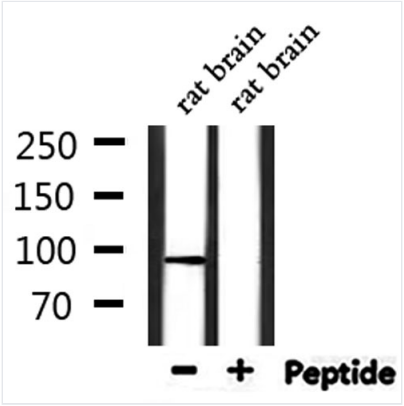
TRPV4 Antibody – Rabbit Polyclonal

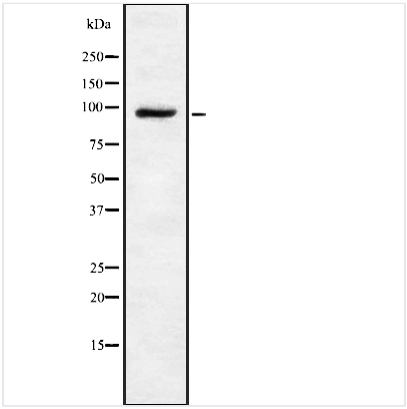
PRODUCT OVERVIEW

Product Name	TRPV4, Polyclonal Antibody
Full Product Name	TRPV4 Antibody
Product Gene Name	anti-TRPV4 antibody
Product Synonym Names	BCYM3; CMT2C; HMSN2C; osm 9 like TRP channel 4; Osm-9-like TRP channel 4; OSM9 like transient receptor potential channel 4; Osmosensitive transient receptor potential channel 4; OTRPC 4; OTRPC4; SMAL; SPSMA; SSQTL1; Transient receptor potential cation channel subfamily V member 4; Transient receptor potential protein 12; TRP 12; TRP12; TRPV 4; TrpV4; TRPV4_HUMAN; Vanilloid receptor like channel 2; Vanilloid receptor like protein 2; Vanilloid receptor related osmotically activated channel; Vanilloid receptor-like channel 2; Vanilloid receptor-like protein 2; Vanilloid receptor-related osmotically-activated channel; VR 4; VR OAC; VR-OAC; VR4; VRL 2; VRL-2; VRL2; VROAC
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Concentration	1mg/ml (lot specific)
Specificity	TRPV4 antibody detects endogenous levels of total TRPV4
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.
Antibody/Peptide Pairs	TRPV4 peptide (MBS9627653) is used for blocking the activity of TRPV4 antibody (MBS9608941)
Molecular Weight	Observed: 98 kDa Predicted: 99 kDa
3D Structure	ModBase 3D Structure for Q9HBA0
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Immunogen	A synthesized peptide derived from human TRPV4
Subcellular Location	Cell Membrane and Cell Membrane. Cell Junction > Adherens Junction. Assembly of the putative homotetramer occurs primarily in the endoplasmic reticulum.
Tissue Specificity	Found in the synoviocytes from patients with (RA) and without (CTR) rheumatoid arthritis (at protein level).
Predicted Cross Reactivity	**Pig, Zebrafish, Bovine, Sheep, Rabbit**
Similarity	Pig (100%), Zebrafish (82%), Bovine (100%), Sheep (100%), Rabbit (100%)
Conjugation	Unconjugated
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-TRPV4 antibody	Western Blot (WB), Immunofluorescence (IF), Immunocytochemistry (ICC), ELISA (EIA)

