Troponin T (Cardiac) Antibody

**Background:** Troponin, working in conjunction with tropomyosin, functions as a molecular switch, regulating 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.

**Specificity/Sensitivity:** Troponin T (Cardiac) Antibody detects endogenous levels of total cardiac Troponin T protein.

**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 References:**

**Applications**

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<th>Species Cross-Reactivity*</th>
<th>Molecular Wt.</th>
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<td>W Endogenous</td>
<td>H, R, (Mk) 40 kDa Rabbit**</td>
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<td>Rabbit**</td>
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**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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**
Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com. Please visit www.cellsignal.com for a complete listing of recommended companion products.