

Product datasheet

Anti-Tropomyosin 1 (alpha) antibody [EPR5158] ab109505

Recombinant RabMAb

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Overview

Product name	Anti-Tropomyosin 1 (alpha) antibody [EPR5158]
Description	Rabbit monoclonal [EPR5158] to Tropomyosin 1 (alpha)
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Human heart, Mouse heart, and Rat heart tissue lysates, and Recombinant Human TMP1 protein. IHC-P: Human cardiac muscle, Rat cardiac muscle, Mouse cardiac muscle, and Human prostatic hyperplasia tissues.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	<p>pH: 7.20</p> <p>Preservative: 0.01% Sodium azide</p> <p>Constituents: 0.05% BSA, 40% Glycerol (glycerin, glycerine), 59% PBS</p>
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EPR5158
Isotype	IgG

Applications

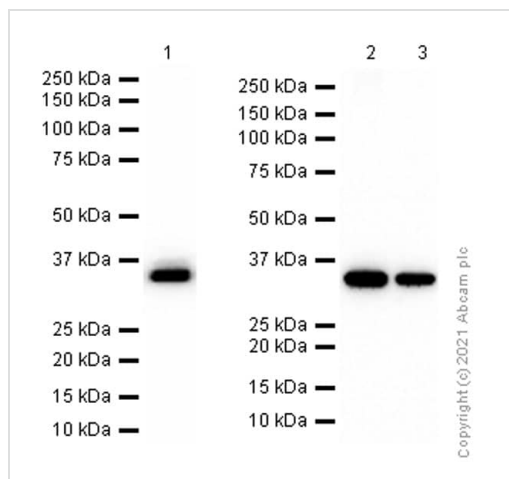
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109505 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/1000 - 1/10000. Predicted molecular weight: 33 kDa.
IHC-P		1/500 - 1/1000. Perform heat mediated antigen retrieval via the pressure cooker method before commencing with IHC staining protocol. Heat up to 98 degrees C, below boiling, and then let cool for 10-20 min.

Target

Function	Binds to actin filaments in muscle and non-muscle cells. Plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by interaction with caldesmon. In non-muscle cells is implicated in stabilizing cytoskeleton actin filaments.
Tissue specificity	Detected in primary breast cancer tissues but undetectable in normal breast tissues in Sudanese patients. Isoform 1 is expressed in adult and fetal skeletal muscle and cardiac tissues, with higher expression levels in the cardiac tissues. Isoform 10 is expressed in adult and fetal cardiac tissues, but not in skeletal muscle.
Involvement in disease	Defects in TPM1 are the cause of cardiomyopathy familial hypertrophic type 3 (CMH3) [MIM:115196]. 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 TPM1 are the cause of cardiomyopathy dilated type 1Y (CMD1Y) [MIM:611878]. 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 tropomyosin family.
Domain	The molecule is in a coiled coil structure that is formed by 2 polypeptide chains. The sequence exhibits a prominent seven-residues periodicity.
Cellular localization	Cytoplasm > cytoskeleton.

Images



Western blot - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)

All lanes : Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505) at 1/1000 dilution (Purified)