Application Notes for anti-TRPV4 antibody	WB: 1:1000-3000 IF/ICC: 1:100-500
Related Product Information for anti-TRPV4 antibody	Function: Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity. Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed:18826956, PubMed:18695040). Also activated by heat, low pH, citrate and phorbol esters (PubMed:16293632, PubMed:18826956, PubMed:18695040, PubMed:25256292, PubMed:20037586, PubMed:21964574). Increase of intracellular Ca2+ potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism (PubMed:12724311, PubMed:18826956). Promotes cell-cell junction formation in skin keratinocytes and plays an important role in the formation and/or maintenance of functional intercellular barriers (By similarity). Acts as a regulator of intracellular Ca2+ in synoviocytes (PubMed:19759329). 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 (PubMed:19759329). Together with PKD2, forms mechano-and thermosensitive channels in cilium (PubMed:18695040). Negatively regulates expression of PPARGC1A, UCP1, oxidative metabolism and respiration in adipocytes (By similarity). Regulates expression of chemokines and cytokines related to proinflammatory pathway in adipocytes (By similarity). Together with AQP5, controls regulatory volume decrease in salivary epithelial cells (By similarity). Required for normal development and maintenance of bone and cartilage (PubMed:26249260). Subunit Structure: Homotetramer (Probable). Self-associates in a isoform-specific manner (PubMed:16293632). Isoform 1 and isoform 5 can oligomerize, but isoform 2, isoform 4 and isoform 6 cannnot oligomerize (PubMed:16293632). Interacts with calmodulin (PubMed:12724311). Interacts with Map7 and Src family Tyr protein kinases LYN, SRC, FYN, HCK, LCK and YES (By similarity). Interacts with CTNNB1 (By similarity). The TRPV4 and CTNNB1 complex can interact with CDH1 (By similarity). Interacts with PACSIN1, PACSIN2 and PACSIN3 (via SH3 domain) (By similarity). Part of a complex containing MLC1, AQP4, HEPACAM and ATP1B1 (PubMed:22328087). Interacts with ITPR3 (PubMed:18826956). Interacts with AQP5; the interaction is probably indirect and regulates TRPV4 activation by hypotonicity (By similarity). Interacts with ANO1 (By similarity). Interacts (via C-terminus) with PKD2 (via C-terminus) (PubMed:18695040). Post-translational Modifications: N-glycosylated. Similarity: The ANK repeat region mediates interaction with Ca2+-calmodulin and ATP binding (By similarity). The ANK repeat region mediates interaction with phosphatidylinositol-4, 5-bisphosphate and related phosphatidylinositides (PubMed:25256292). Belongs to the transient receptor (TC 1.A.4) family. TrpV subfamily. TRPV4 sub-subfamily.
Other Notes	Small volumes of anti-TRPV4 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TRPV4 purchase	MBS9608941 is an antibody targeting TRPV4. Also known as TRPV4 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Western Blot (WB) of anti-TRPV4 antibody
Western blot analysis of extracts from rat brain, using TRPV4 Antibody.



Western Blot (WB) of anti-TRPV4 antibody
Western blot analysis of TRPV4 using HeLa whole cell lysates

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TRPV4. It may not necessarily be applicable to this product.

NCBI GI #	294459965

NCBI GeneID	59341
NCBI Accession #	NP_001170899.1
UniProt Primary Accession #	Q9HBA0
UniProt Secondary Accession #	Q17R79; Q2Y122; Q2Y123; Q2Y124; Q86YZ6; Q8NDY7; Q8NG64; Q96Q92; Q96RS7; Q9HBC0; B7ZKQ6
UniProt Related Accession #	Q9HBA0
GenBank Nucleotide #	NM_001177428.1
NCBI Official Full Name	transient receptor potential cation channel subfamily V member 4 isoform e
NCBI Official Synonym Full Names	transient receptor potential cation channel subfamily V member 4
NCBI Official Symbol	TRPV4
NCBI Official Synonym Symbols	SMAL; VRL2; BCYM3; CMT2C; SPSMA; TRP12; VROAC; HMSN2C; OTRPC4; SSQTL1
UniProt Protein Name	Transient receptor potential cation channel subfamily V member 4
UniProt Synonym Protein Names	Osm-9-like TRP channel 4; OTRPC4
Protein Family	Transient receptor potential cation channel subfamily
UniProt Gene Name	TRPV4
UniProt Synonym Gene Names	VRL2; VROAC; TRP12; VRL-2; VR-OAC1 PublicationManual assertion based on opinion iniRef.1
NCBI Protein Information	transient receptor potential cation channel subfamily V member 4
NCBI Summary for TRPV4	This gene encodes a member of the OSM9-like transient receptor potential channel (OTRPC) subfamily in the transient receptor potential (TRP) superfamily of ion channels. The encoded protein is a Ca2+-permeable, nonselective cation channel that is thought to be involved in the regulation of systemic osmotic pressure. Mutations in this gene are the cause of spondylometaphyseal and metatropic dysplasia and hereditary motor and sensory neuropathy type IIC. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2010]
UniProt Comments for TRPV4	Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity. Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed:18826956, PubMed:18695040). Also activated by heat, low pH, citrate and phorbol esters (PubMed:16293632, PubMed:18826956, PubMed:18695040, PubMed:25256292, PubMed:20037586, PubMed:21964574). Increase of intracellular Ca2+ potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism (PubMed:12724311, PubMed:18826956). 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 Ca2+ in synoviocytes (PubMed:19759329). 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 (PubMed:19759329). Together with PKD2, forms mechano- and thermosensitive channels in cilium (PubMed:18695040). Negatively regulates expression of PPARGC1A, UCP1, oxidative metabolism and respiration in adipocytes (). Regulates expression of chemokines and cytokines related to proinflammatory pathway in adipocytes (). Together with AQP5, controls regulatory volume decrease in salivary epithelial cells (). Required for normal development and maintenance of bone and cartilage (PubMed:26249260).
Research Articles on TRPV4	**1.** the antitumor effects caused by TRPV4 channel inhibition in hepatocellular carcinoma cell lines might be attributed to the suppression of epithelial-mesenchymal transition process and inactivation of phospho-ERK which induced subsequent cell apoptosis.
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