SANTA CRUZ BIOTECHNOLOGY, INC.

TRPV6 (L-15): sc-31445

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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). TRPV6 belongs to the V type subfamily, and it facilitates calcium entry across the plasma membrane in pancreas, placenta and to a lesser extent stomach and kidney tissue. Furthermore, prostate cancer cells overexpress TRPV6, while benign prostate tissues do not express the protein, implying a role for TRPV6 in malignant growth.

REFERENCES

1. Nilius, B., et al. 2002. Fast and slow inactivation kinetics of the Ca^{2+} channels ECaC1 and ECaC2 (TRPV5 and TRPV6). Role of the intracellular loop located between transmembrane segments 2 and 3. J. Biol. Chem. 277: 30852-30858.
2. Fixemer, T., et al. 2003. Expression of the Ca^{2+}-selective cation channel TRPV6 in human prostate cancer: a novel prognostic marker for tumor progression. Oncogene 22: 7858-7861.
3. Birnbaumer, L., et al. 2003. A comparison of the genes coding for canonical TRP channels and their M, V and P relatives. Cell Calcium 33: 419-432.
4. Hirnet, D., et al. 2003. The TRPV6 gene, cDNA and protein. Cell Calcium 33: 509-518.
5. Hoenderop, J.G., et al. 2003. Homo- and heterotetrameric architecture of the epithelial Ca^{2+} channels TRPV5 and TRPV6. EMBO J. 22: 776-785.
6. Wissenbach, U., et al. 2004. TRPV6 and prostate cancer: cancer growth beyond the prostate correlates with increased TRPV6 Ca^{2+} channel expression. Biochem. Biophys. Res. Commun. 322: 1359-1363.
7. van de Graaf, S.F., et al. 2003. Functional expression of the epithelial Ca^{2+} channels (TRPV5 and TRPV6) requires association of the S100A10-annexin 2 complex. EMBO J. 22: 1478-1487.
8. Lambers, T.T., et al. 2004. Regulation of the mouse epithelial Ca^{2+} channel TRPV6 by the Ca^{2+}-sensor calmodulin. J. Biol. Chem. 279: 28855-28861.

CHROMOSOMAL LOCATION

Genetic locus: TRPV6 (human) mapping to 7q34; Trpv6 (mouse) mapping to 6 B2.1.

SOURCE

TRPV6 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TRPV6 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.

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-31445 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TRPV6 (L-15) is recommended for detection of TRPV6 (also designated CaT1) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

TRPV6 (L-15) is also recommended for detection of TRPV6 (also designated CaT1) in additional species, including equine and porcine.

Suitable for use as control antibody for TRPV6 siRNA (h): sc-44171, TRPV6 siRNA (m): sc-44172, TRPV6 shRNA Plasmid (h): sc-44171-SH, TRPV6 shRNA Plasmid (m): sc-44172-SH, TRPV6 shRNA (h) Lentiviral Particles: sc-44171-V and TRPV6 shRNA (m) Lentiviral Particles: sc-44172-V.

Molecular Weight of TRPV6 core: 75 kDa.

Molecular Weight of glycosylated TRPV6: 85-100 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, Hep G2 cell lysate: sc-2227 or Caco-2 cell lysate: sc-2262.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. Borthwick, L.A., et al. 2008. The annexin 2-S100A10 complex and its association with TRPV6 is regulated by cAMP/PKA/CnA in airway and gut epithelia. Cell Calcium 44: 147-157.
2. Zhang, W., et al. 2008. WNK3 positively regulates epithelial calcium channels TRPV5 and TRPV6 via a kinase-dependent pathway. Am. J. Physiol. Renal Physiol. 295: F1472-F1484.

RESEARCH USE

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