abcam

Product datasheet

Recombinant human Adiponectin (gAcrp30/Adipolean Variant) protein ab50219

Description

Product name	Recombinant human Adiponectin (gAcrp30/Adipolean Variant) protein
Biological activity	Biological Activity : Determined by a cytotoxicity assay using M1 cells. The expected ED_{50} for this effect is 0.5-1.0 µg/ml.
Purity	> 98 % SDS-PAGE. Greater than 98% by HPLC analyses. Endotoxin level is less than 0.1 ng per g (1EU/g).
Expression system	Escherichia coli
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	PGAEGPRGFP GIQGRKGEPG EGAYVYRSAF SVGLETYVTI PNMPIRFTKI FYNQQNHYDG STGKFHCNIP GLYYFAYHIT VYMKDVKVSL FKKDKAMLFT YDQYQENNVD QASGSVLLHL EVGDQVWLQV YGEGERNGLY ADNDNDSTFT GFLLYHDTN
Predicted molecular weight	18 kDa
Additional sequence information	This naturally occurring variant of human gAcrp30/Adipolean is an 18.1 kDa protein, containing 14 extra amino acids extra at the N-terminus of human gAcrp30/Adipolean.
Description	Recombinant human Adiponectin protein

Specifications

Our **Abpromise guarantee** covers the use of **ab50219** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE Functional Studies
Form	Lyophilized
Additional notes	The gAcrp30 variant is a naturally occurring globular protein obtained by proteolytic processing of

adiponectin. Adiponectin is produced and secreted exclusively by adipocytes, and is a relatively abundant plasma protein, accounting for up to 0.05% of total serum protein. Like Adiponectin, Acrp30 is capable of decreasing hyperglycemia and reversing insulin resistance. Additionally, gAcrp30 has been shown to be an important factor in promoting fat loss by signaling muscle to absorb and burn Free-Fatty Acids (FFAs). The signaling receptors for adiponectin and gAcrp30 have recently been identified and named AdipoR1 and AdipoR2. AdipoR2 is predominantly expressed in the liver.

Preparation and Storage

Stability and Storage

Shipped at 4°C. The lyophilized protein is stable for a few weeks at room temperature. Store at -20°C long term.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

Reconstitution

Reconstitute to 1mg/ml using sterile water.

General Info

Function

Important adipokine involved in the control of fat metabolism and insulin sensitivity, with direct anti-diabetic, anti-atherogenic and anti-inflammatory activities. Stimulates AMPK phosphorylation and activation in the liver and the skeletal muscle, enhancing glucose utilization and fatty-acid combustion. Antagonizes TNF-alpha by negatively regulating its expression in various tissues such as liver and macrophages, and also by counteracting its effects. Inhibits endothelial NF-kappa-B signaling through a cAMP-dependent pathway. May play a role in cell growth, angiogenesis and tissue remodeling by binding and sequestering various growth factors with distinct binding affinities, depending on the type of complex, LMW, MMW or HMW.

Tissue specificity

Synthesized exclusively by adipocytes and secreted into plasma.

Involvement in disease

Defects in ADIPOQ are the cause of adiponectin deficiency (ADPND) [MIM:612556]. ADPND results in very low concentrations of plasma adiponectin.
Genetic variations in ADIPOQ are associated with non-insulin-dependent diabetes mellitus (NIDDM) [MIM:125853]; also known as diabetes mellitus type 2. NIDDM is characterized by an autosomal dominant mode of inheritance, onset during adulthood and insulin resistance.

Sequence similarities

Contains 1 C1q domain.
Contains 1 collagen-like domain.

Domain

The C1q domain is commonly called the globular domain.

Post-translational modifications

Hydroxylated Lys-33 was not identified in PubMed:16497731, probably due to poor representation of the N-terminal peptide in mass fingerprinting.
HMW complexes are more extensively glycosylated than smaller oligomers. Hydroxylation and glycosylation of the lysine residues within the collagene-like domain of adiponectin seem to be critically involved in regulating the formation and/or secretion of HMW complexes and consequently contribute to the insulin-sensitizing activity of adiponectin in hepatocytes.
O-glycosylated. Not N-glycosylated. O-linked glycans on hydroxylysines consist of Glc-Gal disaccharides bound to the oxygen atom of post-translationally added hydroxyl groups. Sialylated to varying degrees depending on tissue. Thr-22 appears to be the major site of sialylation. Higher sialylation found in SGBS adipocytes than in HEK fibroblasts. Sialylation is not required neither for heterodimerization nor for secretion. Not sialylated on the glycosylated hydroxylysines. Desialylated forms are rapidly cleared from the circulation.

Cellular localization

Secreted.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors