Product datasheet

Anti-Cardiac Troponin I antibody [4C2] ab10231

Overview

Product name
Anti-Cardiac Troponin I antibody [4C2]

Description
Mouse monoclonal [4C2] to Cardiac Troponin I

Host species
Mouse

Specificity
reacts with free cardiac troponin I (cTnI) and cTnI forming complexes with other troponin components (in the presence of 5 mM EDTA). Not affected by heparin, phosphorylation, oxidation and troponin complex formation. Does not cross-react with skeletal muscle troponin I.

Tested applications
Suitable for: WB, Sandwich ELISA, IHC-P, ELISA

Species reactivity
Reacts with: Mouse, Rat, Rabbit, Goat, Cow, Cat, Dog, Human, Pig

Immunogen
Full length protein (Human).

Epitope
23-29 aa

General notes
Concentration varies from lot to lot and can be provided on request.

Properties

Form
Liquid

Storage instructions
Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.

Storage buffer
Preservative: 0.1% Sodium Azide
Constituents: PBS, pH 7.4

Purity
Protein A purified

Purification notes
Purity tested by electrophoresis.

Clonality
Monoclonal

Clone number
4C2

Myeloma
Sp2/0

Isotype
IgG2a

Applications

Our Abpromise guarantee covers the use of ab10231 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function
Troponin I is the inhibitory subunit of troponin, the thin filament regulatory complex which confers calcium-sensitivity to striated muscle actomyosin ATPase activity.

Involvement in disease
Defects in TNNI3 are the cause of cardiomyopathy familial hypertrophic type 7 (CMH7) [MIM:613690]. Familial hypertrophic cardiomyopathy is a hereditary heart disorder characterized by ventricular hypertrophy, which is usually asymmetric and often involves the interventricular septum. The symptoms include dyspnea, syncope, collapse, palpitations, and chest pain. They can be readily provoked by exercise. The disorder has inter- and intrafamilial variability ranging from benign to malignant forms with high risk of cardiac failure and sudden cardiac death. Defects in TNNI3 are the cause of cardiomyopathy familial restrictive type 1 (RCM1) [MIM:115210]. RCM1 is an heart muscle disorder characterized by impaired filling of the ventricles with reduced diastolic volume, in the presence of normal or near normal wall thickness and systolic function. Defects in TNNI3 are the cause of cardiomyopathy dilated type 2A (CMD2A) [MIM:611880]. Dilated cardiomyopathy is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death. Defects in TNNI3 are the cause of cardiomyopathy dilated type 1FF (CMD1FF) [MIM:613286]. Dilated cardiomyopathy is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death.

Sequence similarities
Belongs to the troponin I family.

Notes
AP  Use at an assay dependent concentration.
WB  Use at an assay dependent concentration. Predicted molecular weight: 24 kDa.
Sandwich ELISA  Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Mouse monoclonal [19C7] to Cardiac Troponin I (ab92408). Recommended pairs for quantitative sandwich immunoassay: ab10231 (capture), ab92408 (detection)
IHC-P  Use a concentration of 1 µg/ml.
ELISA  Use at an assay dependent concentration.

Target

Function
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Images
Ab10231 staining human heart tissue. Staining is localised to cytoplasm.
Left panel: with primary antibody at 1μg/ml. Right panel: isotype control.
Sections were stained using an automated system DAKO Autostainer Plus, at room temperature. Sections were rehydrated and antigen retrieved with the Dako 3-in-1 antigen retrieval buffer citrate pH 6.0 in a DAKO PT Link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 minutes. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 minutes and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.

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