abcam

ab203103

Anti-TRPV1 antibody [BS397] - C-terminal

Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) is a mouse monoclonal antibody detecting TRPV1 in **Western Blot, Flow Cytometry (Intra), IHC-Fr, ICC/IF**. Suitable for **Mouse, Rat**.

- Over 20 publications

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7 - 7.4 Constituents: PBS, 3% Trehalose
Form	Lyophilized
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Rat Trpv1 aa 800 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link O35433
Clone number	BS397
Purification technique	Affinity purification Protein G
Light chain type	kappa
Reconstitution	reconstitute with water at 100µL

Reactivity data

WB

Tested

Species	Mouse
Dilution info	0.5-2 µg/mL

Notes	-

Species	Rat
Dilution info	0.5-2 µg/mL
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Rat
Dilution info	1-2 µg/mL
Notes	Requires permeabilization step due to antigen epitope is intracellular

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse

Dilution info	1-10 µg/mL
Notes	Pre-absorption with immunogen obliterates positive staining. Frozen or PEG embedded tissues tested.

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	2 µg/cells for 6 µg/cells
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Guinea pig
Dilution info	-
Notes	-

Target data

See full target information Trpv1

Function	Non-selective calcium permeant cation channel involved in detection of noxious chemical and thermal stimuli (PubMed:15194687, PubMed:15489017). Seems to mediate proton influx and may be involved in intracellular acidosis in nociceptive neurons. Involved in mediation of inflammatory pain and hyperalgesia (PubMed:10764638). Sensitized by a phosphatidylinositol second messenger system activated by receptor tyrosine kinases, which involves PKC isozymes and PCL. Activation by vanilloids, like capsaicin, and temperatures higher than 42 degrees Celsius (By similarity). Upon activation, exhibits a time- and Ca(2+)-dependent outward rectification, followed by a long-lasting refractory state. Mild extracellular acidic pH (6.5) potentiates channel activation by noxious heat and vanilloids, whereas acidic conditions (pH <6) directly activate the channel. Can be activated by endogenous compounds, including 12-hydroperoxytetraenoic acid and bradykinin. Acts as ionotropic endocannabinoid receptor with central neuromodulatory effects. Triggers a form of long-term depression (TRPV1-LTD) mediated by the endocannabinoid anandamine in the hippocampus and nucleus accumbens by affecting AMPA receptors endocytosis (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-Fr), Immunocytochemistry/immunofluorescence (ICC/IF) in Mouse, Rat samples.

What is the molecular weight of TRPV1?
Anti-TRPV1 [BS397] - C-terminal (ab203103) specifically detects a band for TRPV1 (UniProt: O35433) at a molecular weight of 95kDa.

Trusted by the scientific community
Anti-TRPV1 [BS397] - C-terminal (ab203103) was first used in a scientific publication in 2015 and has been cited over 20 times in peer-reviewed journals.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	TRPV1 also known as the transient receptor potential vanilloid 1 or capsaicin receptor is a non-selective cation channel with a molecular mass of approximately 95 kDa. It acts mechanically by allowing the influx of calcium and sodium ions upon activation. This receptor is expressed predominantly in sensory neurons specifically in dorsal root ganglia and trigeminal ganglia which are key regions involved in pain perception. TRPV1 can also be found in various non-neuronal tissues influencing a range of physiological responses.
Biological function summary	The role of TRPV1 extends beyond sensory perception. It is involved in detecting and regulating body temperature and is activated by heat acidic conditions and certain lipid metabolites. The receptor operates as part of a homotetrameric complex contributing to neural signaling. It is activated by chemical ligands such as capsaicin the compound responsible for the spicy sensation in chili peppers influencing pain and inflammation pathways.
Pathways	TRPV1 plays essential roles in pain and nociception pathways. It intersects with the inflammatory pathway where its activity is modulated by protein kinase C (PKC) and phospholipase C (PLC). These pathways involve calcium signaling and relate to proteins such as PKA and calcineurin which modulate TRPV1 activity through phosphorylation and dephosphorylation affecting the body's response to noxious stimuli.
Associated diseases and disorders	TRPV1 is a critical player in pain management and inflammatory disorders. It has been linked to chronic pain conditions like neuropathic pain and is also involved in migraine pathophysiology. In these contexts TRPV1 interacts with proteins like CGRP and TRPA1 which are also implicated in pain signaling and migraine mechanisms. Antagonists such as capsazepine AMG 9810 and AMG-517 have been researched for therapeutic targeting of TRPV1 in these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

