Datasheet for ABIN7043000

anti-CACNA1C antibody (Intracellular)

7 Images

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Overview

Quantity:	25 µL
Target:	CACNA1C
Binding Specificity:	AA 848-865, Intracellular
Reactivity:	Rat
Host:	Guinea Pig
Clonality:	Polyclonal
Conjugate:	This CACNA1C antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF)

Product Details

Purpose:	A Guinea Pig Polyclonal Antibody to CaV1.2 (CACNA1C) Channel
Immunogen:	Immunogen: Synthetic peptide Immunogen Sequence: (C)TTKINMDDLQPSENEDKS, corresponding to amino acid residues 848-865 of rat CaV1.2
Isotype:	IgG
Specificity:	Intracellular loop between domains II and III
Cross-Reactivity:	Human, Mouse, Rat
Predicted Reactivity:	guinea pig - 17,18 amino acid residues identical, human,rabbit - 16,Mouse - identical
Characteristics:	Guinea pig Anti-CaV1.2 (CACNA1C) Antibody (#), raised in guinea pigs, is a highly specific antibody directed against an epitope of the rat protein. The antibody can be used in western

Product Details

	blot and immunohistochemistry applications. It has been designed to recognize CaV1.2 from mouse, rat and human samples. The antigen used to immunize guinea pigs is the same as Anti-CaV1.2 (CACNA1C) Antibody (ABIN7042997, ABIN7043953 and ABIN7043954)) raised in rabbit. Our line of guinea pig antibodies enables more flexibility with our products such as multiplex staining studies, immunoprecipitation, etc.
Purification:	Affinity purified on immobilized antigen.

Target Details

Target:	CACNA1C
Alternative Name:	CACNA1C (CACNA1C Products)
Background:	Voltage-dependent L-type calcium channel subunit α1C,Voltage-gated Ca2+ channels (CaV), enable the passage of Ca2+ ions in a voltage dependent manner. These heteromeric entities are formed in part by the pore-forming α1 subunit which determines the biophysical and pharmacological properties of the channel1.L-type Ca2+ channels make up one of three voltage-gated Ca2+ channel families. Four different α1 isoforms (CaV1.1 to CaV1.4) belong to the L-type subfamily. Structurally, each α1 subunit has four homologous domains (I-IV) and each domain has a six transmembrane section. Like many other voltage-gated channels, L-type Ca2+ channels have auxiliary subunits which are responsible for modulating the surface expression and properties of the channels2-5.CaV1.1 is mostly expressed in the skeletal muscle, while CaV1.4 is mainly detected in the retina. The expression of both CaV1.2 and CaV1.3 is more extensive and includes neurons, heart, smooth muscle, inner ear, retina and pancreas6. L-type Ca2+ channels are involved in and modulate a variety of physiological functions such as muscle contraction, hormone secretion, neuronal excitability and gene expression5.CaV1.2 undergoes various post-translational modifications. For example, it can undergo proteolytic cleavage at its C-terminal. This cleavage has been shown to take place in neurons following the activation of NMDA receptors5,7 and in the heart5,8,9. The cleaved moiety can still interact with the channel and its general purpose is to modulate channel activity5. Other postranslation modifications of the channel include phosphorylation of CaV1.2 by a number of kinases such as PKA, PKC, Src and CaMKII5. In addition, it is not surprising that phosphatases also regulate channel activity, as they are required to antagonize the activity of the various kinases known to phosphorylate CaV1.2 5.The fact that CaV1.2 plays a prominent role in proper cardiac function has prompted endless studies regarding its regulation. Such studies have concluded that dysregulation of the channel leads to anomalies in heart contraction and thus heart failure5. Likewise, CaV1.2 defects have been detected in autism and

Target Details

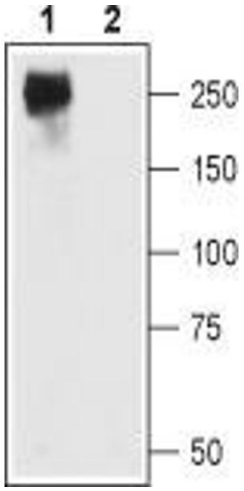
	bipolar disorder10. Alternative names: CaV1.2, Voltage-dependent L-type Ca2+ channel subunit alpha1C, Cacna1c
Gene ID:	24239
NCBI Accession:	NM_000719
UniProt:	P22002
Pathways:	Hormone Transport, Carbohydrate Homeostasis

