


Product datasheet

Anti-TRPV4 antibody ab39260

★★★★☆ [14 Abreviews](#) [67 References](#) [5 Images](#)

Overview

Product name	Anti-TRPV4 antibody
Description	Rabbit polyclonal to TRPV4
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF, IHC-P
Species reactivity	Reacts with: Mouse, Horse Predicted to work with: Rat 
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 850 to the C-terminus of Mouse TRPV4. Read Abcam's proprietary immunogen policy (Peptide available as ab39471 .)
Positive control	ICC/IF: TKPTS cells
General notes	<p>Although some of our customers have had good results in Human and Rat (89% homology with the immunogen), we do not batch test this antibody in these species. Due to the polyclonal nature of this antibody, some batches may not work in Human or Rat.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>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, along with publications, customer reviews and Q&As</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 or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our

scientific support team who will be happy to help.

Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab39260 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	★★★★★ (8)	Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 100 kDa (predicted molecular weight: 98 kDa).
ICC/IF		Use a concentration of 5 µg/ml.
IHC-P	★★★★★ (4)	Use a concentration of 0.5 - 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Target

Function Non-selective calcium permeant cation channel probably involved in osmotic sensitivity and mechanosensitivity. Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification. Also activated by low pH, citrate and phorbol esters. Increase of intracellular Ca(2+) potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism. Promotes cell-cell junction formation in skin keratinocytes and plays an important role in the formation and/or maintenance of functional intercellular barriers. Acts as a regulator of intracellular Ca(2+) in synoviocytes. Plays an obligatory role as a molecular component in the nonselective cation channel activation induced by 4-alpha-phorbol 12,13-didecanoate and hypotonic stimulation in synoviocytes and also regulates production of IL-8.

Tissue specificity Found in the synoviocytes from patients with (RA) and without (CTR) rheumatoid arthritis (at protein level).

Involvement in disease Brachyolmia 3
Spondylometaphyseal dysplasia Kozlowski type
Metatropic dysplasia
Distal spinal muscular atrophy, congenital non-progressive
Charcot-Marie-Tooth disease 2C
Scapuloperoneal spinal muscular atrophy
Spondyloepiphyseal dysplasia Maroteaux type
Parastremmatic dwarfism
Digital arthropathy-brachydactyly, familial

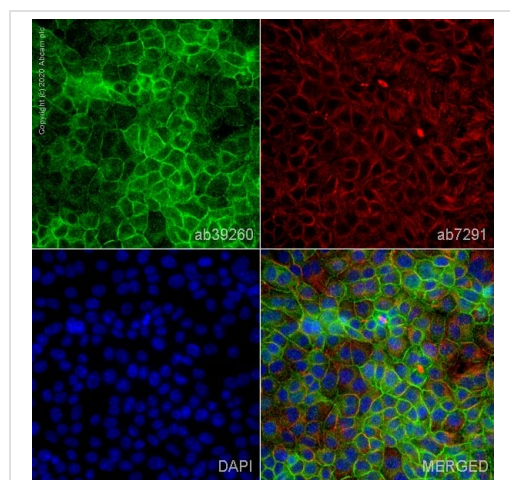
Sequence similarities Belongs to the transient receptor (TC 1.A.4) family. TrpV subfamily. TRPV4 sub-subfamily. Contains 3 ANK repeats.

Post-translational modifications Phosphorylation results in enhancement of its channel function.

Cellular localization

Cell membrane and Cell membrane. Cell junction > adherens junction. Assembly of the putative homotetramer occurs primarily in the endoplasmic reticulum.

Images



Immunocytochemistry/ Immunofluorescence - Anti-TRPV4 antibody (ab39260)

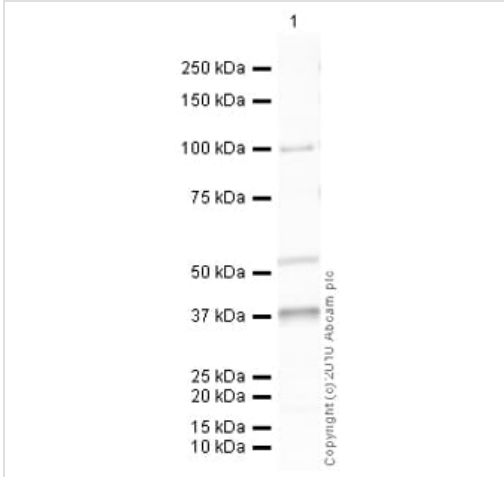
ab39260 staining TRPV4 in TKPTS cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab39260 at 5µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150080**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRPV4 antibody (ab39260)

