

**Anti-TRPV4 Antibody**  
**Catalog # ABO11287****Specification**

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**Anti-TRPV4 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q9HBA0</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Transient receptor potential cation channel subfamily V member 4 (TRPV4) detection. Tested with WB in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-TRPV4 Antibody - Additional Information**

**Gene ID** 59341

**Other Names**

Transient receptor potential cation channel subfamily V member 4, TrpV4, Osm-9-like TRP channel 4, OTRPC4, Transient receptor potential protein 12, TRP12, Vanilloid receptor-like channel 2, Vanilloid receptor-like protein 2, VRL-2, Vanilloid receptor-related osmotically-activated channel, VR-OAC, TRPV4, VRL2, VROAC

**Calculated MW**

98281 MW KDa

**Application Details**

Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**Subcellular Localization**

Cell membrane ; Multi-pass membrane protein . 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). .

**Protein Name**

Transient receptor potential cation channel subfamily V member 4

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human TRPV4(113-133aa YRHSSDNKRWRKKIIEKQPQ), identical to the related rat and mouse sequences.

#### **Purification**

Immunogen affinity purified.

#### **Cross Reactivity**

No cross reactivity with other proteins

#### **Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

#### **Sequence Similarities**

Belongs to the transient receptor (TC 1.A.4) family. TrpV subfamily. TRPV4 sub-subfamily.

### **Anti-TRPV4 Antibody - Protein Information**

#### **Name** TRPV4

#### **Synonyms** VRL2, VROAC

#### **Function**

Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity (PubMed: <a href="http://www.uniprot.org/citations/16293632" target="\_blank">16293632</a>, PubMed: <a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</a>, PubMed: <a href="http://www.uniprot.org/citations/18826956" target="\_blank">18826956</a>, PubMed: <a href="http://www.uniprot.org/citations/22526352" target="\_blank">22526352</a>, PubMed: <a href="http://www.uniprot.org/citations/23136043" target="\_blank">23136043</a>, PubMed: <a href="http://www.uniprot.org/citations/29899501" target="\_blank">29899501</a>). Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed: <a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</a>, PubMed: <a href="http://www.uniprot.org/citations/18826956" target="\_blank">18826956</a>, PubMed: <a href="http://www.uniprot.org/citations/29899501" target="\_blank">29899501</a>). Also activated by heat, low pH, citrate and phorbol esters (PubMed: <a href="http://www.uniprot.org/citations/16293632" target="\_blank">16293632</a>, PubMed: <a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</a>, PubMed: <a href="http://www.uniprot.org/citations/18826956" target="\_blank">18826956</a>, PubMed: <a href="http://www.uniprot.org/citations/20037586" target="\_blank">20037586</a>, PubMed: <a href="http://www.uniprot.org/citations/21964574" target="\_blank">21964574</a>, PubMed: <a href="http://www.uniprot.org/citations/25256292" target="\_blank">25256292</a>). Increase of intracellular Ca(2+) potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism (PubMed: <a href="http://www.uniprot.org/citations/12724311" target="\_blank">12724311</a>, PubMed: <a href="http://www.uniprot.org/citations/18826956" target="\_blank">18826956</a>). 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 Ca(2+) in synoviocytes (PubMed: <a href="http://www.uniprot.org/citations/19759329" target="\_blank">19759329</a>). 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: <a href="http://www.uniprot.org/citations/19759329" target="\_blank">19759329</a>). Together with PKD2, forms mechano- and thermosensitive

channels in cilium (PubMed:<a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</a>). Negatively regulates expression of PPARGC1A, UCP1, oxidative metabolism and respiration in adipocytes (By similarity). Regulates expression of chemokines and cytokines related to pro-inflammatory 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:<a href="http://www.uniprot.org/citations/26249260" target="\_blank">26249260</a>). In its inactive state, may sequester DDX3X at the plasma membrane. When activated, the interaction between both proteins is affected and DDX3X relocalizes to the nucleus (PubMed:<a href="http://www.uniprot.org/citations/29899501" target="\_blank">29899501</a>). In neurons of the central nervous system, could play a role in triggering voluntary water intake in response to increased sodium concentration in body fluid (By similarity).

