Product datasheet

Anti-Cardiac Troponin T antibody [1C11] ab8295

Overview

Product name  Anti-Cardiac Troponin T antibody [1C11]
Description  Mouse monoclonal [1C11] to Cardiac Troponin T
Host species  Mouse
Tested applications  Suitable for: Flow Cyt, IHC-Fr, WB, ELISA, IHC-FoFr, IP, IHC-P, Sandwich ELISA, ICC/IF
Species reactivity  Reacts with: Mouse, Rat, Dog, Human
Immunogen  Other Immunogen Type corresponding to Human Cardiac Troponin T aa 171-190.
Database link: P45379
Positive control  Natural Human Cardiac Troponin T protein (ab9937) can be used as a positive control in WB.
IHC: Human heart tissue. ICC/IF: Cardiomyocytes.
General notes  This antibody detects Troponin T in human cardiac muscle. No cross-reaction with skeletal troponin T, cTnI and TnC.
This product was changed from ascites to tissue culture supernatant on 17th October 2017 and product received after this date will be from tissue culture supernatant.
Abcam recommended secondaries - Goat Anti-Mouse HRP (ab205719) and Goat Anti-Mouse Alexa Fluor® 488 (ab150113).
See other anti-mouse secondary antibodies that can be used with this antibody.

Properties

Form  Liquid
Storage buffer  PBS with 0.1% sodium azide, pH 7.4
Purity  Tissue culture supernatant
Primary antibody notes  This antibody detects Troponin T in human cardiac muscle. No cross-reaction with skeletal troponin T, cTnI and TnC.
Clonality  Monoclonal
Clone number  1C11
Myeloma  Sp2/0
Isotype  IgG1
Light chain type  
unknown

Applications

Our Abpromise guarantee covers the use of ab8295 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>Flow Cyt</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. PubMed: 18593559</td>
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<tr>
<td>IHC-Fr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. PubMed: 17916803</td>
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<tr>
<td>AP</td>
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<td>Use at an assay dependent concentration.</td>
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<tr>
<td>WB</td>
<td>⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. Predicted molecular weight: 35.4 kDa. PubMed: 17916803</td>
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<tr>
<td>ELISA</td>
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<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IHC-FoFr</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 19859557</td>
</tr>
<tr>
<td>IP</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.</td>
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<tr>
<td>Sandwich ELISA</td>
<td></td>
<td>Use at an assay dependent concentration. Can be used as Capture or Detection antibody.</td>
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<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. PubMed: 18593559</td>
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Target

Function

Troponin T is the tropomyosin-binding subunit of troponin, the thin filament regulatory complex which confers calcium-sensitivity to striated muscle actomyosin ATPase activity.

Tissue specificity

Heart. The fetal heart shows a greater expression in the atrium than in the ventricle, while the adult heart shows a greater expression in the ventricle than in the atrium. Isoform 6 predominates in normal adult heart. Isoforms 1, 7 and 8 are expressed in fetal heart. Isoform 7 is also expressed in failing adult heart.

Involvement in disease

Defects in TNNT2 are the cause of cardiomyopathy familial hypertrophic type 2 (CMH2) [MIM:115195]. 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 TNNT2 are the cause of cardiomyopathy dilated type 1D (CMD1D) [MIM:601494]. 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 TNNT2 are the cause of cardiomyopathy familial restrictive type 3 (RCM3) [MIM:612422]. Restrictive cardiomyopathy is a heart 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.

Sequence similarities
Belongs to the troponin T family.

Images

Paraffin-embedded Normal human Heart and iVSD heart tissue (were blocked using 10% FBS for 30 min) stained for Cardiac Troponin T (Red) using ab8295 at 1/200 dilution at room temperature for 2 hours. The slides were then incubated with Fluor® 555-conjugated anti-mouse (Abcam, ab150107; 1:1,000 dilution). The nuclear counterstain was DAPI (Blue).

ab8295 staining Cardiac Troponin T in mouse cardiac tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with formaldehyde, permeabilized with 0.5% Tx100 in PBS and blocked with 1% BSA for 90 minutes at 20°C. Samples were incubated with primary antibody (1/200 in 1% goat serum, 10% BSA + 0.1% Tx100 PBS) for 16 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-mouse IgG polyclonal (1/400) was used as the secondary antibody.
Immunocytochemistry/ Immunofluorescence - Anti-Cardiac Troponin T antibody [1C11] (ab8295)
This image is courtesy of an anonymous Abreview.

ab8295 staining Cardiac Troponin T in human pluripotent stem cell derived cardiomyocytes by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with saponin and blocked with 5% serum for 15 minutes at room temperature. Samples were incubated with primary antibody (1/800) for 1 hour at 21°C. An Alexa Fluor®-568 goat anti-mouse IgG monoclonal (1/1000) was used as the secondary antibody.

Immunocytochemistry/ Immunofluorescence - Anti-Cardiac Troponin T antibody [1C11] (ab8295)
This image is courtesy of an anonymous Abreview.

ab8295 staining Cardiac Troponin T in the human iPS cell derived from cardiomyocytes by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with 0.2% triton X in PBS and blocked with 1% BSA for 18 hours at 4°C. Samples were incubated with primary antibody (1/100 in 1% BSA/PBS) for 18 hours at 4°C. An Alexa Fluor® 488-conjugated goat anti-mouse IgG polyclonal (1/500) was used as the secondary antibody.

Calibration curves for sandwich cTnT fluoroimmunoassay with different animal TnTs as antigen, (dark blue) canine, (blue/grey) human, (grey) mouse, (black) rat. Monoclonal antibodies: capture, ab8295 [clone 1C11], 1 µg/well, detection ab1454 [clone 7E7], 200 ng/well. Assay time, 30 min at room temperature.
Ab8295 staining human normal heart. Staining is localised to the cytoplasm.
Left panel: with primary antibody at 1 ug/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 AR 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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