

# **TRPV4 Antibody (N-Terminus)**

Rabbit Polyclonal Antibody Catalog # ALS10997

# **Specification**

# TRPV4 Antibody (N-Terminus) - Product Information

Application IHC
Primary Accession O9HBA0
Reactivity Human
Host Rabbit
Clonality Polyclonal
Calculated MW 98kDa KDa

# TRPV4 Antibody (N-Terminus) - 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

### Target/Specificity

Human TRPV4. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

### **Reconstitution & Storage**

Long term: -70°C; Short term: +4°C

### **Precautions**

TRPV4 Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

# TRPV4 Antibody (N-Terminus) - 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/18826956" target="\_blank">18826956</a>, PubMed:<a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</a>, PubMed:<a href="http://www.uniprot.org/citations/29899501" target="\_blank">29899501</a>, PubMed:<a href="http://www.uniprot.org/citations/22526352" target="\_blank">22526352</a>, PubMed:<a href="http://www.uniprot.org/citations/23136043"



Tel: 858.875.1900 Fax: 858.875.1999

target=" blank">23136043</a>). Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed: <a href="http://www.uniprot.org/citations/18826956" target=" blank">18826956</a>, PubMed:<a href="http://www.uniprot.org/citations/18695040" target="\_blank">18695040</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/18826956" target="blank">18826956</a>, PubMed:<a href="http://www.uniprot.org/citations/18695040" target="blank">18695040</a>, PubMed:<a href="http://www.uniprot.org/citations/25256292" target="\_blank">25256292</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>). 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)

Volume 50 µl

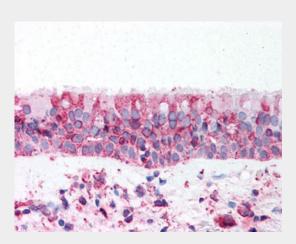
# **TRPV4 Antibody (N-Terminus) - Protocols**

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



- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# TRPV4 Antibody (N-Terminus) - Images



Anti-TRPV4 antibody ALS10997 IHC of human trachea.

# TRPV4 Antibody (N-Terminus) - Background

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.

# **TRPV4 Antibody (N-Terminus) - References**

Liedtke W.B.,et al.Cell 103:525-535(2000). Strotmann R.,et al.Nat. Cell Biol. 2:695-702(2000). Suzuki M.,et al.J. Biol. Chem. 278:22664-22668(2003). Ishibashi K.,et al.Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases. Kelsell R.E.,et al.Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.