

Recombinant Rat TRPV1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52203

Size: 10ug, 100ug

Protein Name: 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)

Synonym: Trpv1, Vr1, Vr1l

UniProt ID: O35433

UniProt Link: www.uniprot.org/uniprotkb/O35433/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 838 AA

Molecular Weight: 95 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEQRASLDSEESPPQENSCLDPPDRDPNCKPPPVKPHIFTTRSRTLFGKGDSEEEASPLDCPYE
EGGLASCPITVSSVLTIQRPDGPASVRPSSQDSVSAGEKPPRLYDRRSIFDAVAQSNCQELESLLP
FLQRSKKRLTDSEFKDPETGKTCLLKAMLNHNGQNDTIALLLDVARKTDSLKQFVNASYTDSYYKG
QTALHIAIERRNMTLVTLLVENGADVQAAANGDFFKKTGRPGFYFGELPLSLAACTNQLAIVKFLQ
NSWQPADISARDSVGNTVLHALVEVADNTVDNTKFVTSMYNEILILGAKLHPTLKLEEITNRKGLTPLA
LAASSGKIGVLAYILQREIHEPECRHLSRKFTWAYGPVHSSLYDLSCIDTCEKNSVLEVIAYSSSETP
NRHDMLLVEPLNRLLQDKWDRFVKRIFYNFFVYCLYMIIFTAAAYYRPVEGLPPYKLKNTVGDYFRV
TGEILSVSGGVYFFFRGIQYFLQRRPSLKSFLVDSYSEILFFVQSLFMLVSVVLYFSQRKEYVASMVF
SLAMGWTNMLYYTRGFQQMGIYAVMIEKMILRDLCRFMFVYLVFLFGFSTAVVTLIEDGKNNSLPME
STPHKCRGSACKPGNSYNSLYSTCLELKFKTIGMGDLEFTENYDFKAVFIILLLAYVILTYILLNMLIAL
MGETVNKIAQESKNIWKLQRAITILDEKSLFKCMRKAFRSGKLLQVGFTPDGKDDYRWCFRVDEVN
WTTWNTNVGIINEDPGNCEGVKRTLFSLSRSGRVSGRNWKNFALVPLLRDASTRDRHATQQEEVQL
KHYTGSLKPEDA EVFKDS MVPGEK

3. Buffer Composition



Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant 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) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: 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 (By similarity). Upon activation, 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.; [Isoform 3]: Does not display channel activity in response to noxious chemical compounds, such as capsaicin and the vanilloid resiniferatoxin. Channel activity is not elicited by mildly acidic extracellular pH, and only slight channel activity is observed in response to noxious heat stimuli.

Subcellular Localization: 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.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.