

## TPM4 Protein, Human, Recombinant (His)

### General Information

Synonyms:	tropomyosin 4;HEL-S-108;TPM4
Protein Construction:	A DNA sequence encoding the human TPM4 (P67936) (Ala2-Ile248) was expressed with an N-terminal polyhistidine tag. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P67936
Molecular Weight:	30.8 kDa (predicted); 35-40 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

TPM4, also known as tropomyosin 4, is a member of the tropomyosin family. Members of this family are actin-binding proteins involved in the contractile system of striated and smooth muscles and the cytoskeleton of non-muscle cells. TPM4 is expressed in cardiac tissue and platelets. It is highly expressed in the platelets of hypertensive patients. TPM4 plays a central role, in association with the troponin complex, in the calcium-dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by

interaction with caldesmon. In non-muscle cells, it is implicated in stabilizing cytoskeleton actin filaments.

Reference

Udeshi ND. et al., 2012, Mol Cell Proteomics. 11 (5): 148-59.

Rostila A. et al., 2012, Lung Cancer. 77 (2): 450-9.

Vlahovich N. et al., 2008, Cell Motil Cytoskeleton. 65 (1): 73-85.

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