

# CTRP1 (2E7): sc-81943

## BACKGROUND

CTRP1 (also designated complement C1q tumor necrosis factor-related protein 1 precursor, G protein-coupled receptor-interacting protein and GIP) is a 281 amino acid protein encoded by the human gene C1QTN1. CTRP1 is a member of the CTRP superfamily and is expressed at high levels in adipose tissues of obese Zucker diabetic fatty (fa/fa) rats. It consists of an N-terminal signal peptide sequence followed by a variable region, a collagen repeat domain and a C-terminal globular domain. CTRP1 expression is induced by proinflammatory cytokines, including TNF $\alpha$  and IL-1 $\beta$ . Due to its cytokine induced nature, CTRP1 expression may be associated with a low-grade chronic inflammation status in adipose tissues.

## REFERENCES

1. Wu, T.H., et al. 1996. Increased excretion of tumor necrosis factor  $\alpha$  and interleukin-1 $\beta$  in urine from patients with IgA nephropathy and Schönlein-Henoch purpura. *Nephron* 74: 79-88.
2. Branten, A.J., et al. 2002. Short-term effects of fish oil treatment on urinary excretion of high- and low-molecular weight proteins in patients with IgA nephropathy. *Clin. Nephrol.* 58: 267-274.
3. Bergmann, J., et al. 2005. IgA nephropathy and Hodgkin's disease: a rare coincidence. Case report and literature review. *Am. J. Kidney Dis.* 45: e16-e19.
4. Kim, K.Y., et al. 2006. Tumor necrosis factor- $\alpha$  and interleukin-1 $\beta$  increases CTRP1 expression in adipose tissue. *FEBS Lett.* 580: 3953-3960.

## CHROMOSOMAL LOCATION

Genetic locus: C1QTNF1 (human) mapping to 17q25.3; C1qtnf1 (mouse) mapping to 11 E2.

## SOURCE

CTRP1 (2E7) is a mouse monoclonal antibody raised against recombinant CTRP1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

CTRP1 (2E7) is recommended for detection of CTRP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CTRP1 siRNA (h): sc-62171, CTRP1 siRNA (m): sc-62172, CTRP1 shRNA Plasmid (h): sc-62171-SH, CTRP1 shRNA Plasmid (m): sc-62172-SH, CTRP1 shRNA (h) Lentiviral Particles: sc-62171-V and CTRP1 shRNA (m) Lentiviral Particles: sc-62172-V.

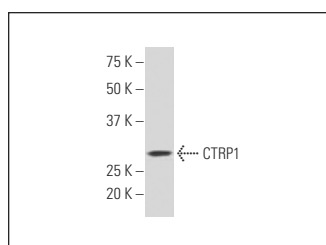
Molecular Weight of CTRP1: 32 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



CTRP1 (2E7): sc-81943. Western blot analysis of CTRP1 expression in NIH/3T3 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Wu, L., et al. 2018. C1QTNF1 attenuates Angiotensin II-induced cardiac hypertrophy via activation of the AMPK $\alpha$  pathway. *Free Radic. Biol. Med.* 121: 215-230.
2. Zhao, G., et al. 2019. miR-495-3p inhibits the cell proliferation, invasion and migration of osteosarcoma by targeting C1q/TNF-related protein 3. *Onco Targets Ther.* 12: 6133-6143.
3. Wang, H., et al. 2020. C1q/tumor necrosis factor-related protein-1 attenuates microglia autophagy and inflammatory response by regulating the Akt/mTOR pathway. *Life Sci.* 256: 117992.
4. Liu, X., et al. 2021. Modulation of Sirt1 and FoxO1 on hypothalamic leptin-mediated sympathetic activation and inflammation in diet-induced obese rats. *J. Am. Heart Assoc.* 10: e020667.
5. Fei, H., et al. 2021. CTRP1 attenuates cerebral ischemia/reperfusion injury via the PERK signaling pathway. *Front. Cell Dev. Biol.* 9: 700854.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.