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Product datasheet for TA328761

Cacna2d3 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 CSWWHSDMTAKAQK, corresponding to amino acid residues 942-955 of rat CaVa2d3. 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% 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 auxiliary subunit alpha2delta 3
Database Link:	NP_783185 Entrez Gene 12294 MouseEntrez Gene 55799 HumanEntrez Gene 306243 Rat Q8CFG5

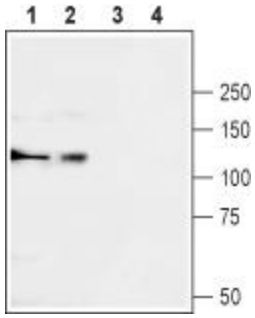
View online »

Background: Voltage-gated Ca2+ (CaV) channels are ubiquitously expressed and function as Ca2+ conducting pores in the plasma membrane1. On the basis of their voltage activation properties, CaV channels can be further divided into two broad groups: the low (T-type) and high (L, N, P, Q and R-type) threshold-activated channels. HVA channels are heteromultimers composed of four independently encoded proteins, the pore-forming a1 subunit, which triggers Ca2+ flow across the membrane, and the auxiliary subunits a2d, ?, and Ã?. The Ca2+ channel a2d subunit is a heavily glycosylated protein that is encoded by a single gene and post-translationally cleaved to yield a2 and d subunits linked by a disulfide bond with a single transmembrane segment.The a2d subunit regulates many functional aspects of Ca2+ channels, such as gating, regulating voltage dependent kinetics, and increasing functional channel density on the plasma membrane.There are four proteins that comprise CaVa2d: CaVa2d1, CaVa2d2, CaVa2d3 and CaVa2d46. The CaVa2d3 subunit is predominantly expressed in neuronal tissue. The CaVa2d3 subunit regulates all classes of HVA calcium channels. The Caa2d3 subunits in the nerve terminal function in synaptic morphogenesis and cytoskeletal organization, and that this role is independent of their function in a1 subunit localization and physiology.CaVa2d3 is likely to be the primary presynaptic a2d isoform mediating morphological development of the neuromuscular junction (NMJ), since alleles have such a large effect on NMJ development and abolish all action-potential evoked transmission. Recent study shows that methylation-dependent transcriptional silencing of CaVa2d3 may contribute to the metastatic phenotype of breast cancer.

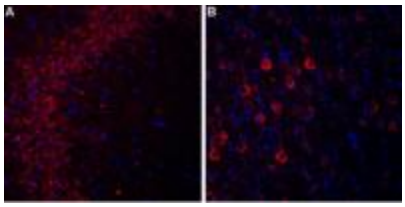
Synonyms: HSA272268

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

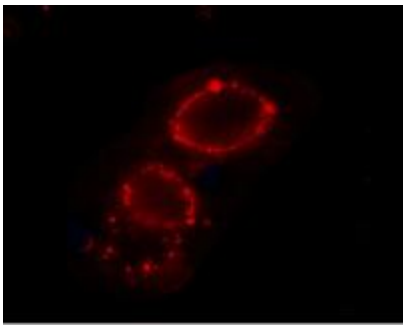
Product images:



Western blot analysis of rat brain (lanes 1 and 3) and K562 (lanes 2 and 4) lysates: 1, 2. Anti-CaVa2d3 (extracellular) antibody, (1:200). 3, 4. Anti-CaVa2d3 (extracellular) antibody preincubated with the control peptide antigen.



Expression of CaVa2d3 in rat hippocampus and cortex. Immunohistochemical staining of rat hippocampal CA3 region (A) and rat neocortex (B) using Anti-CaVa2d3 (extracellular) antibody. In both areas CaVa2d3 staining (red) appears in pyramidal neurons (arrow). DAPI is used as the counterstain (blue).



Expression of CaVa2d3 in rat PC12 cells. Immunocytochemical staining of intact living PC12 cells. Extracellular staining of cells using Anti-CaVa2d3 (extracellular) antibody, (1:25) followed by goat anti-rabbit-AlexaFluor-594 secondary antibody.