9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
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C-Peptide

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HRM0012

Product Overview

Name	C-Peptide

Description

C-Peptide

Synonyms

CPLX-1, CPXI, CPX-I, CPX1, CPX-1, Synaphin2, Synaphin-2, Complexin-1, Complexin I, CPX I, CPLX1.

Introduction

CPLX1 is part of the SNARE family complex binding proteins that are catalysts or inhibitors of vesicle exocytosis. CPLX1 shows reduced Ca2+-triggered fast neurotransmitter release at hippocampal glutamatergic synapses, indicating that CPLX1 is a positive regulator of transmitter release. In contrast, CPLX1 inhibits SNARE-mediated liposome and cell fusions in vitro, that result in hypothesis thus acts as a fusion clamp of synaptic exocytosis. CPLX1 regulates a late step in synaptic vesicle exocytosis.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered colorless solution.

Formulation

The CPLX1protein solution contains 20mM Tris-HCl pH-8 and 10% glycerol.

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

Greater than 90% by SDS-PAGE.

Amino acid sequence

MGSSHHHHHH SSGLVPRGSH MEFVMKQALG GATKDMGKML GGDEEKDPDA AKKEEERQEA LRQAEEERKA KYAKMEAERE AVRQGIRDKYGIKKKEEREA EAQAAMEANS EGSLTRPKKA IPPGCGDEVE EEDESILDTV IKYLPGPLQD MLKK.

Precautions

C-Peptide is for research use only and not for use in diagnostic or therapeutic procedures.

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Background

C-peptide, a small peptide derived from proinsulin, has garnered increasing attention in recent years for its multifaceted physiological functions and clinical significance, particularly in the context of diabetes mellitus. While initially considered a mere byproduct of insulin synthesis, research has revealed that C-peptide exerts unique biological effects, extending beyond glycemic control. This research endeavors to comprehensively investigate the roles of C-peptide, shedding light on its diverse functions and potential applications in diabetes management and other areas of healthcare. The primary objective of this study is to unravel the mechanisms underlying the physiological actions of C-peptide. In vitro experiments using cellular and tissue models will be conducted to explore how C-peptide interacts with cellular receptors and signaling pathways. This includes investigations into its influence on insulin secretion, glucose uptake, and endothelial function. Understanding these mechanisms is essential for delineating the potential therapeutic applications of C-peptide. The second objective is to assess the clinical relevance of C-peptide in diabetes management. Clinical trials involving individuals with type 1 and type 2 diabetes will be conducted to evaluate the effects of exogenous C-peptide administration on glycemic control, insulin sensitivity, and microvascular complications. These studies may provide valuable insights into the use of C-peptide as an adjunct therapy in diabetes treatment. The third objective is to explore the broader implications of C-peptide in healthcare. Research will investigate the potential role of C-peptide in conditions beyond diabetes, such as its effects on cardiovascular health, neuroprotection, and wound healing. Understanding the multifunctional properties of C-peptide may open up new avenues for therapeutic interventions in various medical specialties. By delving into the diverse functions of C-peptide, this research aims to expand our knowledge of its physiological roles and clinical applications. The findings may lead to innovative approaches for diabetes management and offer insights into the broader healthcare implications of C-peptide.