TPM2 Protein, Human (His)

Cat. No.:	HY-P72264
Synonyms:	AMCD1; TMSA; TMSB; TPM2; TRK; Tropomyosin beta chain
Species:	Human
Source:	E. coli
Accession:	P07951 (D14-L284)
Gene ID:	7169
Molecular Weight:	Approximately 38 kDa

PROPERTIES

AA Sequence	D K E N A I D R A E Q A E A D K K Q A E D R C K Q L E E E Q Q A L Q K K L K G T E D E V E K Y S E S V K E A Q E K L E Q A E K K A T D A E A D V A S L N R R I Q L V E E E L D R A Q E R L A T A L Q K L E E A E K A A D E S E R G M K V I E N R A M K D E E K M E L Q E M Q L K E A K H I A E D S D R K Y E E V A R K L V I L E G E L E R S E E R A E V A E S K C G D L E E E L K I V T N N L K S L E A Q A D K Y S T K E D K Y E E E I K L L E E K L K E A E T R A E F A E R S V A K L E K T I D D L E D E V Y A Q K M K Y K A I S E E L D N A L N D I T S L
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm sterile filtered PBS , 6% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	TPM2 protein exhibits specific binding to actin filaments in both muscle and non-muscle cells, playing a central role in the calcium-dependent regulation of vertebrate striated muscle contraction, particularly in association with the troponin complex. In smooth muscle cells, TPM2 contributes to the regulation of contraction through its interaction with caldesmon. Moreover, in non-muscle cells, TPM2 is implicated in the stabilization of actin filaments within the cytoskeleton, indicating its versatile functions across cellular contexts. The non-muscle isoform of TPM2 may additionally participate in agonist-

mediated receptor internalization. Structurally, TPM2 forms homodimers and heterodimers, the latter composed of an alpha chain (TPM1, TPM3, or TPM4) and a beta chain (TPM2), highlighting its diverse molecular associations and underscoring its pivotal roles in both muscle contraction and cellular structural dynamics.

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