

Acrp30 Protein

Adiponectin Human Recombinant

CYK0020

Product Overview

Name	Acrp30 Protein
Accession(Primary)	Q15848
Description	Adiponectin Human Recombinant

Target information (Q15848)

Gene Name

About Gene Symbol

Background

Adiponectin Human Recombinant: Unraveling its Potential in Therapeutic Applications

- 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.
- 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.
- 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.
- 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.