

## Product datasheet

# Anti-CaMKII delta antibody [EPR13095] ab181052

**KO** **VALIDATED** Recombinant RabMAb<sup>®</sup>

★★★★★ 1 Abreviews 9 References 8 Images

### Overview

<b>Product name</b>	Anti-CaMKII delta antibody [EPR13095]
<b>Description</b>	Rabbit monoclonal [EPR13095] to CaMKII delta
<b>Host species</b>	Rabbit
<b>Specificity</b>	The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
<b>Tested applications</b>	<b>Suitable for:</b> WB, IHC-P <b>Unsuitable for:</b> ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Synthetic peptide within Human CaMKII delta aa 1-100. The exact sequence is proprietary. Database link: <a href="#">Q13557</a> (Peptide available as <a href="#">ab188479</a> )
<b>Positive control</b>	WB: HEK-293T, HAP1, SW480, A431 and HeLa whole cell lysate ( <a href="#">ab150035</a> ); Mouse heart tissue lysate; Rat spleen tissue lysate. IHC-P: Human thyroid carcinoma, cardiac and skeletal muscle tissues.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> <p><b>We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.</b></p> <p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated</p>

antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been “predicted to work with,” however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&As.

## Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 59% PBS, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR13095
<b>Isotype</b>	IgG

## Applications

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Our [Abpromise guarantee](#) covers the use of **ab181052** 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 - 1/2000. Detects a band of approximately 50 kDa (predicted molecular weight: 56 kDa).
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.

**Application notes**                      Is unsuitable for ICC/IF.

## Target

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## Function

CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release.

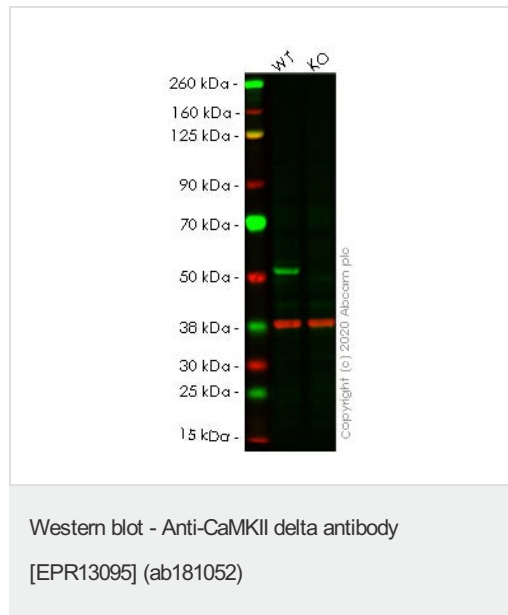
## Tissue specificity

Expressed in cardiac muscle and skeletal muscle. Isoform Delta 3, isoform Delta 2, isoform Delta 8 and isoform Delta 9 are expressed in cardiac muscle. Isoform Delta 11 is expressed in skeletal muscle.

## Sequence similarities

Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.

## Images



**All lanes :** Anti-CaMKII delta antibody [EPR13095] (ab181052) at 1/1000 dilution

**Lane 1 :** Wild-type HEK-293T cell lysate

**Lane 2 :** CAMK2D knockout HEK-293T cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

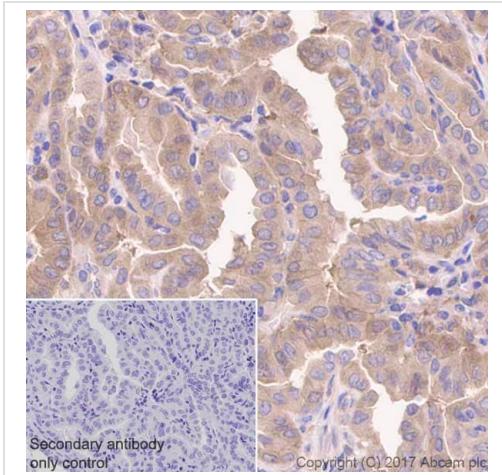
**Predicted band size:** 56 kDa

**Observed band size:** 50 kDa

[why is the actual band size different from the predicted?](#)

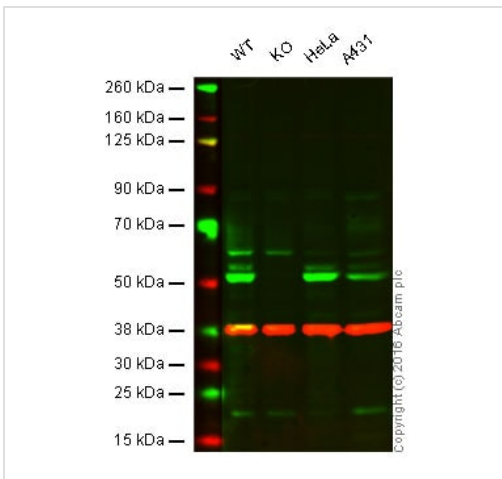
**Lanes 1-2:** Merged signal (red and green). Green - ab181052 observed at 50 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control ([ab8245](#)) observed at 37 kDa.

ab181052 was shown to react with CaM-kinase II in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line [ab267322](#) (knockout cell lysate [ab257376](#)) was used. Wild-type HEK-293T and CAMK2D knockout HEK-293T cell lysates were subjected to SDS-PAGE. ab181052 and Anti-GAPDH antibody [6C5] - Loading Control ([ab8245](#)) overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CaMKII delta antibody [EPR13095] (ab181052)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human thyroid carcinoma tissue sections labeling CaMKII delta with Purified ab181052 at 1:100 dilution (1.82 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) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Western blot - Anti-CaMKII delta antibody [EPR13095] (ab181052)

