

## Human gAcrp30 (Variant) Protein

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Cat # ACRP308-R-5, Recombinant purified Human gAcrp30 protein (variant)

SIZE: 5 ug , 25 ug, FORM: Soln Lyophilized

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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 adipon, 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

MKGEPGEGAY VYRSAFSVGL ETYVTIPNMP IRFTKIFYNQ QNHYDGSTGK FHCNIPGLYY  
FAYHITVYMK DVKVSFLFKK KAMLFTYDQY QENNVDAQSG SVLLHLEVDG QVWLQVYGE  
ERNGLYADND NDSTFTGFL YHDTN

Human gAcrp30 (variant)

**PGAEGPRGFP GIQGR**KGEPG EGAYVYRSAF SVGLETYVTI PNMPIRFTKI FYNQQNHYDG  
STGKFHCNIP GLYYFAYHIT VYMKDVKVS FKKDKAMLFT YDQYQENNVDAQSGSVLLHL  
EVGDQVWLQV 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).

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;