

TRPV4 Antibody (Internal)
Rabbit Polyclonal Antibody
Catalog # ALS16788**Specification**

TRPV4 Antibody (Internal) - Product Information

Application	IHC, IF, WB
Primary Accession	O9HBA0
Other Accession	59341
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	98281

TRPV4 Antibody (Internal) - Additional Information**Gene ID** 59341**Other Names**

TRPV4, CMT2C, HMSN2C, OTRPC4, SSQTL1, VR-OAC, VRL-2, Osm-9-like TRP channel 4, SPSMA, TRP12, VRL2, VROAC, SMAL

Target/Specificity

TRPV4 antibody is human specific. At least six isoforms of TRPV4 are known to exist. This antibody is predicted to not cross-react with other TRP protein family members.

Reconstitution & Storage

PBS, 0.02% sodium azide. Long term: -20°C; Short term: +4°C. Avoid repeat freeze-thaw cycles.

Precautions

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

TRPV4 Antibody (Internal) - Protein Information**Name** TRPV4**Synonyms** VRL2, VROAC**Function**

Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity (PubMed: [16293632](http://www.uniprot.org/citations/16293632), PubMed: [18826956](http://www.uniprot.org/citations/18826956), PubMed: [18695040](http://www.uniprot.org/citations/18695040), PubMed: [29899501](http://www.uniprot.org/citations/29899501), PubMed: [22526352](http://www.uniprot.org/citations/22526352), PubMed: [23136043](http://www.uniprot.org/citations/23136043))

target="_blank">23136043). Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed:18826956, PubMed:18695040, PubMed:29899501). 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 Ca(2+) 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 Ca(2+) 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 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:26249260). 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:29899501). 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)

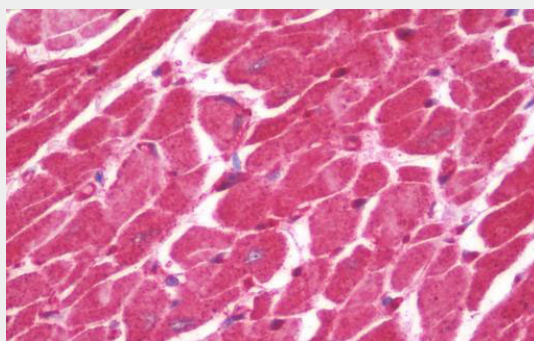
TRPV4 Antibody (Internal) - Protocols

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

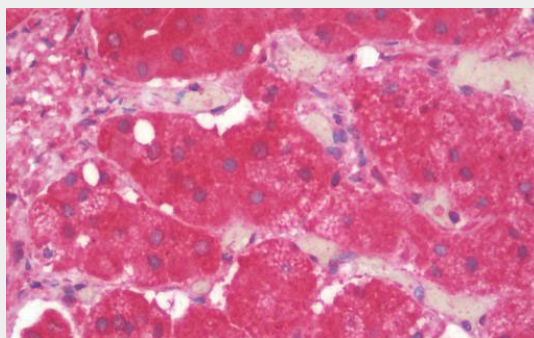
- [Western Blot](#)
- [Blocking Peptides](#)

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

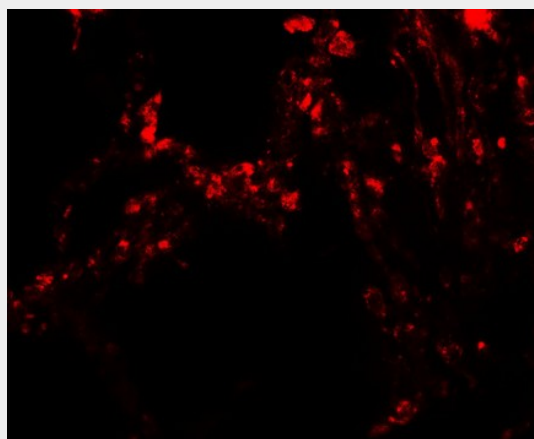
TRPV4 Antibody (Internal) - Images



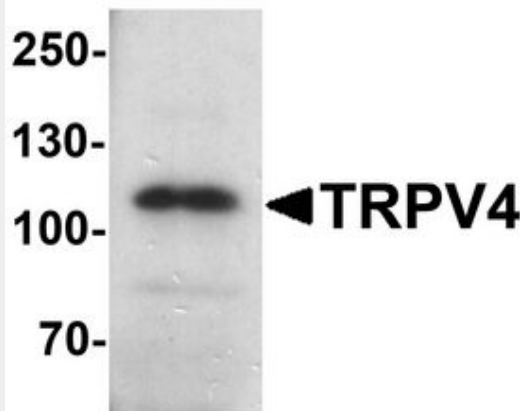
Anti-TRPV4 antibody IHC staining of human heart.



Anti-TRPV4 antibody IHC staining of human adrenal.



Immunofluorescence of TRPV4 in human lung tissue with TRPV4 antibody at 20 μ g/mL.



Western blot analysis of TRPV4 in human testis tissue lysate with TRPV4 antibody at 1 ug/ml.

TRPV4 Antibody (Internal) - 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- α -phorbol 12,13-didecanoate and hypotonic stimulation in synoviocytes and also regulates production of IL-8.

TRPV4 Antibody (Internal) - 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.