Application Details

Application Notes:	Antigen preadsorption control: 1 µg peptide per 1 µg antibody Application Dilutions Immunohistochemistry paraffin embedded sections ihc: 1:100 Application Dilutions Western blot wb: 1:200
Comment:	Negative Control: BLP-CC003 Blocking Peptide: BLP-CC003
Restrictions:	For Research Use only

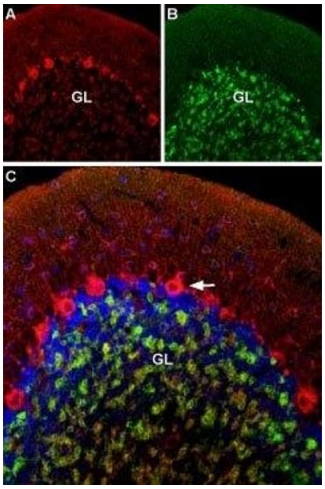
Handling

Format:	Lyophilized
Reconstitution:	0.2 mL double distilled water (DDW).
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4
Storage:	4 °C,-20 °C
Storage Comment:	Storage before reconstitution: The antibody ships as a lyophilized powder at room temperature. Upon arrival, it should be stored at -20°C. Storage after reconstitution: The reconstituted solution can be stored at 4°C for up to 1 week. For longer periods, small aliquots should be stored at -20°C. Avoid multiple freezing and thawing. Centrifuge all antibody preparations before use (10000 x g 5 min).



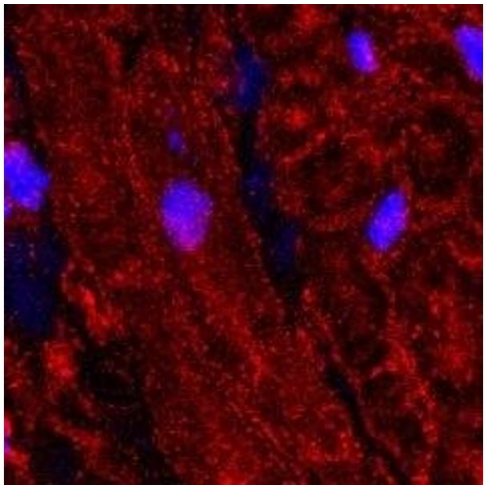
Western Blotting

Image 1. Western blot analysis of CaV1.2-transfected Xenopus oocytes (lane 1) and non-transfected oocytes lysates (lane 2): - 1. Guinea pig Anti-CaV1.2 (CACNA1C) Antibody (ABIN7043000, ABIN7045360 and ABIN7045361), (1:200) in CaV1.2 (CACNA1C) Channel Overexpressed in Xenopus oocytes.2. Guinea pig Anti-CaV1.2 (CACNA1C) Antibody in non-transfected oocytes.



Immunohistochemistry

Image 2. Multiplex staining of CaV1.2 and GABA(A) α1 Receptor in rat cerebellum - Immunohistochemical staining of rat cerebellum using Guinea pig Anti-CaV1.2 (CACNA1C) Antibody (ABIN7043000, ABIN7045360 and ABIN7045361) and Anti-GABA(A) α1 Receptor (extracellular)-ATTO Fluor-488 Antibody (ABIN7043184). A. CaV1.2 (red) is detected mostly in Purkinje cells (arrow). B. In the same section, GABA(A) α1 Receptor (green) is observed in the granule layer. C. Merge of the two images suggests some colocalization between CaV1.2 and GABA(A) α1 Receptor in the rat granule layer but only CaV1.2 appears in Purkinje cells.



Immunohistochemistry

Image 3. Expression of CaV1.2 in human atria - Immunohistochemical staining of human left atrium using Guinea pig Anti-CaV1.2 (CACNA1C) Antibody (ABIN7043000, ABIN7045360 and ABIN7045361), (1:100).The picture was kindly provided by Dr. Van Wagoner, D.R. from the Department of Molecular Cardiology, Cleveland Clinic, Cleveland, Ohio, USA. Lovano, B. and Peterson, J. collected the data.

Please check the product details page for more images. Overall 7 images are available for ABIN7043000.