SANTA CRUZ BIOTECHNOLOGY, INC.

VRL-1 (D-20): sc-22520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Transient receptor potential (TRP) ion channels are a superfamily of six transmembrane segment-spanning, gated cation channels. TRP subtypes mediate store-operated Ca^{2+} entry, a process involving Ca^{2+} influx and replenishment of Ca^{2+} stores formerly emptied through the action of inositol 1,4,5-trisphosphate production and other Ca^{2+} mobilizing agents. Trp ion channels influence calcium-depletion induced calcium influx processes in response to chemo-, mechano- and osmoregulatory events. A subset of TRP channels includes the vanilloid receptor 1 (VR1), VRL-1, and TRPM8, which are involved in temperature perception. VR1 is activated by temperatures exceeding 43 degrees Celsius and by capsaicin, the main ingredient in hot chili peppers. VRL-1 is activated by extreme temperatures exceeding 52 degrees Celsius, and is expressed in both neuronal and nonneuronal cells. TRPM8 is stimulated by cold temperatures below 22 degrees Celsius as well as methanol. TRPM8 is expressed in a subpopulation of pain and temperature-sensing dorsal root ganglia (DRG) neurons.

REFERENCES

1. Philipp, S., et al. 1998. A novel capacitative calcium entry channel expressed in excitable cells. EMBO J. 17: 4274-4282.
2. Caterina, M.J., et al. 1999. A capsaicin-receptor homologue with a high threshold for noxious heat. Nature 398: 436-441.
3. Hofmann, T., et al. 2000. Transient receptor potential channels as molecular substrates of receptor-mediated cation entry. J. Mol. Med. 78: 14-25.
4. Harteneck, C., et al. 2000. From worm to man: three subfamilies of TRP channels. Trends Neurosci. 23: 159-166.
5. McKemy, D.D., et al. 2002. Identification of a cold receptor reveals a general role for TRP channels in thermosensation. Nature 416: 52-58.
6. Peier, A.M., et al. 2002. A TRP channel that senses cold stimuli and menthol. Cell 108: 705-715.

CHROMOSOMAL LOCATION

Genetic locus: TRPV2 (human) mapping to 17p11.2; Trpv2 (mouse) mapping to 11 B2.

SOURCE

VRL-1 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VRL-1 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-22520 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.

APPLICATIONS

VRL-1 (D-20) is recommended for detection of VRL-1 of mouse, human and, to a lesser extent, rat 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).

VRL-1 (D-20) is also recommended for detection of VRL-1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for VRL-1 siRNA (h): sc-42678, VRL-1 siRNA (m): sc-42679, VRL-1 shRNA Plasmid (h): sc-42678-SH, VRL-1 shRNA Plasmid (m): sc-42679-SH, VRL-1 shRNA (h) Lentiviral Particles: sc-42678-V and VRL-1 shRNA (m) Lentiviral Particles: sc-42679-V.

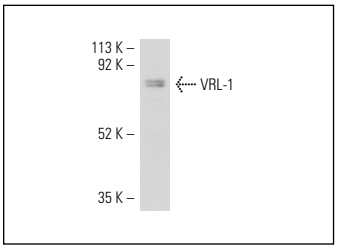
Molecular Weight of VRL-1: 86 kDa.

Positive Controls: mouse cerebellum extract: sc-2403.

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.

DATA



VRL-1 (D-20): sc-22520. Western blot analysis of VRL-1 expression in mouse cerebellum tissue extract.

RESEARCH USE

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