



Mouse monoclonal antibody to rat capsaicin receptor (VR1; TRPV1), [Clone BS397]: IgG

Catalogue No.:	M-1714-100
Description:	The capsaicin receptor (VR1, TRPV1) is a ligand-activated non-selective calcium permeant cation channel involved in detection of noxious chemical and thermal stimuli. The receptor seems to mediate proton influx and may be involved in intracellular acidosis in nociceptive neurons. It is involved in mediation of inflammatory pain and hyperalgesia. Sensitized by a phosphatidylinositol second messenger system activated by receptor tyrosine kinases, which involves PKC isozymes and PCL. Activation by vanilloids, like capsaicin, and temperatures higher than 42 degrees Celsius, exhibits a time- and Ca ²⁺ -dependent outward rectification, followed by a long-lasting refractory state. Mild extracellular acidic pH (6.5) potentiates channel activation by noxious heat and vanilloids, whereas acidic conditions (pH less than 6) directly activate the channel. Can be activated by endogenous compounds, including 12-hydroperoxytetraenoic acid and bradykinin. Acts as ionotropic endocannabinoid receptor with central neuromodulatory effects. Triggers a form of long-term depression (TRPV1-LTD) mediated by the endocannabinoid anandamine in the hippocampus and nucleus accumbens by affecting AMPA receptors endocytosis (Ref: uniprot.org).
Unit size:	100 µg
Antigen:	A synthetic peptide (C-GSLKPEDAIEVFKDSMVPGEK) as a part of the C-terminal rat VR1 protein (aa: 819-838) has been used as the immunogen.
Sequence:	C-GSLKPEDAIEVFKDSMVPGEK; aa 819-838 rat VR1
Antigen Location:	C-terminal
Antigen Length:	20 amino acids
Antibody Type:	Mouse monoclonal IgG
Isotype:	IgG2b, κ-light chain
Clone:	BS397
Other Names:	VR1; Transient receptor potential cation channel subfamily V member 1; TrpV1; osm-9-like TRP channel 1; OTRPC1; Vanilloid receptor 1; Capsaicin receptor; VR-1
Accession:	Uniprot: O35433; TRPV1_RAT
Produced in:	Mouse
Molecular Weight:	Monomer 90-100kDa in mouse brain extracts; dimer 180-200kDa can be observed under some conditions
Purity:	Protein G purified mouse immunoglobulin
Applications:	WB: Western blotting: 0.5-2 µg/mL , SDS-PAGE on Bis-Tris gel 4-12%, 5% beta-mercaptoethanol, primary antibody O/N incubation in 5% skim milk/TBST. Secondary is anti-mouse-HRP, 1/6000 dilution, 2h at room temperature. Blot developed on Li-Cor® C-DiGit® lot Scanner

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IF: Frozen or PEG embedded tissues tested (PEG embedding, see Klosen P et al (1993) J Histochem Cytochem. 41(3):455-63). Conditions tested: 1-10 µg/mL in PBS, 48 hours, followed by detection via directly conjugated fluorescent anti-mouse secondary. Antibody not yet tested on paraffin embedded sections. Other immunohistochemistry methods not yet tested but are expected to be reactive. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.

Specificity: Antibody is specific for rat/mouse VR1 protein in westerns and immunofluorescent immunohistochemistry on mouse PEG fixed DRG tissues. Pre-absorption with immunogen obliterates positive staining. Cross reactivity with other non-VR1 proteins is minimal; cross reactivity with VR1 from other species not yet tested.

Species Against: Rat/mouse, other species not yet tested

Antibody Against: Rat VR1

Cross-reactivity: This antibody clone is known to react with rat and mouse TrpV1. It is predicted to react with guinea pig due to sequence homology.

Form: Lyophilized from PBS, pH 7.4 with 3% trehalose.

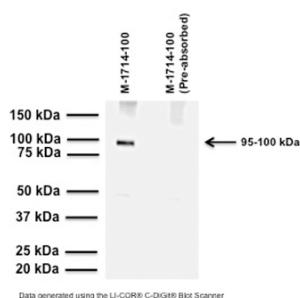
Appearance: Dry powder

Reconstitution: Reconstitute in 100 µl of sterile water. Centrifuge to remove any insoluble material. Final buffer contains no preservatives but will contain 3% trehalose and buffer salts.

Storage: After reconstitution divide in to aliquots and store at -20°C for a higher stability. Antibody contains no preservatives. Storage at 4°C with an appropriate antibacterial agent. USE Sterile methods. Highest purity Glycerol (1:1) may be added for an additional stability when stored at refrigerated or freezing temperatures. Avoid repetitive freeze/thaw cycles.

Expiry Date: 12 months after purchase if unopened.

General References: Peng H.Y. (2008) TRPV1 mediates the uterine capsaicin-induced NMDA NR2B-dependent cross-organ reflex sensitization in anesthetized rats. Am J Physiol Renal Physiol. Nov;295(5):F1324-35.



Western blot of TrpV1 in rat PC12 cell lysates (80 µg/lane). M-1714-100 detects TrpV1 protein at 95-100 kDa. SDS-PAGE: denatured and reduced; Transfer: Tris-Glycine buffer; Membrane: nitrocellulose (0.45 µm); Blocking: 5% skim milk in TBST, 1 hour at RT; Primary antibody: overnight at 4°C (2 µg/mL); Secondary antibody: anti-mouse-HRP (1/6000) 2 hours at RT; Detection: Chemiluminescence.

For more photos visit the Biosensis web site: www.biosensis.com.

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