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Certificate of Analysis and Data Sheet

Recombinant Mouse Adiponectin (Trimeric form) (Acrp30-tri Mouse)

Catalog No.
228-10017

Source:
HEK293 (Human embryonic kidney cell line)

Introduction

Adiponectin (also called ACRP30, GBP28 and apM1) is a hormone exclusively expressed from adipose tissue 1. Many studies demonstrate that adiponectin has direct anti-diabetic, anti-atherogenic and anti-inflammatory functions. APM-1 can increase insulin sensitivity of skeletal muscle 2, attenuate hepatic lipogenesis 3 and luconeogenesis 4, regulate NO production in endothelial cells 5, inhibit proliferation of smooth muscle cells 6 and prevent lipid accumulation of macrophage cells 7.

In the circulation, adiponectin is present as three different oligomeric complexes, including the high molecular weight (HMW), the middle molecular weight (MMW, also called hexamer) and low molecular weight (MMW, also called trimer) forms 8. Different oligomeric complex of adiponectin activates different signaling pathways and exerts distinct functions.

Trimeric form of adiponectin was expressed in HEK293 cells stably transfected with pcmAd-F vector encoding FLAG epitope-tagged mouse adiponectin. Recombinant mouse adiponectin – Trimeric form was purified using anti-FLAG M2 affinity gel (Sigma-Aldrich) and was eluted with FLAG peptide. FLAG peptides were removed by an extensive wash with an excessive volume of saline. Highly sensitive matrix-assisted laser desorption/ionization time of flight (MALDI-TOF) mass-spectrometric analysis confirmed that FLAG peptide was not detectable in the protein solution.

Description

Trimeric form of adiponectin was expressed in HEK293 cells. The cysteine 39 was replaced with alanine (C39A) 9. mAd-C39A can only form trimer, but not hexamer or HMW form.

Synonyms

Acrp30, AdipoQ, GBP-28, APM-1, ACDC.

Purity

Greater than 95% as determined by SDS-PAGE.

Activity

ED50= 3-8.5 µg/mL, as determined by its ability to inhibit proliferation of HASMCs induced by HB EGF.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Formulation

Sterile filtered and lyophilized from 0.5 mg/ml in 0.05M phosphate buffer, 0.05M NaCl, pH 7.2.

Solubility

Add 0.2 ml of deionized water and let the lyophilized pellet dissolve completely.

Stability

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C. The lyophilized protein remains stable until the expiry date when stored at -20°C.

Applications

In vitro, ex vivo and in vivo activity analysis, binding assay et al

Reference

1. Midtrimester amniotic fluid adiponectin in normal pregnancy. Clin Chem 2007 Sep;53(9):1723-4
2. Lower weight gain and higher expression and blood levels of adiponectin in rats fed medium-chain TAG compared with long-chain TAG. Lipids 2006 Feb;41(2):207-12
3. Adiponectin in children with chronic kidney disease: role of adiposity and kidney dysfunction. Clin J Am Soc Nephrol 2007 Jan;2(1):46-50
4. High molecular weight adiponectin as a predictor of long-term clinical outcome in patients with coronary artery disease. Am J Cardiol 2007 Aug 15;100(4):569-74
5. Efficacy of atorvastatin therapy in ischaemic heart disease - effects on oxidized low-density lipoprotein and adiponectin. J Int Med Res 2007 Jul-Aug;35(4):534-9
6. Adiponectin SNP276 is associated with obesity, the metabolic syndrome, and diabetes in the elderly. Am J Clin Nutr 2007 Aug;86(2):509-13

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