

Product Specification Sheet

Human gAcrp30 (Variant) Protein

Cat # ACRP308-R-10	Recombinant purified Human gAcrp30 protein (variant)	SIZE: 10 ug
Cat # ACRP308-R-25	Recombinant purified Human gAcrp30 protein (variant)	SIZE: 25 ug

Acrp30 (adipocyte complement-related protein of 30 kDa), also known as AdipoQ, APM1, Adiponectin, Gelatin binding protein 28 kDa/GBP28 or adipocyte most abundant gene transcript) was identified as a novel adipocyte-specific synthesized and secreted protein with structural resemblance to complement factor C1q. Like adipsin, Acrp30 secretion is induced ~10-fold during adipocyte differentiation. Plasma levels are reduced in obese humans, and low levels are associated with insulin-resistance. Treatment of db/db mice with TZD increased Acrp30 levels. Acrp30 (mouse 247 aa, rat human 244 aa; chromosome 3q27) consists of a predicted NT-signal sequence 91-14 aa), followed by a 27-aa unique region, and then by 22 perfect Gly-X-Pro or Gly-X-X collagen like repeats, and a globular segment at the C-terminus. Structurally, but at the sequence level, Acrp30 resembles other collagen-like and globular domain proteins (lung surfactant protein and hepatocytes mannan-binding proteins). Acrp30 is proteolytically cleaved at 104 aa to generate the **globular Acrp30 (gAcrp30)**. Administration of gAcrp30 into mice fed a diet high in fat and sugar caused substantial weight loss. A marked reduction in plasma triglycerides, glucose, and free fatty acids was attributed due in part to increased fatty acid oxidation by muscle. Full length Acrp30 was less potent than gAcrp30. Therefore, gAcrp30 may open new avenues to control obesity.

Sources of antigen

Human gAcrp30 (variant) is a naturally occurring variant of gAcrp30. It has an extra 14-aa at the N-terminus that are not found in gAcrp30. The sequence of gAcrp30 (variant) is given below.

Human gAcrp30

MKGEPEGEGAY VYRSFVSGL EYVTIPNMP IRFTKIFYNQ
QNHYDGGSTGK FHCNIPGLYY FAYHITVYMK DVKVSFLFKKD
KAMLFTYDQY QENNVDQASG SVLLHLEVG D QVWLQVYEGE
ERNGLYADND NDSTFTGFL YHDTN

Human gAcrp30 (variant)

PGAEGPRGFP GIQGRKGEPEG EGAYVYRSF SVGLETYVTI
PNMPIRFTKI FYNQNHYDG STGKFHCNIP GLYYFAYHIT
VYMKDVKVS L FKKDKAMLFT YDQYQENNVD QASGSVLLHL
EVDQVWLQV YGEGERNGLY ADNDNDSTFT GFLLYHDTN

Human gAcrp30 (variant) (18.1 kDa protein) was expressed in E. coli and purified to >98% purity. The endotoxin levels were found to be minimal (0.1 ng/ug of protein).

Form & Storage of Antigen

The protein is supplied in PBS in either liquid at 100 ug/ml or in lyophilized form. Store unopened vials at -20oC or below. Reconstitute the powder in distilled water at 100 ug/ml or higher. Store at -20oC or below in suitable aliquots and avoid freeze thaw.

Biological activity: Determined by the ability of gAcrp30 to inhibit the proliferation of murine myeloid cell lines M1. The ED50 is <0.5-1.0 ug/m.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for lyophilized items.

General References: (1) Scherer PE et al (1995) JBC 270, 26746; Hu E et al (1996) JBC 271, 10697; Das K et al (2001) BBRC 280, 1120; Fruebis J et al (2001) PNAS 98, 2005; Maeda K et al (1996) BBRC 221, 286, Schaffler A et al (1998) BBA 1399, 187; Schaffler A et al (1999) BBRC 260, 416;

This product is for In vitro research use only.

Antibodies to Acrp30 and purified proteins

ACRP308-R-10-25

70808A

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