

Troponin T (Cardiac) Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H R	Endogenous	40	Rabbit	#P45379	7139

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Troponin T (Cardiac) Antibody detects endogenous levels of total cardiac Troponin T protein.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to a region surrounding Pro69 of human cardiac Troponin T protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Troponin, working in conjunction with tropomyosin, functions as a molecular switch that regulates muscle contraction in response to changes in the intracellular Ca^{2+} concentration. Troponin consists of three subunits: the Ca^{2+} -binding subunit troponin C (TnC), the tropomyosin-binding subunit troponin T (TnT), and the inhibitory subunit troponin I (TnI) (1). In response to β -adrenergic stimulation of the heart, Ser23 and Ser24 of TnI (cardiac) are phosphorylated by PKA and PKC. This phosphorylation stimulates a conformational change of the regulatory domain of TnC, reduces the association between TnI and TnC, and decreases myofilament Ca^{2+} sensitivity by reducing the Ca^{2+} binding affinity of TnC (1-3).

The tropomyosin binding subunit of the troponin complex TnT exists as different isoforms in slow skeletal muscle (ssTnT/TNNT1), fast skeletal muscle (fsTnT/TNNT3) and in cardiac muscle (cTnT/TNNT2). Each of these may also contain multiple alternatively spliced variants. Assays for measuring serum concentrations of cTnT, as well as cTnI, have been reported for analyzing cardiac injury.

Background References

1. Ward, D.G. et al. (2002) *J. Biol. Chem.* 277, 41795-41801.
2. Noland, T.A. et al. (1995) *J. Biol. Chem.* 270, 25445-25454.
3. Gaponenko, V. et al. (1999) *J. Biol. Chem.* 274, 16681-16684.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **R:** Rat

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