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TNNT1 Human

Slow Skeletal Troponin T Human Recombinant
RCP2403

Product Overview

Name	TNNT1 Human
Description	
Slow Skeletal Troponin T Human Recombinant	
Accession (Primary)	P13805
Synonyms	
Troponin T, slow skeletal muscle, TnTs, Slow skeletal muscle troponin T (sTnT), TNNT1, TNT.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
TNNT1 was lyophilized in 0.01M HCl, pH 2.0.	
Stability	
Lyophilized Slow Skeletal Troponin T although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TNNT1 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 95.0% as determined by SDS-PAGE.	
Solubility	
It is recommended to reconstitute the lyophilized TNNT1 in buffer containing 0.01M HCl, pH 2.0 not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.	
Background	
The Troponin T1 Slow Skeletal Type (TNNT1) human recombinant protein has emerged as a focal point in biomedical research, offering a key to unraveling the complexities of muscle contraction and its implications in neuromuscular disorders. TNNT1 is a critical component of the troponin complex, which regulates striated muscle contraction by controlling the interaction between actin and myosin. The TNNT1 human recombinant, synthesized through advanced biotechnological techniques, provides a valuable tool to explore the intricate molecular characteristics and functional	

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roles of this essential protein. Understanding the molecular characteristics of TNNT1 is fundamental to comprehending its role in muscle physiology and pathology. TNNT1, a slow skeletal muscle isoform, possesses unique structural features that enable its binding to tropomyosin, a key regulator of muscle contraction. The interactions between TNNT1, tropomyosin, and other troponin subunits are central to the fine-tuned regulation of muscle contraction. TNNT1 is primarily expressed in slow-twitch skeletal muscles, which are responsible for sustained, endurance-type activities. The functional significance of TNNT1 lies in its role in modulating muscle contraction kinetics, allowing for prolonged muscle activity without fatigue. Moreover, TNNT1 mutations have been associated with congenital myopathies and neuromuscular disorders, emphasizing its crucial role in muscle health. The TNNT1 human recombinant has promising implications for both research and potential therapeutic applications. Researchers can utilize this recombinant protein to investigate the structural and functional properties of TNNT1, shedding light on its interactions with other muscle proteins and its role in muscle diseases. Additionally, TNNT1-based therapies may hold the key to addressing neuromuscular disorders, providing hope for improved treatments and patient outcomes. This research aims to provide a comprehensive analysis of the TNNT1 human recombinant, focusing on its molecular characteristics, functional significance, and potential therapeutic implications. By delving into the intricate nature of TNNT1, we aim to contribute to a deeper understanding of muscle biology and pave the way for future research and therapeutic advancements in the realm of neuromuscular disorders.

Precautions

TNNT1 Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P13805)

Background

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