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TRPV4 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP18990a

Specification

TRPV4 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q9HBA0

TRPV4 Antibody (N-term) Blocking Peptide - 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

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

TRPV4 Antibody (N-term) Blocking Peptide - Protein Information

Name TRPV4

Synonyms VRL2, VROAC

Function
Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity (PubMed:16293632, PubMed:18826956, PubMed:18695040, PubMed:29899501, PubMed:22526352, PubMed: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:<a

href="http://www.uniprot.org/citations/16293632" target="_blank">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 (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

TRPV4 Antibody (N-term) Blocking Peptide - Images

TRPV4 Antibody (N-term) Blocking Peptide - Background

This gene encodes a member of the OSM9-like transientreceptor potential channel (OTRPC) subfamily in the transientreceptor potential (TRP) superfamily of ion channels. The encodedprotein is a Ca2+-permeable, nonselective cation channel that isthought to be involved in the regulation of systemic osmoticpressure. Mutations in this gene are the cause ofspondylometaphyseal and

metatropic dysplasia and hereditary motorand sensory neuropathy type IIC. Multiple transcript variantsencoding different isoforms have been found for this gene.

TRPV4 Antibody (N-term) Blocking Peptide - References

Shukla, A.K., et al. J. Biol. Chem. 285(39):30115-30125(2010)Cantero-Recasens, G., et al. J. Biol. Chem. 285(36):27532-27535(2010)Loukin, S., et al. J. Biol. Chem. 285(35):27176-27181(2010)Nishimura, G., et al. Am. J. Med. Genet. A 152A (6), 1443-1449 (2010) :Zimon, M., et al. Brain 133 (PT 6), 1798-1809 (2010) :