

VRL-1 (B-9): sc-514848

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

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

CHROMOSOMAL LOCATION

Genetic locus: TRPV2 (human) mapping to 17p11.2.

SOURCE

VRL-1 (B-9) is a mouse monoclonal antibody raised against amino acids 1-105 mapping at the N-terminus of VRL-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VRL-1 (B-9) is available conjugated to agarose (sc-514848 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514848 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514848 PE), fluorescein (sc-514848 FITC), Alexa Fluor[®] 488 (sc-514848 AF488), Alexa Fluor[®] 546 (sc-514848 AF546), Alexa Fluor[®] 594 (sc-514848 AF594) or Alexa Fluor[®] 647 (sc-514848 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514848 AF680) or Alexa Fluor[®] 790 (sc-514848 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

VRL-1 (B-9) is recommended for detection of VRL-1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

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

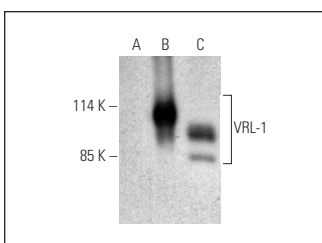
Molecular Weight of VRL-1: 86 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or VRL-1 (h2): 293T Lysate: sc-176751.

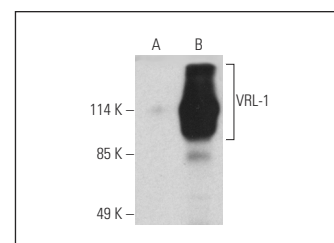
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



VRL-1 (B-9): sc-514848. Western blot analysis of VRL-1 expression in non-transfected 293T: sc-117752 (A), human VRL-1 transfected 293T: sc-176751 (B) and Jurkat (C) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



VRL-1 (B-9): sc-514848. Western blot analysis of VRL-1 expression in non-transfected: sc-117752 (A) and human VRL-1 transfected: sc-176751 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Chen, L., et al. 2022. Oxidative stress-induced TRPV2 expression increase is involved in diabetic cataracts and apoptosis of lens epithelial cells in a high-glucose environment. *Cells* 11: 1196.

STORAGE

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

RESEARCH USE

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