

VR1 (E-8): sc-398417

BACKGROUND

Vanilloid receptor 1 (VR1), also designated capsaicin receptor, is a nonselective cation channel, structurally related to members of the TRP family of ion channels. VR1 is activated by capsaicin, the active ingredient in chili peppers, by heat and by an increase in protons at sites of infection, inflammation and ischemia. By creating moderately acidic conditions, protons are able to lower the temperature threshold for VR1 activation, thus identifying VR1 as a molecular integrator of chemical and physical stimuli that elicit pain. VR1 is expressed in primary sensory neurons and vagal nerves and activated VR1 induces the influx of cations, particularly Ca^{2+} and Na^+ ions. The vanilloid receptor may also be a molecular target for endogenous anandamide, in addition to the cannabinoid receptors, in the nervous and cardiovascular systems.

CHROMOSOMAL LOCATION

Genetic locus: *Trpv1* (mouse) mapping to 11 B4.

SOURCE

VR1 (E-8) is a mouse monoclonal antibody raised against amino acids 1-130 mapping at the N-terminus of VR1 of rat origin.

PRODUCT

Each vial contains 200 μg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VR1 (E-8) is available conjugated to agarose (sc-398417 AC), 500 $\mu\text{g}/0.25$ ml agarose in 1 ml, for IP; to HRP (sc-398417 HRP), 200 $\mu\text{g}/\text{ml}$, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398417 PE), fluorescein (sc-398417 FITC), Alexa Fluor® 488 (sc-398417 AF488), Alexa Fluor® 546 (sc-398417 AF546), Alexa Fluor® 594 (sc-398417 AF594) or Alexa Fluor® 647 (sc-398417 AF647), 200 $\mu\text{g}/\text{ml}$, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398417 AF680) or Alexa Fluor® 790 (sc-398417 AF790), 200 $\mu\text{g}/\text{ml}$, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

VR1 (E-8) is recommended for detection of VR1 of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for VR1 siRNA (m): sc-36827, VR1 siRNA (r): sc-108093, VR1 shRNA Plasmid (m): sc-36827-SH, VR1 shRNA Plasmid (r): sc-108093-SH, VR1 shRNA (m) Lentiviral Particles: sc-36827-V and VR1 shRNA (r) Lentiviral Particles: sc-108093-V.

Molecular Weight of VR1: 100 kDa.

Positive Controls: VR1 (m2): 293 Lysate: sc-179742, F9 cell lysate: sc-2245 or TK-1 whole cell lysate: sc-364798.

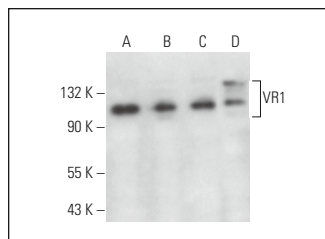
STORAGE

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

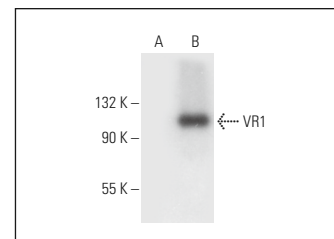
RESEARCH USE

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

DATA



VR1 (E-8): sc-398417. Western blot analysis of VR1 expression in F9 (A), TK-1 (B), WEHI-231 (C) and C6 (D) whole cell lysates.



VR1 (E-8): sc-398417. Western blot analysis of VR1 expression in non-transfected: sc-110760 (A) and mouse VR1 transfected: sc-179742 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhang, X., et al. 2018. The contribution of TRPV1 channel to 20-HETE-aggravated ischemic neuronal injury. *Prostaglandins Other Lipid Mediat.* 137: 63-68.
- Tang, S.C., et al. 2019. Glycolic acid attenuates UVB-induced aquaporin-3, matrix metalloproteinase-9 expression, and collagen degradation in keratinocytes and mouse skin. *Biochem. J.* 476: 1387-1400.
- Chen, X., et al. 2019. Long-term diabetic microenvironment augments the decay rate of capsaicin-induced currents in mouse dorsal root ganglion neurons. *Molecules* 24: 775.
- Cernit, V., et al. 2020. Reciprocal regulatory interaction between TRPV1 and kinin B1 receptor in a rat neuropathic pain model. *Int. J. Mol. Sci.* 21: 821.
- Vercelli, C., et al. 2021. TRPV1 receptor identification in bovine and canine mitral valvular interstitial cells. *Vet. Sci.* 8: 183.
- Baranowska-Kuczko, M., et al. 2021. Vasoprotective endothelial effects of chronic cannabidiol treatment and its influence on the endocannabinoid system in rats with primary and secondary hypertension. *Pharmaceuticals* 14: 1120.
- Xie, A.X., et al. 2022. Pharmacogenetic inhibition of lumbosacral sensory neurons alleviates visceral hypersensitivity in a mouse model of chronic pelvic pain. *PLoS ONE* 17: e0262769.
- Zhang, Y., et al. 2022. Protein disulfide isomerase modulation of TRPV1 controls heat hyperalgesia in chronic pain. *Cell Rep.* 39: 110625.
- Syed, Z., et al. 2022. Pharmacological mechanism of xanthoangelol underlying Nrf-2/TRPV1 and anti-apoptotic pathway against scopolamine-induced amnesia in mice. *Biomed. Pharmacother.* 150: 113073.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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