9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

Acrp30 Protein

Adiponectin Human Recombinant
CYK0020

Product Overview

Name	Acrp30 Protein
Description	
Adiponectin Human Recombinant	
Accession (Primary)	Q15848
Synonyms	
Acrp30, AdipoQ, GBP-28, APM-1, ACDC.	
Introduction	
The adipose tissue exclusively expresses and secretes Adiponectin (Acrp30). Acrp30 is involved in various physiological processes such as energy homeostasis, insulin sensitivity, hormonal processes, fatty acid metabolism and obesity. Adiponectin circulates in the plasma. Decreased levels of Adiponectin are associated with insulin resistance and hyperinsulinemia, as seen in people with obesity insulin resistance, and diabetes type 2, whose plasma levels of adiponectin are reduced. The modular structure of Acrp30 is comprised of N-terminal collagenous domain followed by a C-terminal globular domain. Acrp30 also acts as a significant negative regulator in hematopoiesis and immune systems; it may be involved in ending inflammatory responses through its inhibitory functions. Adiponectin inhibits endothelial NF-kappa-b signaling through a cAMP-dependent pathway, it also inhibits TNF-alpha- induced expression of endothelial adhesion molecules.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered clear solution.	
Formulation	
Acrp30 protein solution contains Phosphate buffered saline pH 7.4 and 1mM DTT.	
Stability	
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.	
Purity	
Acrp30 purity is greater than 90% as determined by SDS-PAGE.	
Amino acid sequence	

MGHDQETTTQGPGVLLPLPKGACTGWMAGIPGHPGHNGAPGRDGRDGTPGE
KGEKGDPGLIGPKGDIGETGVPGAEGPRGFPGIQGRKGEPGEGAYVYRSAFSV
GLETYVTIPNMPIRFTKIFYNQQNHYDGSTGKFHCNIPGLYYFAYHITVYMKD
VKVSLFKKDKAMLFTYDQYQENNVDQASGSVLLHLEVGDQVWLQVYGEGE RNGLYADNDNDSTFTGFLLYHDTN.

Background

Adiponectin Human Recombinant: Unraveling its Potential in Therapeutic Applications 1. Abstract This paper aims to deliver an extensive exploration into Adiponectin Human Recombinant, a vital adipokine implicated in a multitude of metabolic processes. By delving into the structure, biological roles, and signaling pathways of adiponectin, we elucidate its contribution to pathophysiological conditions. Moreover, we examine the potential therapeutic application of adiponectin in metabolic and cardiovascular diseases. 2. Introduction Adiponectin, a protein predominantly secreted by adipose tissue, plays an integral part in regulating metabolic processes such as glucose regulation and fatty acid oxidation. Understanding the intricacies of adiponectin's actions could pave the way for innovative therapeutic interventions in diseases like obesity, diabetes, and cardiovascular disease. 3. Structure and Signaling of Adiponectin Adiponectin is a 30kDa protein consisting of a collagen-like domain and a C-terminal globular domain. It signals through adiponectin receptors AdipoR1 and AdipoR2, which then activate several intracellular signaling pathways, including AMP-activated protein kinase (AMPK) and peroxisome proliferator-activated receptor-alpha (PPAR-α), regulating various metabolic processes. 4. Biological Functions of Adiponectin Adiponectin has been shown to enhance insulin sensitivity, stimulate fatty acid oxidation, and exert anti-inflammatory effects. Additionally, it is involved in regulating energy homeostasis and has been linked to the regulation of food intake and body weight. 5. Adiponectin in Disease Pathology Reduced levels of adiponectin have been associated with obesity, insulin resistance, type 2 diabetes, and cardiovascular disease. Moreover, adiponectin deficiency has been observed in metabolic syndrome, emphasizing the adipokine's crucial role in metabolic health. 6. Therapeutic Potential of Adiponectin Given adiponectin's role in metabolic regulation, its potential as a therapeutic target is of considerable interest. Approaches to increase circulating adiponectin levels or enhance adiponectin signaling could offer potential therapeutic strategies for managing metabolic diseases and cardiovascular conditions. 7. Conclusion and Future Perspectives While our understanding of adiponectin and its role in health and disease has greatly advanced in recent years, there is still much to uncover. Further research on the precise molecular mechanisms of adiponectin could pave the way for novel therapeutic approaches.

Precautions

Acrp30 Protein is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q15848)

9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

Background

Adiponectin Human Recombinant: Unraveling its Potential in Therapeutic Applications 1. Abstract This paper aims to deliver an extensive exploration into Adiponectin Human Recombinant, a vital adipokine implicated in a multitude of metabolic processes. By delving into the structure, biological roles, and signaling pathways of adiponectin, we elucidate its contribution to pathophysiological conditions. Moreover, we examine the potential therapeutic application of adiponectin in metabolic and cardiovascular diseases. 2. Introduction Adiponectin, a protein predominantly secreted by adipose tissue, plays an integral part in regulating metabolic processes such as glucose regulation and fatty acid oxidation. Understanding the intricacies of adiponectin's actions could pave the way for innovative therapeutic interventions in diseases like obesity, diabetes, and cardiovascular disease. 3. Structure and Signaling of Adiponectin Adiponectin is a 30kDa protein consisting of a collagen-like domain and a C-terminal globular domain. It signals through adiponectin receptors AdipoR1 and AdipoR2, which then activate several intracellular signaling pathways, including AMP-activated protein kinase (AMPK) and peroxisome proliferator-activated receptor-alpha (PPAR-α), regulating various metabolic processes. 4. Biological Functions of Adiponectin Adiponectin has been shown to enhance insulin sensitivity, stimulate fatty acid oxidation, and exert anti-inflammatory effects. Additionally, it is involved in regulating energy homeostasis and has been linked to the regulation of food intake and body weight. 5. Adiponectin in Disease Pathology Reduced levels of adiponectin have been associated with obesity, insulin resistance, type 2 diabetes, and cardiovascular disease. Moreover, adiponectin deficiency has been observed in metabolic syndrome, emphasizing the adipokine's crucial role in metabolic health. 6. Therapeutic Potential of Adiponectin Given adiponectin's role in metabolic regulation, its potential as a therapeutic target is of considerable interest. Approaches to increase circulating adiponectin levels or enhance adiponectin signaling could offer potential therapeutic strategies for managing metabolic diseases and cardiovascular conditions. 7. Conclusion and Future Perspectives While our understanding of adiponectin and its role in health and disease has greatly advanced in recent years, there is still much to uncover. Further research on the precise molecular mechanisms of adiponectin could pave the way for novel therapeutic approaches.