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ProductInformation

Anti-Calcium Channel $Ca_v3.2$ (α_{1H})
produced in rabbit, affinity isolated antibody

Catalog Number **C1868**

Product Description

Anti-Calcium Channel $Ca_v3.2$ (α_{1H}) (voltage-dependent T-type Ca^{2+} channel) is produced in rabbit using as immunogen a synthetic peptide CHVEGPQERARVAHS corresponding to amino acid residues 581-595 of rat $Ca_v3.2$. Epitope location: intracellular loop connecting D1-D2. Gene ID: 114862. Mouse, bovine, and canine have 14/15 residues identical; human has 13/15 residues identical. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Calcium Channel $Ca_v3.2$ (α_{1H}) recognizes rat $Ca_v3.2$ (α_{1H}). The antibody has been used in immunoblotting.

Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. Three genes encoding T-type Ca^{2+} channels have been cloned and designated as $Ca_v3.2$ (α1H), $Ca_v3.1$ (α1G) and $Ca_v3.3$ (α1I).[1-3] $Ca_v3.2$ (α1H) belongs to the calcium channel α1H subunit family and is a membrane protein expressed in brain. The isoform α1H gives rise to T-type calcium currents. T-type calcium channels belong to the "low-voltage activated (LVA)" group and are strongly blocked by nickel and mibefradil. T- types of channels are characterized by an opening at negative potentials and a voltage-dependent inactivation. T-type channels serve pacemaking functions in both central neurons and cardiac nodal cells and support calcium signaling in secretory cells and vascular smooth muscle. $Ca_v3.2$ channels are involved in several pathologies. Overexpression of the $Ca_v3.2$ channel in prostate cancer cells is associated with more aggressiveness, invasiveness, and poor prognosis.[4] Several point mutations discovered in the $Ca_v3.2$ channel that affect gating of the channel are associated with Childhood Absence Epilepsy.[5] One year old mice, deficient in $Ca_v3.2$ channel, exhibited severe cardiac pathology, fibrosis, necrosis, lymphocyte infiltration, and abnormal coronary function compared to wild-type mice.[6]

Research has demonstrated that T-type channels are expressed in DRG neurons and that small and medium-diameter primary afferent neurons in the dorsal horn express almost exclusively the $Ca_v3.2$ channels. This might indicate a possible role for $Ca_v3.2$ in nociception.[7]

Reagent

Supplied as a lyophilized powder from a solution of phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 0.05% sodium azide as a preservative. See C of A for the lot-specific protein concentration after reconstitutuion.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For extended storage, freeze at –20 °C. The reconstituted solution can be stored at 2-8 °C for up to 2 weeks. For longer periods, small aliquots should be stored at –20 °C or below. Avoid multiple freezing and thawing, and storage in "frost-free" freezers. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

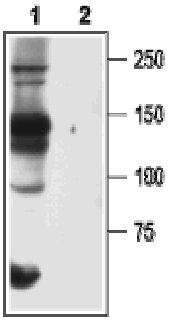
Preparation Instructions

Add 50 or 200 µL of deionized water, depending on the package size. The resulting solution contains phosphate buffered saline, pH 7.4, 1% BSA, and 0.05% sodium azide. Centrifuge all antibody preparations before use (10,000 × *g* for 5 min). Further dilutions should be made using a carrier protein such as BSA (1%).

Product Profile

Immunoblotting: a working dilution of 1:200 is recommended using a lysate from the ND7/23 cell line (mouse neuroblastoma x rat DRG neuron hybrid cell line).

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.



Western blotting of ND7/23 cell line lysate:
1. Anti-$Ca_v3.2$ antibody, 1:200.
2. Anti-$Ca_v3.2$ antibody, preincubated with the control peptide antigen.

References

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