

## Product datasheet for **TA328762**

### Cacna2d4 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:	Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)SERPQEMGRLLGEADG, corresponding to amino acid residues 881-896 of mouse Cava2d4. Extracellular.
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% NaN <sub>3</sub> .
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 channel, voltage-dependent, alpha 2/delta subunit 4
Database Link:	<a href="#">NP_001028554</a> <a href="#">Entrez Gene 312668 Rat</a> <a href="#">Entrez Gene 319734 Mouse</a> <a href="#">Q5R1F7</a>



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**Background:**

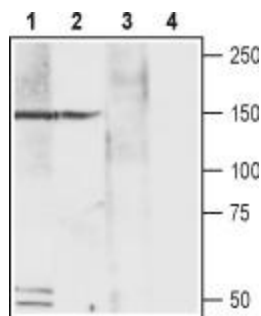
Voltage-gated Ca<sup>2+</sup> (CaV) channels are ubiquitously expressed and function as Ca<sup>2+</sup> conducting pores in the plasma membrane. Based on their electrophysiological and pharmacological properties, Ca<sup>2+</sup> channels have traditionally been classified into L, T, N, P, Q, and R types. L-type calcium channels are heteromultimers composed of four independently encoded proteins, the pore-forming  $\alpha_1$  subunit, which triggers Ca<sup>2+</sup> flow across the membrane, and the auxiliary subunits  $\alpha_2$ ,  $\beta$ , and  $\gamma$ . The Ca<sup>2+</sup> channel  $\alpha_2$  subunit is a heavily glycosylated protein that is encoded by a single gene and post-translationally cleaved to yield  $\alpha_2$  and  $\beta$  subunits linked by a disulfide bond with a single transmembrane segment. The  $\alpha_2$  subunit regulates many functional aspects of Ca<sup>2+</sup> channels, such as gating, regulating voltage dependent kinetics, and increasing functional channel density on the plasma membrane. There are four proteins that comprise CaV $\alpha_2$ : CaV $\alpha_2$ 1, CaV $\alpha_2$ 2, CaV $\alpha_2$ 3 and CaV $\alpha_2$ 4. CaV $\alpha_2$ 4 participates in the regulation of membrane expression of CaV channels. It is predominantly expressed in certain types of endocrine cells. It is also detected in the erythroblasts in the fetal liver, in the cells of the zona reticularis of the adrenal gland and in the basophiles of the pituitary. Defects in CaV $\alpha_2$ 4 are the cause of retinal cone dystrophy 4 (RCD4). RCD4 is characterized by minimal symptoms except for slowly progressive reduction in visual acuity.

**Synonyms:**

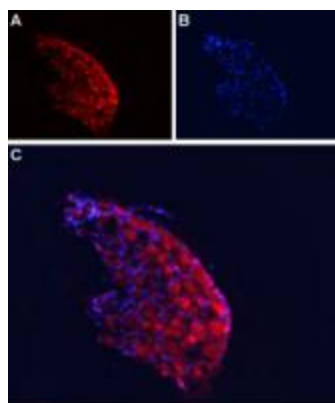
RCD4

**Note:**

This antibody was tested in live cell imaging. Please see IF/ICC data for detail.

**Product images:**

Western blot analysis of rat DRG (lanes 1 and 3) and PC12 cells (lanes 2 and 4): 1-2. Anti-Cava2d4 (extracellular) antibody, (1:200). 3-4. Anti-Cava2d4 (extracellular) antibody preincubated with the control antigen.



Expression of Cava2d4 in rat DRG.  
Immunohistochemical staining of rat DRG frozen section using Anti-Cava2d4 (extracellular) antibody, (1:100). A. Cava2d4 is expressed in DRG neurons. B. Nuclear staining using Hoechst 33342 as the counterstain. C. Merged images of A and B.



Expression of Cava2d4 in rat C6 cells.  
Immunocytochemical staining of intact living rat brain glioma (C6) cells. A. Extracellular staining of cells with Anti-Cava2d4 (extracellular) antibody, (1:50) followed by goat anti-rabbit-AlexaFluor-594 secondary antibody (red). B. Nuclear staining of cells using the cell-permeable dye Hoechst 33342 (blue). C. Merged images of A and B.