

Native Human troponin I type 1 Protein

Cat. No. TNNI1-49H **Lot. No.** (See product label)

SPECIFICATION

Product Overview TNNI1 Native produced in Human skeletal is Immunological identity confirmed by reaction with monoclonal antibody that is specific for the Human Troponin I Skeletal Muscle. TNNI1 Native is purified by proprietary chromatographic technique.

Species Human

Source Skeletal Muscle

ProteinLength 1-187aa

Description Troponin I, specifically the skeletal muscle isoform encoded by the TNNI1 gene, is a crucial regulator of muscle contraction. It functions as part of the troponin complex, which controls the interaction between actin and myosin filaments during muscle contraction. While extensive research has been conducted on troponin I in the context of cardiac muscle and cardiac diseases, the study of native human skeletal muscle troponin I remains an important but relatively understudied area. This research aims to provide a comprehensive exploration of native human skeletal muscle troponin I (TNNI1), elucidating its functions, structural significance, and potential applications in musculoskeletal research and clinical medicine. The primary objective of this research is to elucidate the physiological role of native human skeletal muscle TNNI1 in muscle contraction. Experiments involving human skeletal muscle tissue samples and isolated muscle fibers will be conducted to investigate how TNNI1 interacts with other components of the troponin complex and influences calcium-mediated muscle contraction. Understanding these mechanisms is fundamental for deciphering the

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complexities of skeletal muscle physiology and its implications for musculoskeletal health. The second objective is to assess the clinical relevance of native TNNI1 in muscle-related diseases. Clinical studies involving patients with various neuromuscular and muscle-wasting conditions will be conducted to evaluate the diagnostic and prognostic value of TNNI1 as a biomarker. These investigations may provide valuable insights into the use of native TNNI1 in the early detection and management of muscle disorders. The third objective is to explore the potential applications of native TNNI1 in musculoskeletal research and therapeutic development. Research will investigate the use of native TNNI1-expressing cells and tissues as models for studying muscle disorders and for developing novel therapeutic interventions targeting the troponin complex. By delving into the functions and roles of native human skeletal muscle TNNI1, this research aims to expand our knowledge of skeletal muscle physiology, its implications for muscle-related diseases, and its potential applications in musculoskeletal research and clinical medicine.

Tag	Non
Form	Sterile filtered white lyophilized (freeze-dried) powder
Purity	Greater than 95.0% as determined by SDS-PAGE.
Stability	Lyophilized Troponin I Skeletal Muscle although stable at room temperature for 3 weeks, should be stored desiccated below -18 centigrade. Upon reconstitution TNNI1 should be stored at 4 centigrade between 2-7 days and for future use below -18 centigrade. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
Storage Buffer	Lyophilized from 0.01M HCl.
Solubility	It is recommended to reconstitute the lyophilized TNNI1 in Tris/urea buffer (20mM

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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.

GENE INFORMATION

Gene Name	TNNI1 troponin I type 1 (skeletal, slow) [Homo sapiens (human)]
Official Symbol	TNNI1
Synonyms	TNNI1; troponin I type 1 (skeletal, slow); troponin I, skeletal, slow; troponin I, slow skeletal muscle; troponin I, slow-twitch isoform; TNN1; SSTNI; DKFZp451O223
Gene ID	7135
mRNA Refseq	NM_003281
Protein Refseq	NP_003272
MIM	191042
UniProt ID	P19237

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