

Rudolf-Wissell-Str. 28 37079 Göttingen, Germany

Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Ca2+ channel N-type, a-1B subunit

Cat.No. 152 303; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 μg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 μl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1: 1000 (see remarks) IP: not tested yet ICC: not recommended IHC: not recommended IHC-P/FFPE: not tested yet EM: not recommended
Immunogen	Recombinant protein corresponding to AA 2056 to 2336 from rat Ca2+ channel N-type $lpha$ -1B (UniProt Id: Q02294)
Reactivity	Reacts with: rat (Q02294), mouse (O55017). Other species not tested yet.
Specificity	Specific for Ca ²⁺ channel α-1B.
matching control	152-3P
Remarks	WB : Due to its large size, this antibody requires special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with the 4-12% TRIS-glycine gradient gels of anamed or NuPage TRIS-acetate gels from Invitrogen. This protein tends to aggregate after boiling, making it necessary to run SDS-PAGE with non-boiled samples.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Voltage **g**ated **c**alcium **c**hannels (VGCCs), also referred to as voltage sensitive calcium channels (VSCCs), are present in most excitable cells. They mediate the influx of Ca²⁺ ions into the cell and trigger the release of neurotransmitters or hormons but are also involved in other calcium dependent processes like metabolism, cell proliferation and cell death.

VGCCs are composed of four subunits (α -1, α -2, β and δ) in a 1:1:1:1 ratio. The α -1A isoform occurs in VGCCs of the P/Q-type while isoform α -1B is found in the **N-type**. Both belong to the high voltage activated group (hva).

Selected References SYSY Antibodies

Tonic endocannabinoid-mediated modulation of GABA release is independent of the CB1 content of axon terminals. Lenkey N, Kirizs T, Holderith N, Máté Z, Szabó G, Vizi ES, Hájos N, Nusser Z

Nature communications (2015) 6: 6557. EM

Target Cell Type-Dependent Differences in Ca2+ Channel Function Underlie Distinct Release Probabilities at Hippocampal Glutamatergic Terminals.

Éltes T. Kirizs T. Nusser Z. Holderith N

The Journal of neuroscience: the official journal of the Society for Neuroscience (2017) 37(7): 1910-1924. EM; tested species: rat

Similar GABAA receptor subunit composition in somatic and axon initial segment synapses of hippocampal pyramidal cells. Kerti-Szigeti K, Nusser Z

eLife (2016) 5:. EM

Selected General References

Bipartite syntaxin 1A interactions mediate CaV2.2 calcium channel regulation.

Davies JN, Jarvis SE, Zamponi GW

Biochemical and biophysical research communications (2011) 411(3): 562-8.

Presynaptic Cav2.1 and Cav2.2 differentially influence release dynamics at hippocampal excitatory synapses.

Scheuber A, Miles R, Poncer JC

 $The \ Journal\ of\ neuroscience: the\ official\ journal\ of\ the\ Society\ for\ Neuroscience\ (2004)\ 24(46):\ 10402-9.$

Alternative splicing in the voltage-sensing region of N-Type CaV2.2 channels modulates channel kinetics.

Lin Y, McDonough SI, Lipscombe D

Journal of neurophysiology (2004) 92(5): 2820-30.

Differential phosphorylation of two size forms of the N-type calcium channel alpha 1 subunit which have different COOH termini.

Hell JW, Appleyard SM, Yokoyama CT, Warner C, Catterall WA

The Journal of biological chemistry (1994) 269(10): 7390-6.

Molecular cloning of the alpha-1 subunit of an omega-conotoxin-sensitive calcium channel.

Dubel SJ. Starr TV. Hell J. Ahlijanian MK. Enveart JJ. Catterall WA. Snutch TP

Proceedings of the National Academy of Sciences of the United States of America (1992) 89(11): 5058-62.

Rat brain expresses a heterogeneous family of calcium channels.

Snutch TP, Leonard JP, Gilbert MM, Lester HA, Davidson N

Proceedings of the National Academy of Sciences of the United States of America (1990) 87(9): 3391-5.