

Product Specification Sheet

Human Cardiac Troponin-T

Cat. # TNTC55-A
Cat. # TNTC55-C

Monoclonal anti-Troponin-T, Human Cardiac IgG
Troponin-T, Human Cardiac, pure protein control for WB

SIZE: 100 ug

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Troponins are protein components of striated muscle. There are three different troponins: troponin C, troponin T and troponin I. Troponin T (cTnT) and troponin I (cTnI) are released only following cardiac damage. They are present for, and remain elevated, a long time. Unlike CK and CK-MB, cTnT and cTnI are released for much longer with cTnI detectable in the blood for up to 5 days and cTnT for 7-10 days following MI. This allows an MI to be detected if the patient presents late.

Troponin T and I are very sensitive. There is always a low level release of CK and CK-MB from skeletal muscle at a low level all the time so there is always a background value. This is not the case for the cardiac structural proteins such as cTnT and cTnI and therefore, they are very sensitive. Studies have revealed that about one third of patients admitted with unstable angina, in which MI was apparently excluded by CK and CK-MB measurement, have raised levels of cTnT and cTnI.

Elevation of cTnT or cTnI is absolutely indicative of cardiac damage, but this can occur as a result of causes other than MI e.g. myocarditis, coronary artery spasm from cocaine, severe cardiac failure, cardiac trauma from surgery or road traffic accident, and pulmonary embolus can cause cardiac damage with an accompanying elevation of cardiac troponin(s). Failure to show a rise in cTnT or cTnI does not exclude the diagnosis of ischemic heart disease.

Both cTnT and cTnI may be elevated in patients with chronic renal failure and indicate a higher long-term risk of death. They can be distinguished from changes due to myocardial infarction by repeating the tests. Myocardial infarction causes a rise and fall in cTnT or cTnI, but in renal failure the elevated levels are sustained.

cTnT is a part of the troponin complex. It binds to tropomyosin, interlocking them to form a troponin-tropomyosin complex. cTnT was discovered by the German physician Hugo A. Katus at the University of Heidelberg. He developed the cTnT assay. [

Source of Antigen and Antibodies

Antigen	Purified human Troponin-Tertiary complex
Ab Host/type	Mouse, monoclonal, IgG purified over Protein A/G Agarose (Cat # TNTC55-M) supplied in PBS+0.1% BSA, 0.05% azide
2-Ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Recombinant human Cardiac Troponin-T (>98% pure, ~24 Kda), Western blot +ve control (**Cat # TNTC55-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **TNTC55-C** for

good visibility with antibody Cat # **TNTC55-A**. Store at -20°C in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **TNTC55-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

(100 ug/100ul) (solution) (lyophilized powder)
Supplied in **Buffer:** PBS+0.1% BSA, 0.05% azide
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

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

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:1K-2K antibody using ECL technique).

ELISA: Control protein can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested.

Specificity & Cross-reactivity

This antibody reacts with human cardiac Troponin T. There is no substantial cross reactivity human skeletal Troponin I (<5%). Antibody crossreacts with cTnT from human, mouse, rat and dog. Other species not tested. Purified human cardiac Troponin TI (#TNTC55-C) is available for control studies.

General References: Wade r (1990) Genomics 7, 346-357; Corin SJ (1994) JBC 269, 10651;

*This product is for In vitro research use only.

Related material available from ADI

Recombinant Human, mouse, bovine, pig, rabbit, rat, dog, monkey Troponins-I, -C, -T purified proteins, Antibodies ELISA kits for human and other species Troponin-I, Troponin-C, Troponin-T
TNIC16-M-C

TNTC55-A

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