

TRPV5 (K-17): sc-23375

BACKGROUND

Transient receptor potential (TRP) proteins are cation-sensitive channels that modulate a myriad of cellular functions, including temperature sensation and vasoregulation. Transcribed from a gene adjacent to VR-1, the thermal-sensitive, capsaicin-insensitive TRPV3 is expressed at warm temperatures; expression increases in response to noxious temperatures. Human TRPV3 is expressed in skin, tongue, dorsal root ganglion, trigeminal ganglion, spinal cord and brain. In addition, TRPV3 is co-expressed in dorsal root ganglion neurons with VR-1. TRPV3 associates with VR-1 and may modulate VR-1 activity. The 729 amino acid TRPV5 (ECAC1) protein comprises 6 transmembrane domains, multiple potential phosphorylation sites, an N-linked glycosylation site and 3 ankyrin repeat regions. It is abundantly expressed in kidney, jejunum and pancreas and at lower levels in testis, prostate, placenta, brain, colon and rectum. TRPV5 controls the rate-limiting step of vitamin D₃-regulated Ca²⁺ reabsorption in kidney and intestine; the 5'-flanking region of TRPV5 contains four putative vitamin D₃-responsive elements.

REFERENCES

1. Muller, D., et al. 2000. Gene structure and chromosomal mapping of human epithelial calcium channel. *Biochem. Biophys. Res. Commun.* 275: 47-52.
2. Smith, G.D., et al. 2000. TRPV3 is a temperature-sensitive vanilloid receptor-like protein. *Nature* 418: 186-190.
3. Peier, A.M., et al. 2002. A heat-sensitive TRP channel expressed in keratinocytes. *Science* 296: 2046-2049.
4. Xu, H., et al. 2002. TRPV3 is a calcium-permeable temperature-sensitive cation channel. *Nature* 418: 181-186.

CHROMOSOMAL LOCATION

Genetic locus: TRPV5 (human) mapping to 7q34.

SOURCE

TRPV5 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRPV5 of human origin.

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-23375 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

TRPV5 (K-17) is recommended for detection of TRPV5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TRPV5 (K-17) is also recommended for detection of TRPV5 in additional species, including porcine.

Suitable for use as control antibody for TRPV5 siRNA (h): sc-42676, TRPV5 shRNA Plasmid (h): sc-42676-SH and TRPV5 shRNA (h) Lentiviral Particles: sc-42676-V.

Molecular Weight of TRPV5 core: 75 kDa.

Molecular Weight of glycosylated TRPV5: 100 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, H4 cell lysate: sc-2408 or Hep G2 cell lysate: sc-2227.

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.

SELECT PRODUCT CITATIONS

1. Semenova, S.B., et al. 2009. Endogenous expression of TRPV5 and TRPV6 calcium channels in human leukemia K562 cells. *Am. J. Physiol., Cell Physiol.* 296: C1098-C1104.

RESEARCH USE

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


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Try **TRPV5 (B-6): sc-398853**, our highly recommended monoclonal alternative to TRPV5 (K-17).