IHC image of ab39260 staining in mouse normal brain formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6) for 20 mins. The section was then incubated with ab39260, 0.5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Western blot - Anti-TRPV4 antibody (ab39260)

Anti-TRPV4 antibody (ab39260) at 2 µg/ml + Brain (Mouse) Tissue Lysate at 25 µg

Secondary

Goat polyclonal to Rabbit IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Developed using the ECL technique.

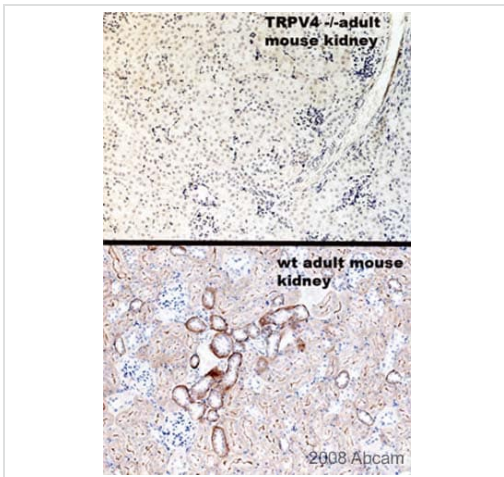
Performed under reducing conditions.

Predicted band size: 98 kDa

Observed band size: 100 kDa

Additional bands at: 37 kDa, 54 kDa. We are unsure as to the identity of these extra bands.

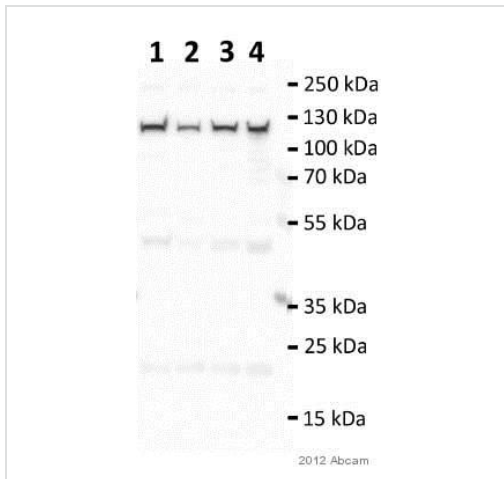
Exposure time: 1 minute



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRPV4 antibody (ab39260)

This image is courtesy of an Abreview submitted by Mr Carl Hobbs

ab39260 staining of TRPV4 ^{-/-} (upper panel) and wildtype (lower panel) adult mouse kidney tissue sections, showing good immunostaining in the wildtype tissue and no immunostaining in the TRPV4 ^{-/-} tissue. Formalin/PFA-fixed paraffin-embedded sections of mouse kidney tissue were incubated with ab39260 (1/200) for 2 hours. Antigen retrieval was performed by heat induction in citrate buffer pH 6.0. A biotin-conjugated goat anti-rabbit antibody was used as the secondary.



Western blot - Anti-TRPV4 antibody (ab39260)

Image courtesy of an anonymous Abreview.

All lanes : Anti-TRPV4 antibody (ab39260) at 1 µg/ml

Lane 1 : Whole cell lysate prepared from MEF cells

Lane 2 : Whole cell lysate prepared from F9 cells

Lane 3 : Whole cell lysate prepared from GC-1 cells

Lane 4 : Whole cell lysate prepared from NIH-3T3 cells

Lysates/proteins at 20 µg per lane.

Secondary

All lanes : HRP conjugated pig anti-rabbit polyclonal at 1/5000 dilution

Developed using the ECL technique.

Predicted band size: 98 kDa

Observed band size: 125 kDa

Exposure time: 5 minutes

This antibody detects a band of ~125 kDa in 4 different mouse cell lines. This is lower than the predicted molecular weight of TRPV4 on SDS-PAGE (100 kDa). However, there are published reports of TRPV4 running at >120 kDa PMID: 16368742 PMID: 12538589, possibly as a result of glycosylation.

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