Lane 1 : Human heart lysate at 15 µg

Lane 2 : Mouse heart lysate at 20 µg

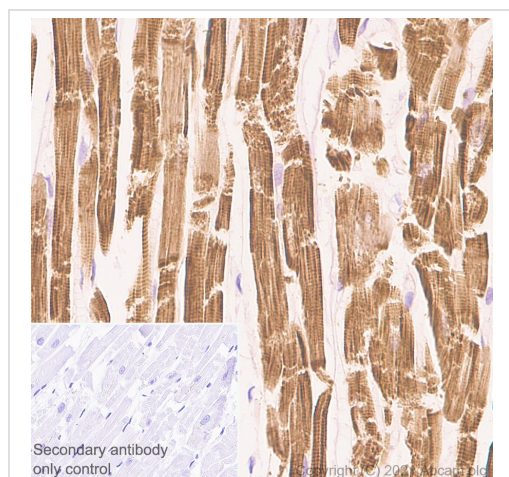
Lane 3 : Rat heart lysate at 20 µg

Secondary

All lanes : Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

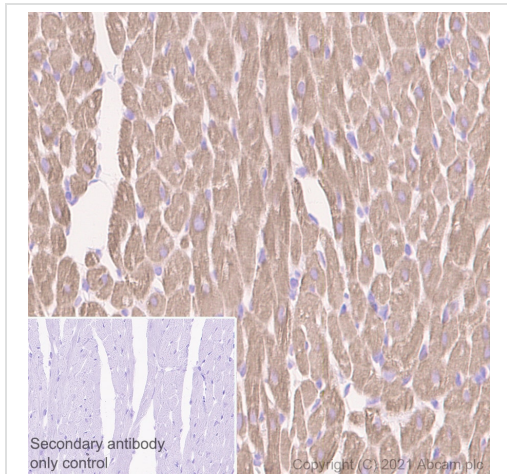
Predicted band size: 33 kDa

Observed band size: 33 kDa

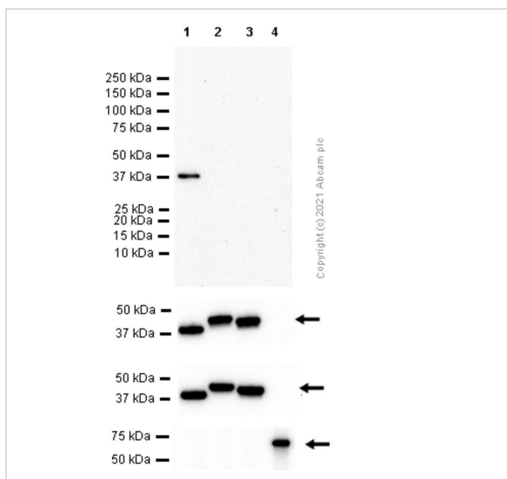


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cardiac muscle tissue sections labeling Tropomyosin 1 (alpha) with purified ab109505 at 1:600 (0.343 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)



Western blot - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat cardiac muscle tissue sections labeling Tropomyosin 1 (alpha) with purified ab109505 at 1:600 (0.343 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

All lanes : Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505) at 1/1000 dilution

Lane 1 : MYC and DDK-tagged Recombinant Human TPM1 protein (Full length)

Lane 2 : MYC and DDK-tagged Recombinant Human TPM2 protein (Full length)

Lane 3 : MYC and DDK-tagged Recombinant Human TPM3 protein (Full length)

Lane 4 : GST-tagged Recombinant Human TPM4 protein (Full length)

Secondary

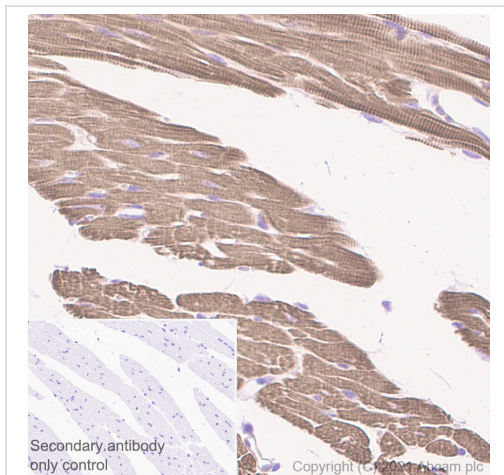
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 33 kDa

Observed band size: 37 kDa

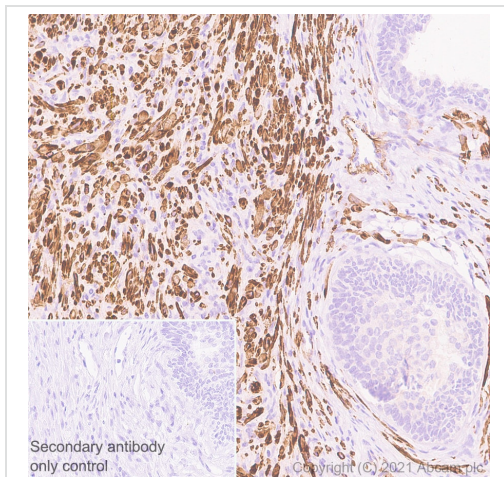
Exposure time: 60 seconds

Blocking and Diluting buffer and concentration: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse cardiac muscle tissue sections labeling Tropomyosin 1 (alpha) with purified ab109505 at 1:600 (0.343 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tropomyosin 1 (alpha) antibody [EPR5158] (ab109505)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human prostatic hyperplasia tissue sections labeling Tropomyosin 1 (alpha) with purified ab109505 at 1:600 (0.343 µg/ml). Heat mediated antigen retrieval was performed using **ab93684** (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

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Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-Tropomyosin 1 (alpha) antibody [EPR5158]
(ab109505)

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