SANTA CRUZ BIOTECHNOLOGY, INC.

# Acrp30 (6D100): sc-70312

## BACKGROUND

Acrp30 (adipocyte complement-related protein of 30 kDa or AdipoQ) is a secretory protein made exclusively in adipocytes with mRNA induced over 100-fold during adipocyte differentiation. Posttranscriptional modification of Acrp30 yields several oligomeric forms of varying molecular weight, including a monomer, a dimer, a trimer, a hexamer and a polymer. Acrp30 is an abundant serum protein, secreted exclusively from fat cells, and is implicated in energy homeostasis and obesity. Due to the dysregulation of Acrp30 in cases of obesity in humans and mice and the strong structural similarity to TNF$\alpha$, Acrp30 is a suspected regulator of whole body energy homeostasis. In addition, regulated exocytosis of Acrp30 appears to require PI 3-kinase activity, since insulin-stimulated Acrp30 secretion is blocked by pharmacologic inhibitors of this enzyme.

## REFERENCES


1. Scherer, P.E., Williams, S., Fogliano, M., Baldini, G. and Lodish, H.F. 1995. A novel serum protein similar to C1q, produced exclusively in adipocytes. J. Biol. Chem. 270: 26746-26749.
2. Shapiro, L. and Scherer, P.E. 1998. The crystal structure of a complement-1q family protein suggests an evolutionary link to tumor necrosis factor. Curr. Biol. 8: 335-338.
3. Bogan, J.S. and Lodish, H.F. 1999. Two compartments for insulin-stimulated exocytosis in 3T3-L1 adipocytes defined by endogenous Acrp30 and Glut4. J. Cell Biol. 146: 609-620.
4. Kappes, A. and Loffler, G. 2000. Influences of ionomycin, dibutyryl-cycloAMP and TNF$\alpha$ on intracellular amount and secretion of apM1 in differentiating primary human preadipocytes. Horm. Metab. Res. 32: 548-554.
5. Das, K., Lin, Y., Widen, E., Zhang, Y. and Scherer, P.E. 2001. Chromosomal localization, expression pattern, and promoter analysis of the mouse gene encoding adipocyte-specific secretory protein Acrp30. Biochem. Biophys. Res. Commun. 280: 1120-1129.
6. Fruebis, J., Tsao, T.S., Javorschi, S., Ebbets-Reed, D., Erickson, M.R., Yen, F.T., Bihain, B.E. and Lodish, H.F. 2001. Proteolytic cleavage product of 30 kDa adipocyte complement-related protein increases fatty acid oxidation in muscle and causes weight loss in mice. Proc. Natl. Acad. Sci. USA 98: 2005-2010.


## CHROMOSOMAL LOCATION

Genetic locus: ADIPOQ (human) mapping to 3q27; Adipoq (mouse) mapping to 16.

## SOURCE

Acrp30 (6D100) is a mouse monoclonal antibody raised against recombinant Acrp30 of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_1$ in 500 µl of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Acrp30 (6D100) is recommended for detection of Acrp30 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of LMW Acrp30 monomer: 30 kDa.

Molecular Weight of HMW Acrp30 polymer: >250 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243 or MIA PaCa-2 cell lysate: sc-2285.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## 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 or our catalog for detailed protocols and support products.