

## Product datasheet for **TA328722**

### **Cacna1b Rabbit Polyclonal Antibody**

#### **Product data:**

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)RHHRHRDRDKTSASTPA, corresponding to amino acid residues 851-867 of rat Cav2.2.Â Intracellular loop between domains II and III.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN3.
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	calcium voltage-gated channel subunit alpha1 B
Database Link:	<a href="#">NP_671482</a> <a href="#">Entrez Gene 774 Human</a> <a href="#">Entrez Gene 12287 Mouse</a> <a href="#">Entrez Gene 257648 Rat</a>

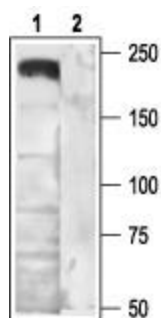
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**Background:**

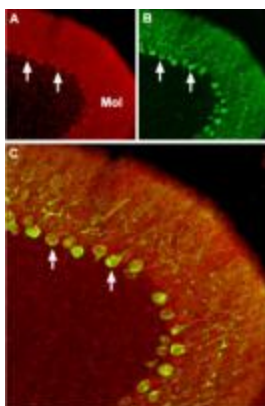
Voltage dependent Ca<sup>2+</sup> channels (CaV channels) are pivotal players in many physiological roles such as secretion, contraction, migration and excitation. The voltage dependent Ca<sup>2+</sup> channels are composed of several subunits;  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_2\delta$  and  $\beta$ . CaV channels were originally divided into six physiological types: L, N, P, Q, R, and T type. The CaV2.2 (formally named  $\alpha_{1B}$ ) composes the  $\alpha_1$  pore-forming subunit for the N type Ca<sup>2+</sup> channel family. They are involved in neurotransmitter release from central neurons, including glutamate,  $\gamma$ -aminobutyric acid, acetylcholine, dopamine and noradrenaline. The CaV2.2 is expressed preferentially in the central nervous system, where along with CaV2.1, it is responsible for pre-synaptic Ca<sup>2+</sup> influx and neurotransmitter release. The CaV2.2 channel is negatively regulated by many different GPCRs. There are two ways that this is done: either by directly binding G $\alpha_q$  to the channel or by an indirect mechanism involving second messenger and channel phosphorylation.  $\omega$ -Conotoxin GVIA is a specific blocker of Cav2.2 Ca<sup>2+</sup> channels. It specifically blocks N-type Cav channels by binding to the Cav2.2  $\alpha_1$  subunit ( $\alpha_{1B}$ ) and its action is only partially reversible.

**Synonyms:**

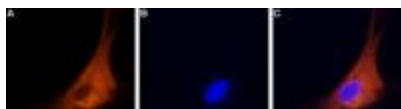
BIII; CACH5; CACNL1A5; CACNN; Cav2.2

**Product images:**


Western blot analysis of rat brain membranes: 1. Anti-Cav2.2 antibody, (1:200). 2. Anti-Cav2.2 antibody, preincubated with the control antigen.



Expression of Cav2.2 in mouse cerebellum. Immunohistochemical staining of mouse cerebellum with Anti-Cav2.2 antibody, (1:100). A. Cav2.2 (red) appears in Purkinje cells (arrows) and is distributed diffusely in the molecular layer (Mol). B. Staining of Purkinje cells with mouse anti-Calbindin 28K (green) demonstrates the restriction of Cav2.2 to cell bodies but not to dendrites in the molecular layer. C. Merged image of panels A and B.



Expression of Cav2.2 in rat DRG primary culture. Immunocytochemical staining of paraformaldehyde-fixed and permeabilized rat dorsal root ganglion (DRG) primary culture. A. Cells were stained using Anti-Cav2.2 antibody, (1:200) followed by goat anti-rabbit-AlexaFluor-555 secondary antibody. B. Nuclear fluorescence staining of cells using the membrane-permeable DNA dye Hoechst 33342. C. Merged images of panels A and B.