

PRODUCT INFORMATION



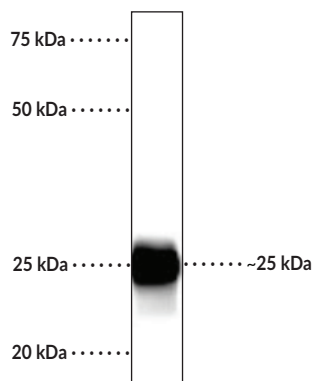
Cardiac Troponin I Polyclonal Antibody

Item No. 29298

Overview and Properties

Contents:	This vial contains 100 µl of unpurified neat serum polyclonal antibody.
Synonym:	cTnI
Immunogen:	Fusion protein of the mouse cardiac troponin I holoprotein
Species Reactivity:	(+) Human, mouse, rat
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Host:	Rabbit
Applications:	Western blot (WB); the recommended starting dilution is 1:2,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



WB of 20 µg of mouse heart lysate showing specific immunolabeling of the ~25 kDa cardiac troponin I protein.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Cardiac troponin I (cTnI) is a subunit of the troponin complex in cardiac muscle thin filaments, which plays a role in muscle activity.¹ It is encoded by *TNNI3* in humans and is expressed exclusively in the heart. cTnI is a multidomain protein composed of an N-terminal domain, IT-arm, inhibitory domain, regulatory domain, and C-terminal mobile domain. The N-terminal domain is exclusive to cTnI and is essential to the interaction of cTnI with troponin C and in the regulation of calcium-dependent muscle contraction. cTnI binds to actin to hold the troponin complex in place in thin myofilaments. Phosphorylation of cTnI at serines 22 and 23 in the N-terminus decreases sarcomere calcium sensitivity, promotes calcium dissociation from troponin C, and enhances diastolic relaxation.^{2,3} Cardiac systolic dysfunction in human and animal models of heart failure is linked to PKC phosphorylation of cTnI at serines 23, 24, 43, and 45, as well as threonine 144.³ Cayman's Cardiac Troponin I Polyclonal Antibody can be used for Western blot (WB) applications. The antibody recognizes cTnI at approximately 25 kDa from human, mouse, and rat samples.

References

1. Katrukha, I.A. Human cardiac troponin complex. Structure and functions. *Biochemistry (Mosc.)* **78(13)**, 1447-1465 (2013).
2. Solaro, R.J., Henze, M., and Kobayashi, T. Integration of troponin I phosphorylation with cardiac regulatory networks. *Circ. Res.* **112(2)**, 355-366 (2013).
3. Lang, S.E., Stevenson, T.K., Schatz, T.M., *et al.* Functional communication between PKC-targeted cardiac troponin I phosphorylation sites. *Arch. Biochem. Biophys.* **627**, 1-9 (2017).

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