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Store at -20C
#4002

Troponin I Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	28	Rabbit	#P19429	7137

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 I Antibody detects endogenous levels of total troponin I, both skeletal muscle and cardiac isoforms.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with two synthetic peptides corresponding to the sequence of human troponin I. 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 Ca²⁺ concentration. Troponin consists of three subunits: the Ca²⁺-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 Ca²⁺ sensitivity by reducing the Ca²⁺ binding affinity of TnC (1-3).

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 **M:** Mouse **R:** Rat

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