**Lane 1:** Wild-type HAP1 cell lysate (20 µg)

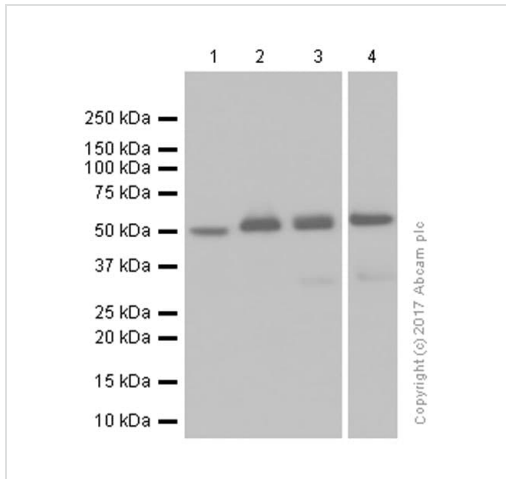
**Lane 2:** CaMKII delta knockout HAP1 cell lysate (20 µg)

**Lane 3:** HeLa cell lysate (20 µg)

**Lane 4:** A431 cell lysate (20 µg)

**Lanes 1 - 4:** Merged signal (red and green). Green - ab181052 observed at 56 kDa. Red - loading control, ab8245, observed at 37 kDa.

Unpurified ab181052 was shown to recognize CaMKII delta when CaMKII delta knockout samples were used, along with additional cross-reactive bands. Wild-type and CaMKII delta knockout samples were subjected to SDS-PAGE. ab181052 and ab8245 (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-CaMKII delta antibody  
[EPR13095] (ab181052)

**Lane 1 :** Anti-CaMKII delta antibody [EPR13095] (ab181052) at 1/1000 dilution

**Lanes 2-4 :** Anti-CaMKII delta antibody [EPR13095] (ab181052) at 1/1000 dilution (purified)

**Lane 1 :** HeLa ( Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

**Lane 2 :** SW480 (Human colorectal adenocarcinoma epithelial cell) whole cell lysates at 20 µg

**Lane 3 :** Mouse heart lysates at 20 µg

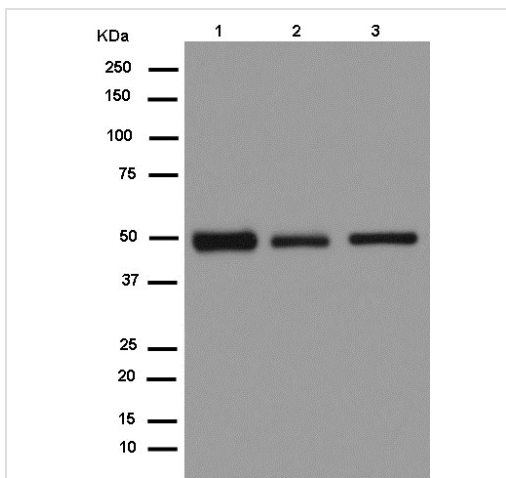
**Lane 4 :** Rat spleen lysates at 20 µg

**Secondary**

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

**Predicted band size:** 56 kDa

Blocking and diluting buffer : 5% NFDM/TBST



Western blot - Anti-CaMKII delta antibody  
[EPR13095] (ab181052)

**All lanes :** Anti-CaMKII delta antibody [EPR13095] (ab181052) at 1/2000 dilution (unpurified)

**Lane 1 :** SW480 whole cell lysate

**Lane 2 :** A431 whole cell lysate

**Lane 3 :** HeLa whole cell lysate

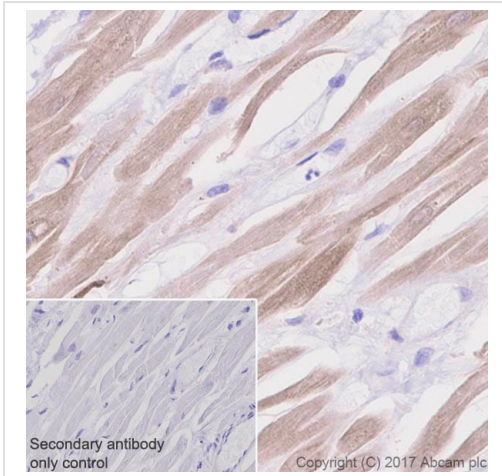
Lysates/proteins at 20 µg per lane.

**Secondary**

**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

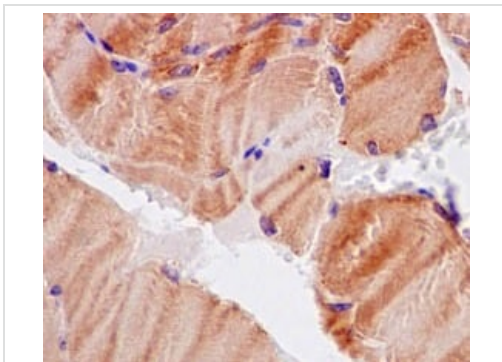
**Predicted band size:** 56 kDa

Blocking/ Dilution buffer: 5% NFDM /TBST.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human cardiac muscle tissue sections labeling CaMKII delta with Purified ab181052 at 1:100 dilution (1.82 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) secondary antibody 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-CaMKII delta antibody [EPR13095] (ab181052)



Immunohistochemical analysis of paraffin embedded Human skeletal muscle tissue sections labeling CaMKII delta using unpurified ab181052 at a 1/100 dilution. A ready to use HRP Polymer for Rabbit IgG was used as the secondary. Hematoxylin counterstain. Heat mediated antigen retrieval was performed citrate buffer pH 6 before commencing with IHC staining protocol.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CaMKII delta antibody [EPR13095] (ab181052)

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-CaMKII delta antibody [EPR13095] (ab181052)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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- Replacement or refund for products not performing as stated on the datasheet
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- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

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