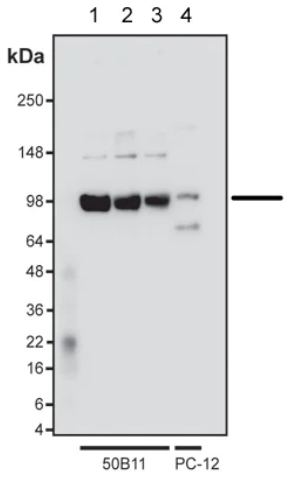
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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6 product images



Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

(4°C overnight).
All lanes:
Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) at 1 µg/mL

Lane 1:
50B11 treated with Forskolin + NGF at 10 µg

Lane 2:
50B11 treated with Forskolin at 10 µg

Lane 3:
Untreated 50B11 control at 10 µg

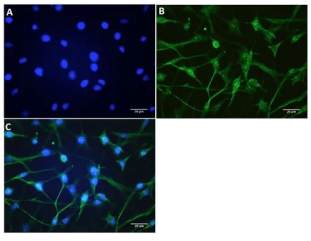
Lane 4:
NGF-stimulated PC-12 (Rat glial tumor cell line) cell lysate (NGF control) at 10 µg

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 95 kDa

Observed band size: 95-100 kDa

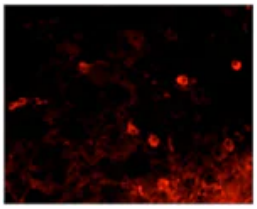


Immunocytochemistry/ Immunofluorescence - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

TRPV1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-TRPV1 antibody

ab203103 staining TRPV1 in C6 (Rat glial tumor cell line) cells by ICC/IF (Immunocytochemistry/immunofluorescence).
Cells were fixed with 4% formaldehyde, permeabilized with 0.1% Triton X-100 and blocked with 10% horse serum. Samples were incubated with primary antibody (2 µg/ml, panel B) for 1 hour. A

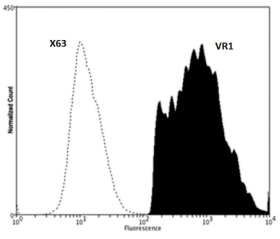
CF488A-conjugated Donkey anti-mouse polyclonal was used as the secondary antibody (5 µg/ml). Nuclei were stained with Hoechst dye (panel A) and panel C shows the merged image.



Immunohistochemistry (Frozen sections) - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

TRPV1 Immunohistochemistry (Frozen sections) staining using mouse Anti-TRPV1 antibody

Immunohistochemical analysis of mouse dorsal root ganglia labelling TRPV1 with ab203103 at 10 µg/mL. Visualized with anti-mouse-Cy3 conjugate (red).

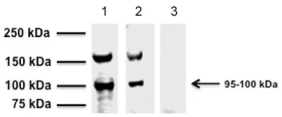


Flow Cytometry (Intracellular) - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

TRPV1 Flow Cytometry (Intracellular) staining using mouse Anti-TRPV1 antibody

Analysis of TRPV1 expression in PC-12 (Rat adrenal gland pheochromocytoma cell line) cell line by Flow Cyt (Intra) (black solid).
Cells were fixed and permeabilized in absolute methanol (10 minutes in ice) and 0.1% Tween-20 in PBS, then blocked with 1% BSA. Incubated with primary antibody for 30 minutes at RT. Secondary antibody used is a Goat anti-mouse PE labeled secondary antibody (1:100 dilution), 20 minutes in dark at room temperature.

Negative control: Non-specific Control IgG, clone X63 (black dashed).



Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

TRPV1 Western blot staining using mouse Anti-TRPV1 antibody

SDS-PAGE: denatured and reduced. ab203103 detects bands at 90-100 kDa and 180-200 kDa corresponding to TRPV1 monomer and dimer.
Lanes 1 and 3:
Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) at 2 µg/mL

Lane 2:
Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) at 1 µg/mL

Lanes 1 - 2:
Mouse brain homogenate at 25 µg

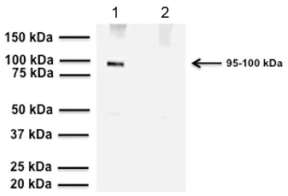
Lane 3:
Mouse brain homogenate at 25 µg. The primary antibody was pre-absorbed with an excess of antigen peptide prior to blotting.

Secondary

All lanes:
Anti-mouse-HRP at 1/6000 dilution

Developed using the ECL technique.

Predicted band size: 94 kDa



Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103)

SDS-PAGE: denatured and reduced
All lanes:
Western blot - Anti-TRPV1 antibody [BS397] - C-terminal (ab203103) at 2 µg/mL

All lanes:
Rat PC-12 (Rat adrenal gland pheochromocytoma cell line) cell lysate at 80 µg

Secondary

All lanes:
Anti-mouse-HRP at 1/6000 dilution

Developed using the ECL technique.

Predicted band size: 94 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.