

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** L-type, α-1C subunit

Cat.No. 334 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

## **Data Sheet**

Reconstitution/ Storage	50 $\mu g$ specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 $\mu l$ H <sub>2</sub> 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: 500 IHC-P/FFPE: not tested yet
Immunogen	Recombinant protein corresponding to AA 1901 to 2169 from rat Ca2+ channel L-type $\alpha$ -1C (UniProt Id: P22002)
Reactivity	Reacts with: rat (P22002), mouse (Q01815). Other species not tested yet.
Specificity	Specific for Ca <sup>2+</sup> channel α-1C subunit.
Remarks	<b>WB</b> : Due to its large size, Ca-channels require special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with NuPage TRIS-acetate gels from Invitrogen. Unboiled samples are recommended.

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

**V**oltage **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 Ca<sup>2+</sup> 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 ( $\alpha$ -1,  $\alpha$ -2,  $\beta$  and  $\delta$ ) in a 1:1:1:1 ratio. The  $\alpha$ -1C subunit occurs in VGCCs of the L-type which belongs to the high voltage activated group (hva).

## **Selected General References**

A specific role for the REV-ERBα-controlled L-Type Voltage-Gated Calcium Channel CaV1.2 in resetting the circadian clock in the late night.

Schmutz I, Chavan R, Ripperger JA, Maywood ES, Langwieser N, Jurik A, Stauffer A, Delorme JE, Moosmang S, Hastings MH, Hofmann F, et al.

Journal of biological rhythms (2014) 29(4): 288-98.

A CACNA1C variant associated with reduced voltage-dependent inactivation, increased CaV1.2 channel window current, and arrhythmogenesis.

Hennessey JA, Boczek NJ, Jiang YH, Miller JD, Patrick W, Pfeiffer R, Sutphin BS, Tester DJ, Barajas-Martinez H, Ackerman MJ, Antzelevitch C. et al.

PloS one (2014) 9(9); e106982.

The role of L-type voltage-gated calcium channels Cav1.2 and Cav1.3 in normal and pathological brain function. Berger SM, Bartsch D

Cell and tissue research (2014) 357(2): 463-76.

Cav1.2 and Cav1.3 L-type calcium channels regulate dopaminergic firing activity in the mouse ventral tegmental area. Liu Y, Harding M, Pittman A, Dore J, Striessnig J, Rajadhyaksha A, Chen X Journal of neurophysiology (2014) 112(5): 1119-30.

Role of hippocampal Cav1.2 Ca2+ channels in NMDA receptor-independent synaptic plasticity and spatial memory.

Moosmang S, Haider N, Klugbauer N, Adelsberger H, Langwieser N, Müller J, Stiess M, Marais E, Schulla V, Lacinova L, Goebbels S. et al.

The Journal of neuroscience: the official journal of the Society for Neuroscience (2005) 25(43): 9883-92.

Role of the C terminus of the alpha 1C (CaV1.2) subunit in membrane targeting of cardiac L-type calcium channels. Gao T, Bunemann M, Gerhardstein BL, Ma H, Hosey MM
The Journal of biological chemistry (2000) 275(33): 25436-44.