

Native Human Troponin I Type 3 (Cardiac)

Cat. No. TNNI3-223H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Native Human TNNI3 was purified from Human heart tissue.
Species	Human
Source	Human Heart
Description	Troponin I (TnI), along with troponin T (TnT) and troponin C (TnC), is one of 3 subunits that form the troponin complex of the thin filaments of striated muscle. TnI is the inhibitory subunit; blocking actin-myosin interactions and thereby mediating striated muscle relaxation. The TnI subfamily contains three genes: TnI-skeletal-fast-twitch, TnI-skeletal-slow-twitch, and TnI-cardiac. This gene encodes the TnI-cardiac protein and is exclusively expressed in cardiac muscle tissues. Mutations in this gene cause familial hypertrophic cardiomyopathy type 7 (CMH7) and familial restrictive cardiomyopathy (RCM).
Purity	≥95 %.
Applications	TnI is the inhibitory subunit of troponin, the thin filament regulatory complex which confers calcium sensitivity to striated muscle actomyosin ATPase activity. Cardiac isoform of TnI (cTnI) has two serine residues at positions 22 and 23 which could be phosphorylated by cAMP-dependent protein kinase (PKA) in response to β -adrenergic stimulation of the heart. Modification of these serines results in the changes of myocardial contractility. About 50% of cTnI purified from human cardiac tissue is mono- or biphosphorylated. cTnI purified from human cardiac tissue was

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completely phosphorylated in vitro by catalytic subunit of PKA from bovine heart. TnI is suitable for use as a standard in immunoassay, immunogen for antiserum production.

Storage - 20°C (- 70°C for long term storage)

GENE INFORMATION

Gene Name TNNI3 troponin I type 3 (cardiac) [Homo sapiens]

Official Symbol TNNI3

Synonyms TNNI3; troponin I type 3 (cardiac); troponin I, cardiac; troponin I, cardiac muscle; CMH7; TNNC1; RCM1; cTnI; CMD2A; CMD1FF; MGC116817;

Gene ID 7137

mRNA Refseq NM_000363

Protein Refseq NP_000354

MIM 191044

UniProt ID P19429

Chromosome Location 19q13.4

Pathway Cardiac muscle contraction, organism-specific biosystem; Cardiac muscle contraction, conserved biosystem; Dilated cardiomyopathy, organism-specific biosystem; Dilated cardiomyopathy, conserved biosystem; Hypertrophic

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cardiomyopathy (HCM), organism-specific biosystem; Hypertrophic cardiomyopathy (HCM), conserved biosystem; Muscle contraction, organism-specific biosystem;

Function

actin binding; calcium channel inhibitor activity; calcium-dependent protein binding; protein binding; protein domain specific binding; protein kinase binding; troponin C binding; troponin T binding;

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