

## Ca<sup>2+</sup> channel P/Q-type, $\alpha$ -1A subunit

**Cat.No. 152 211; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)**

### Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For reconstitution add 100 µl H <sub>2</sub> O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) (see remarks) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 100 up to 1 : 500 (see remarks) <b>IHC:</b> not tested yet <b>IHC-P/FFPE:</b> not tested yet
Clone	23F11
Subtype	IgG2b (κ light chain)
Immunogen	Recombinant protein corresponding to AA 1921 to 2212 from rat Ca <sup>2+</sup> channel P/Q-type $\alpha$ -1A (UniProt Id: P54282)
Epitop	Epitop: AA 1921 to 2212 from rat Ca <sup>2+</sup> channel P/Q-type $\alpha$ -1A (UniProt Id: P54282)
Reactivity	Reacts with: rat, mouse. Other species not tested yet.
Specificity	Specific for Ca <sup>2+</sup> channel $\alpha$ -1A.
Remarks	<b>WB:</b> Less sensitive than the polyclonal antibodies. 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.  <b>ICC:</b> This antibody requires mild fixation (1-2% PFA for 15min).

### Selected General References

Calcium channel types with distinct presynaptic localization couple differentially to transmitter release in single calyx-type synapses.

Wu LG, Westenbroek RE, Borst JG, Catterall WA, Sakmann B

The Journal of neuroscience : the official journal of the Society for Neuroscience (1999) 19(2): 726-36.

Localization of Ca<sup>2+</sup> channel subtypes on rat spinal motor neurons, interneurons, and nerve terminals.

Westenbroek RE, Hoskins L, Catterall WA

The Journal of neuroscience : the official journal of the Society for Neuroscience (1998) 18(16): 6319-30.

Biochemical properties and subcellular distribution of the BI and rBA isoforms of alpha 1A subunits of brain calcium channels.

Sakurai T, Westenbroek RE, Rettig J, Hell J, Catterall WA

The Journal of cell biology (1996) 134(2): 511-28.

Immunochemical identification and subcellular distribution of the alpha 1A subunits of brain calcium channels.

Westenbroek RE, Sakurai T, Elliott EM, Hell JW, Starr TV, Snutch TP, Catterall WA

The Journal of neuroscience : the official journal of the Society for Neuroscience (1995) 15(10): 6403-18.

Immunochemical identification and differential phosphorylation of alternatively spliced forms of the alpha 1A subunit of brain calcium channels.

Sakurai T, Hell JW, Woppmann A, Miljanich GP, Catterall WA

The Journal of biological chemistry (1995) 270(36): 21234-42.

Primary structure of a calcium channel that is highly expressed in the rat cerebellum.

Starr TV, Prystay W, Snutch TP

Proceedings of the National Academy of Sciences of the United States of America (1991) 88(13): 5621-5.

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

Voltage gated calcium channels (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 hormones 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  $\alpha$ -1A isoform occurs in VGCCs of the **P/Q-type** while isoform  $\alpha$ -1B is found in the N-type. Both belong to the high voltage activated group (hva).