.coli-expressed Mus musculus (Mouse) C1qtnf3.



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Description

The production of recombinant mouse complement C1q tumor necrosis factor-related protein 3 (C1qtnf3) begins with isolating the C1qtnf3 protein-encoding gene (23-246aa). This gene is cloned into an expression vector with an N-terminal 10xHis-tag gene and a C-terminal Myc-tag gene and then transfected into E.coli cells through transformation. The E.coli cells express the protein, which is then harvested from the cell lysate. The protein is purified using affinity chromatography. Finally, the protein's purity is measured by SDS-PAGE, reaching over 90%.

Mouse C1qtnf3, also known as CTRP3, is a protein that has been implicated in various physiological processes and diseases. Studies have shown that C1qtnf3 is highly expressed in mouse models of arthritis, where it plays a protective role by attenuating systemic inflammation and reducing arthritis severity [1][2]. C1qtnf3 promotes the proliferation and migration of mouse endothelial cells [3]. In the context of adipose tissue remodeling, C1qtnf3 is upregulated during subcutaneous adipose tissue remodeling and stimulates macrophage chemotaxis and M1-like polarization [4].

Furthermore, C1qtnf3 has been identified as a downstream molecule of HIF-1α, exerting anti-catabolic effects through the suppression of NF-κB signaling [5]. In the ovary, C1qtnf3 plays a role in folliculogenesis, with its expression being significantly decreased by excess androgen [6]. C1qtnf3 also regulates chondrogenic cell proliferation via the adiponectin receptor 2 [7].

References:
[1] A. Myngbay, L. Manarbek, S. Ludbrook, & J. Kunz, The role of collagen triple

helix repeat-containing 1 protein (cthrc1) in rheumatoid arthritis, International Journal of Molecular Sciences, vol. 22, no. 5, p. 2426, 2021. https://doi.org/10.3390/ijms22052426
[2] M. Murayama, S. Kakuta, T. Maruhashi, K. Shimizu, A. Seno, S. Kuboet al., Ctrp3 plays an important role in the development of collagen-induced arthritis in mice, Biochemical and Biophysical Research Communications, vol. 443, no. 1, p. 42-48, 2014. https://doi.org/10.1016/j.bbrc.2013.11.040
[3] A. Coussens, C. Wilkinson, I. Hughes, C. Morris, A. Daal, P. Andersonet al., Unravelling the molecular control of calvarial suture fusion in children with craniosynostosis, BMC Genomics, vol. 8, no. 1, 2007. https://doi.org/10.1186/1471-2164-8-458
[4] P. Micallef, M. Vuji?i?, Y. Wu, E. Peris, Y. Wang, B. Chanclónet al., C1qtnf3 is upregulated during subcutaneous adipose tissue remodeling and stimulates macrophage chemotaxis and m1-like polarization, Frontiers in Immunology, vol. 13, 2022. https://doi.org/10.3389/fimmu.2022.914956
[5] K. Okada, D. Mori, Y. Makii, H. Nakamoto, Y. Murahashi, F. Yanoet al., Hypoxia-inducible factor-1 alpha maintains mouse articular cartilage through suppression of nf-κb signaling, Scientific Reports, vol. 10, no. 1, 2020. https://doi.org/10.1038/s41598-020-62463-4
[6] Z. Mao, L. Yang, X. Lu, A. Tan, Y. Wang, F. Dinget al., C1qtnf3 in the murine ovary and its function in folliculogenesis, Reproduction, vol. 155, no. 4, p. 333-346, 2018. https://doi.org/10.1530/rep-17-0783
[7] M. Murayama and Y. Iwakura, C1q/tnf-related protein 3 regulates chondrogenic cell proliferation via adiponectin receptor 2 (progestin and adipoq receptor 2), Translational and Regulatory Sciences, vol. 2, no. 1, p. 19-23, 2020. https://doi.org/10.33611/trs.2_19

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.
Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.