SANTA CRUZ BIOTECHNOLOGY, INC.

TRPV4 (C-20): sc-16485

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transient receptor potential (TRP) protein family consists of a diverse group of cation channels functioning in a variety of homeostatic and regulatory pathways. Four subfamilies exist, based on channel domain homology, not activating stimuli: C type (canonical or classical), V type (vanilloid receptor related), M type (melastatin related) and P type (PKD). TRPV4, also designated VRL-2, TRP12, VR-OAC and OTRPC4, belongs to the V type subfamily, and plays a role in systemic osmoregulation. TRPV4 is a calcium channel activated by various stimuli, including thermal stress, fatty acid metabolites and hypotonicity. TRPV4 is highly expressed in lung and kidney.

REFERENCES

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2. Alessandri-Haber, N., et al. 2004. Transient receptor potential vanilloid 4 is essential in chemotherapy-induced neuropathic pain in the rat. J. Neurosci. 24: 4444-4452.
3. Nilius, B., et al. 2004. TRPV4 calcium entry channel: a paradigm for gating diversity. Am. J. Physiol., Cell Physiol. 286: C195-C205.
4. Tian, W., et al. 2004. Renal expression of osmotically responsive cation channel TRPV4 is restricted to water-impermeant nephron segments. Am. J. Physiol. Renal. Physiol. 287: F17-F24.
5. Vriens, J., et al. 2004. Cell swelling, heat, and chemical agonists use distinct pathways for the activation of the cation channel TRPV4. Proc. Natl. Acad. Sci USA 101: 396-401.
6. Cohen, D.M. 2005. TRPV4 and the mammalian kidney. Pflügers Archiv. 451: 168-175.
7. Liedtke, W. 2005. TRPV4 plays an evolutionary conserved role in the transduction of osmotic and mechanical stimuli in live animals. J. Physiol. 567: 53-58.
8. Kunert-Keil, C., et al. 2006. Tissue-specific expression of TRP channel genes in the mouse and its variation in three different mouse strains. BMC Genomics 7: 159.

CHROMOSOMAL LOCATION

Genetic locus: TRPV4 (human) mapping to 12q24.11.

SOURCE

TRPV4 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRPV4 of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16485 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRPV4 (C-20) is recommended for detection of TRPV4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TRPV4 (C-20) is also recommended for detection of TRPV4 in additional species, including canine, bovine, porcine and avian.

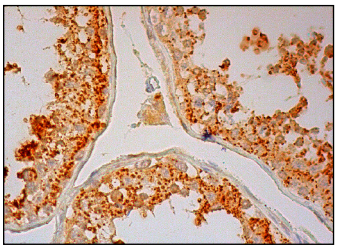
Suitable for use as control antibody for TRPV4 siRNA (h): sc-61726, TRPV4 shRNA Plasmid (h): sc-61726-SH and TRPV4 shRNA (h) Lentiviral Particles: sc-61726-V.

Molecular Weight of glycosylated TRPV4: 98-107 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



TRPV4 (C-20): sc-16485. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts.

RESEARCH USE

For research use only, not for use in diagnostic procedures.