#### **Cellular Location**

Cell membrane. Apical cell membrane; Multi-pass membrane protein. Cell junction, adherens junction {ECO:0000250|UniProtKB:Q9EPK8}. Cell projection, cilium. Note=Assembly of the putative homotetramer occurs primarily in the endoplasmic reticulum (PubMed:16293632, PubMed:20037587, PubMed:20037588). Localization to the cell membrane is inhibited by WNK kinases (WNK1, WNK2, WNK3 or WNK4) in a kinase-independent mechanism (PubMed:16403833) [Isoform 5]: Cell membrane [Isoform 4]: Endoplasmic reticulum

#### **Tissue Location**

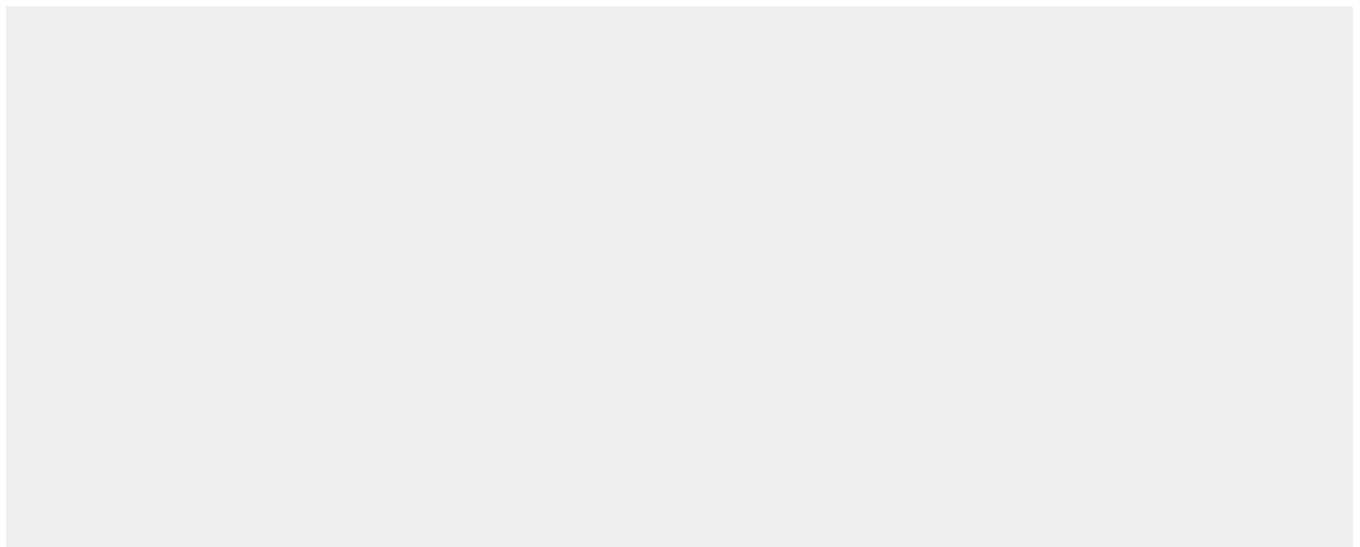
Found in the synoviocytes from patients with (RA) and without (CTR) rheumatoid arthritis (at protein level)

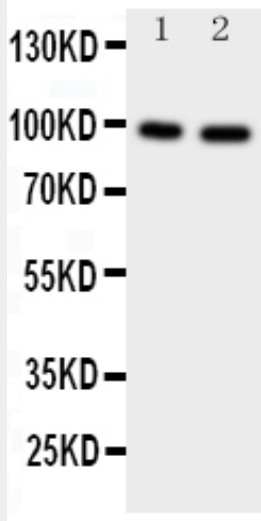
#### **Anti-TRPV4 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Anti-TRPV4 Antibody - Images**





Anti-TRPV4 antibody, ABO11287, Western blotting Lane 1: Rat Kidney Tissue Lysate Lane 2: HEPA Cell Lysate

#### **Anti-TRPV4 Antibody - Background**

TRPV4(Transient Receptor Potential Cation Channel Subfamily V Member 4), also known as TRP12, OTRPC4 or VROAC, is a protein that in humans is encoded by the TRPV4 gene. This gene encodes TRPV4, a member of the OSM9-like transient receptor potential channel(OTRPC) subfamily in the transient receptor potential(TRP) superfamily of ion channels. By genomic sequence analysis, Liedtke et al.(2000) mapped the TRPV4 gene to chromosome 12q24.1. They mapped the mouse Trpv4 gene to distal chromosome 5 by radiation hybrid analysis. Wissenbach et al.(2000) found that hypoosmotic conditions rapidly activated TRP12, while hyperosmotic conditions inhibited the activity.Strotmann et al.(2000) showed that OTRPC4 was responsive to changes in extracellular osmolarity in the physiologically relevant range and was expressed in tissues exposed to changing osmotic environments.