

Product Specification Sheet

Human cardiac tropomyosin

Cat. # TMY17-N-25

Human cardiac tropomyosin

SIZE: 25 ug

Tropomyosin is an actin-binding protein that regulates actin mechanics. It is important, among other things, for muscle contraction. Tropomyosin, along with the troponin complex, associate with actin in muscle fibers and regulate muscle contraction by regulating the binding of myosin. In resting muscle, tropomyosin overlays the myosin binding sites on actin and is "locked" down in this position by troponin T (tropomyosin binding troponin) and troponin I (inhibitory troponin). Upon release of calcium from the sarcoplasmic reticulum calcium binds to troponin C (calcium binding troponin). This "unlocks" tropomyosin from actin, allowing it to move away from the binding groove. Myosin heads can now access the binding sites on actin. Once one myosin head binds, this fully displaces tropomyosin and allows additional myosin heads to bind, initiating muscle shortening and contraction. Once calcium is pumped out of the cytoplasm and calcium levels return to normal, tropomyosin again binds to actin, preventing myosin from binding.

Tropomyosin is composed of four alpha helices, A, B, C, and D, which coil together to form the quaternary structure. Tropomyosin is a pan-allergen (an allergen widely distributed in nature) because it is a highly conserved protein among species. Certain tropomyosins are known to cause allergies in certain people, and those who have cross-reactive allergies can get symptoms from a range of sources due to a common allergen found in all these sources: Shrimp, dust mites and mollusks. This common allergen is the reason why some people sensitized with mite tropomyosin could have an allergic reaction after eating seafood.

Source of Antigen and Antibodies

Tropomyosin was purified from human cardiac tissue. Purified protein (cat # TMY17-N-25) is formulated 50 mM NaCl, 10 mM Tris.HCl, 5 mM beta-mercaptoethanol, 1 mM EDTA (pH 7.4) (see lot sp conc on the vial). Purified protein (monomer is ~32 Kda and it is >95% pure).

All human derived material has been tested negative for HIV, HCV, and HbSAg. Nevertheless, all precautions should be taken and samples be treated as potentially hazardous.

This preparation can be used for ELISA or diluted in other appropriate buffers.

Store frozen in suitable aliquots.

Purified protein

- 25 ug/vial
- solution
- lyophilized powder

Reconstitute powder in appropriate buffer in at least 100 ug/ml.

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for lyophilized items.

General References: (1).

*This product is for in vitro research use only.

Related items

| Catalog# | ProdDescription |
|-------------|---|
| TMY15-N-25 | Tropomyosin Rat Cardiac, purified protein |
| TMY16-N-25 | Tropomyosin, Dog Cardiac, purified protein |
| TMY17-N-25 | Tropomyosin, Human Cardiac, purified protein |
| TNCC75-N-25 | Troponin-C, Human Cardiac, pure protein |
| TNCC76-N-25 | Troponin-C, Recombinant, Human Cardiac, pure |
| TNIC15-A | Anti-Human Troponin-I Cardiac, (peptide 3), |
| TNIC16-M | Monoclonal Anti-Human Troponin-I, Cardiac, |
| TNIC25-N-25 | Troponin-I, Recombinant, Human Cardiac, pure |
| TNIC26-N-25 | Troponin-I, Bovine Cardiac, pure protein |
| TNIC27-N-25 | Troponin-I Mouse Cardiac, pure protein |
| TNIC28-N-25 | Troponin-I Pig Cardiac, pure protein |
| TNIC29-N-25 | Troponin-ITC Complex Pig Cardiac , pure |
| TNIC31-N-25 | Troponin-I Rabbit Cardiac, pure protein |
| TNIC32-N-25 | Troponin-I Rat Cardiac, pure protein |
| TNIC33-N-25 | Troponin-I, Dog Cardiac, pure protein |
| TNIM47-N-25 | Troponin-I Monkey Skeletal Muscle, pure protein |
| TNIM48-N-25 | Troponin-I Pig Skeletal Muscle, pure protein |
| TNIM49-N-25 | Troponin-C Rabbit Skeletal Muscle, pure protein |
| TNIM50-N-25 | Troponin-I Rat Skeletal Muscle, pure protein |
| TNIM51-N-25 | Troponin-I, Chicken Skeletal Muscle, pure |
| TNIM53-N-25 | Troponin-I Human Skeletal Muscle, pure protein |
| TNTC55-A | Monoclonal Anti-Human Troponin-T, Cardiac, |
| TNTC65-N-25 | Troponin-T, Human Cardiac, pure protein |

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India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com