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Ca2+ channel T-type, α-1G subunit

Cat.No. 152 505; Polyclonal Guinea pig antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 μg specific antibody, lyophilized. Affinity purified with the immunogen. Guinea pig serum albumin was added for stabilization. For reconstitution add 50 μ l H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1: 1000 (AP staining) (see remarks) IP: not tested yet ICC: not tested yet IHC: 1: 200 IHC-P/FFPE: not tested yet
Immunogen	Recombinant protein corresponding to AA 1921 to 2254 from rat Ca2+ channel T-type α -1G (UniProt Id: O54898)
Reactivity	Reacts with: rat (O54898), mouse (Q9WUT2). Other species not tested yet.
Specificity	Specific for Ca ²⁺ channel α-1G.
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 -1G isoform occurs in VGCCs of the **T**-type which belongs to the high voltage activated group (hva).

Selected General References

Lack of CaV3.1 channels causes severe motor coordination defects and an age-dependent cerebellar atrophy in a genetic model of essential tremor.

Chang KY, Park YG, Park HY, Homanics GE, Kim J, Kim D

Biochemical and biophysical research communications (2011) 410(1): 19-23.

Permeation and gating in CaV3.1 (alpha1G) T-type calcium channels effects of Ca2+, Ba2+, Mg2+, and Na+.

Khan N, Gray IP, Obejero-Paz CA, Jones SW

The Journal of general physiology (2008) 132(2): 223-38.

Subtype switching of T-type Ca 2+ channels from Cav3.2 to Cav3.1 during differentiation of embryonic stem cells to cardiac cell lineage

Mizuta E, Miake J, Yano S, Furuichi H, Manabe K, Sasaki N, Igawa O, Hoshikawa Y, Shigemasa C, Nanba E, Ninomiya H, et al. Circulation journal : official journal of the Japanese Circulation Society (2005) 69(10): 1284-9.

Roles of molecular regions in determining differences between voltage dependence of activation of CaV3.1 and CaV1.2 calcium channels.

Li J, Stevens L, Klugbauer N, Wray D

The Journal of biological chemistry (2004) 279(26): 26858-67.

Immunological characterization of T-type voltage-dependent calcium channel CaV3.1 (alpha 1G) and CaV3.3 (alpha 1I) isoforms reveal differences in their localization, expression, and neural development.

Yunker AM, Sharp AH, Sundarraj S, Ranganathan V, Copeland TD, McEnery MW

Neuroscience (2003) 117(2): 321-35.

Gating of the expressed Cav3.1 calcium channel.

Lacinová L, Klugbauer N, Hofmann F FEBS letters (2002) 531(2): 235-40.