

TRPV5 (P-15): sc-23378

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

- Muller, D., Hoenderop, J.G., Merckx, G.F., van Os, C.H. and Bindels, R.J. 2000. Gene structure and chromosomal mapping of human epithelial calcium channel. *Biochem. Biophys. Res. Commun.* 275: 47-52.
- Smith, G.D., Gunthorpe, M.J., Kelsell, R.E., Hayes, P.D., Reilly, P., Facer, P., Wright, J.E., Jerman, J.C., Walhin, J.p., Ooi, L., Egerton, J., Charles, K.J., Smart, D., Randall, A.D., Anand, P. and Davis, J.B. 2000. TRPV3 is a temperature-sensitive vanilloid receptor-like protein. *Nature* 418: 186-190.
- Peier, A.M., Reeve, A.J., Andersson, D.A., Moqrich, A., Earley, T.J., Hegarden, A.C., Story, G.M., Colley, S., Hogenesch, J.B., McIntyre, P., Bevan, S. and Patapoutian, A. 2002. A heat-sensitive TRP channel expressed in keratinocytes. *Science* 296: 2046-2049.
- Xu, H., Ramsey, L.S., Kotecha, S.A., Moran, M.M., Chong, J.A., Lawson, D., Ge, P., Lilly, J., Silo-Santiago, I., Xie, Y., DiStefano, P.S., Curtis, R. and Clapham, D.E. 2002. TRPV3 is a calcium-permeable temperature-sensitive cation channel. *Nature* 418: 181-186.

CHROMOSOMAL LOCATION

Genetic locus: *Trpv5* (mouse) mapping to 6 B2.1.

SOURCE

TRPV5 (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRPV5 of rat 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-23378 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

TRPV5 (P-15) is recommended for detection of TRPV5 of mouse and rat 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 (P-15) is also recommended for detection of TRPV5 in additional species, including equine and canine.

Suitable for use as control antibody for TRPV5 siRNA (m): sc-42677, TRPV5 shRNA Plasmid (m): sc-42677-SH and TRPV5 shRNA (m) Lentiviral Particles: sc-42677-V.

Molecular Weight of TRPV5 core: 75 kDa.

Molecular Weight of glycosylated TRPV5: 85-100 kDa.

Positive Controls: mouse liver extract: sc-2256 or mouse kidney extract: sc-2255.

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.

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.


 MONOS
 Satisfaction
 Guaranteed

Try **TRPV5 (B-8): sc-398345**, our highly recommended monoclonal alternative to TRPV5 (P-15).