Product Data Sheet

Product Name:	TPM1 Human
Cat. No.:	GP24864
Batch No.:	1

Product Data

Purity	>98%	Source	Escherichia Coli.
Phycical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Tropomyosin alpha-1 chain; Tropomyosin-1; Alpha-tropomyosin; TPM1; C15orf13; TMSA; CMD1Y; HTM-alpha.		
Amino Acid Sequence	MGSSHHHHHH SSGLVPRGSH MDAIKKKMQM LKLDKENALD RAEQAEADKK AAEDRSKQLE DELVSLQKKL KGTEDELDKY SEALKDAQEKLELAEKKATD AEADVASLNR RIQLVEEELD RAQERLATAL QKLEEAEKAA DESERGMKVI ESRAQKDEEK MEIQEIQLKE AKHIAEDADRKYEEVARKLV IIESDLERAE ERAELSEGQV RQLEEQLRIM DQTLKALMAA EDKYSQKEDR YEEEIKVLSD KLKEAETRAE FAERSVTKLEKSIDDLEDEL YAQKLKYKAI SEELDHALND MTSM.		
Formulation	TPM1 0.5mg/ml protein solution contains 20mM Tris-HCl buffer pH-8, 1mM DTT, 0.1M NaCl & 20% glycerol.		

Introduction

TPM1 is a member of the tropomyosin family which consists of a number of extremely conserved, extensively distributed 35-45 kDa actin-binding proteins that are involved in the contractile system of striated and smooth muscles and the cytoskeleton of non-muscle cells. Tropomyosin-1 is composed of 2 alpha-helical chains arranged as a coiled-coil. TPM1 is polymerized end to end alongside the two grooves of actin filaments and provides stability to the filaments. TPM1 binds to actin filaments in muscle and non-muscle cells. TPM1 also functions in association with the troponin complex to regulate the calcium-dependent interaction of actin and myosin during muscle contraction. In non-muscle cells TPM1 is implicated in stabilizing cytoskeleton actin filaments. Smooth muscle contraction is controlled by interaction with caldesmon. Alternatively spliced transcript variants encoding a range of isoforms have been described in smooth muscle and non-muscle cells. TPM1 Isoform 1 is expressed in adult and fetal skeletal muscle and cardiac tissues, with higher expression levels in the cardiac tissues, whereas Isoform 10

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is expressed in adult and fetal cardiac tissues, but not in skeletal muscle.Mutations in the TPM1 gene are linked to type 3 familial hypertrophic cardiomyopathy.

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.

Background

TPM1 Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 304 amino acids (1-284 a.a.) and having a total molecular mass of 35kDa (Molecular weight on SDS-PAGE will appear higher). TPM1 is fused to a 20 amino acid His Tag at N-terminus and is purified by proprietary chromatographic techniques.

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