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Vanilloid Receptor Subtype 1 (VR1)

Synthetic Peptide
Catalog # SP3555a

Specification

Vanilloid Receptor Subtype 1 (VR1) - Product Information

Primary Accession	O35433
Sequence	**NH2-CEDAEVFKDSMVPGEK-COOH**

Vanilloid Receptor Subtype 1 (VR1) - Additional Information

Gene ID 83810

Other Names
Transient receptor potential cation channel subfamily V member 1, TrpV1, Capsaicin receptor, Osm-9-like TRP channel 1, OTRPC1, Vanilloid receptor 1, Vanilloid receptor type 1-like, Trpv1, Vr1, Vr1l

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Vanilloid Receptor Subtype 1 (VR1) - Protein Information

Name Trpv1

Synonyms Vr1, Vr1l

Function
Ligand-activated non-selective calcium permeant cation channel involved in detection of noxious chemical and thermal stimuli. Seems to mediate proton influx and may be involved in intracellular acidosis in nociceptive neurons. 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 <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.

Cellular Location
Postsynaptic cell membrane; Multi-pass membrane protein. Cell projection, dendritic spine membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Mostly, but not exclusively expressed in postsynaptic dendritic spines

Tissue Location
Predominantly expressed in trigeminal and dorsal root sensory ganglia. Expressed also in hippocampus, cortex, cerebellum, olfactory bulb, mesencephalon and hindbrain. High expression in the cell bodies and dendrites of neurons in the hippocampus and in the cortex. In the brain detected also in astrocytes and pericytes (at protein level) (PubMed:15857679). Isoform 1 and isoform 3 are expressed in brain and peripheral blood mononuclear cells.

Vanilloid Receptor Subtype 1 (VR1) - Images