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

TNNI3 Human Native

Cardiac Troponin-I Human
NTP0062

Product Overview

Name	TNNI3 Human Native

Description

Cardiac Troponin-I Human

Synonyms

Troponin I cardiac muscle, Cardiac troponin I, TNNI3, TNNC1, CMH7, RCM1, cTnI, CMD2A, MGC116817.

Source

Human heart tissue.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

TNNI3 was lyophilized from 0.01M HCl.

Stability

Lyophilized Cardiac Troponin-I although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TNNI3 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 98.0% as determined by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized TNNI3 in Tris/urea buffer (20mM Tris, pH 7.5, 7M urea, 5mM EDTA, 15mM 2-mercaptoethanol) not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

Troponin I, encoded by the TNNI3 gene, is a critical component of the troponin complex in cardiac muscle cells. It plays a central role in the regulation of cardiac muscle contraction by modulating the interaction between actin and myosin filaments. While extensive research has been conducted on troponin I in the context of cardiac diseases, there is a growing need to investigate native human troponin I (TNNI3) in its unmodified form to gain a deeper understanding of its functions, structural significance, and implications for heart health. This research aims to provide a comprehensive exploration of TNNI3 in its native state, shedding light on its various roles and potential applications in cardiology and biomedical research. The primary objective of this research is to elucidate the physiological role of

native human TNNI3 in cardiac muscle contraction. Experiments involving human cardiac tissue samples and isolated myocytes will be conducted to investigate how TNNI3 interacts with other components of the troponin complex and influences calcium-mediated muscle contraction. Understanding these mechanisms is fundamental for deciphering the complexities of cardiac muscle physiology and its implications for heart health. The second objective is to assess the clinical relevance of native TNNI3 in cardiac diseases. Clinical studies involving patients with various cardiac conditions will be conducted to evaluate the diagnostic and prognostic value of TNNI3 as a biomarker. These investigations may provide valuable insights into the use of native TNNI3 in the early detection and management of heart diseases. The third objective is to explore the potential applications of native TNNI3 in biomedical research and drug development. Research will investigate the use of native TNNI3-expressing cells as models for studying cardiac disorders and for developing novel therapeutic interventions targeting the troponin complex. By delving into the functions and roles of native human TNNI3, this research aims to expand our knowledge of cardiac muscle physiology, its implications for cardiac diseases, and its potential applications in cardiology and biomedical research.

Precautions

TNNI3 Human Native is for research use only and not for use in diagnostic or therapeutic procedures.

Background

Troponin I, encoded by the TNNI3 gene, is a critical component of the troponin complex in cardiac muscle cells. It plays a central role in the regulation of cardiac muscle contraction by modulating the interaction between actin and myosin filaments. While extensive research has been conducted on troponin I in the context of cardiac diseases, there is a growing need to investigate native human troponin I (TNNI3) in its unmodified form to gain a deeper understanding of its functions, structural significance, and implications for heart health. This research aims to provide a comprehensive exploration of TNNI3 in its native state, shedding light on its various roles and potential applications in cardiology and biomedical research. The primary objective of this research is to elucidate the physiological role of native human TNNI3 in cardiac muscle contraction. Experiments involving human cardiac tissue samples and isolated myocytes will be conducted to investigate how TNNI3 interacts with other components of the troponin complex and influences calcium-mediated muscle contraction. Understanding these mechanisms is fundamental for deciphering the complexities of cardiac muscle physiology and its implications for heart health. The second objective is to assess the clinical relevance of native TNNI3 in cardiac diseases. Clinical studies involving patients with various cardiac conditions will be conducted to evaluate the diagnostic and prognostic value of TNNI3 as a biomarker. These investigations may provide valuable insights into the use of native TNNI3 in the early detection and management of heart diseases. The third objective is to explore the potential applications of native TNNI3 in biomedical research and drug development. Research will investigate the use of native TNNI3-expressing cells as models for studying cardiac

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