Mouse Cav1.2 Monoclonal Antibody | anti-CACNA1C antibody

CaV1.2 Antibody: ATTO 594

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103417	**Mouse**	**Human, Mouse, Rat**	**Immunofluorescence, Immunohistochemistry, Immunoprecipitation, Western Blot**

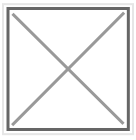
PRODUCT SYNONYMS

Cav1.2; Monoclonal Antibody; CaV1.2 Antibody: ATTO 594; CACH3; CACN4; CACNA 1D; CACNL1A2; voltage dependent L type calcium channel subunit alpha 1D; alpha-1 subunit voltage-dependent calcium channel; calcium channel voltage-dependent L type alpha 1C subunit1; voltage-gated calcium channel alpha subunit Cav1.2; anti-CACNA1C antibody

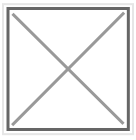
PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse, Rat
Clonality	Monoclonal
Isotype	IgG2b
Clone Number	S57-46
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	2171
Applicable Applications for anti-CACNA1C antibody	IF (Immunofluorescence), IHC (Immunohistochemistry), IP (Immunoprecipitation), WB (Western Blot)
Conjugate	ATTO 594
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

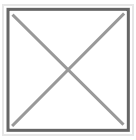
IMAGES



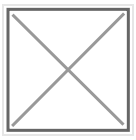
IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-CaV1.2 Calcium channel Monoclonal Antibody, Clone S57-47. Tissue: Brain Tissue. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-CaV1.2 Calcium channel Monoclonal Antibody at 1:10000 for 12 hours at 4 degree C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 ul for 2 minutes at RT. Magnification: 40x.



WB (Western Blot)
Western Blot analysis of Hamster T-CHO cell lysate showing detection of CaV1.2 Calcium Channel protein using Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody, Clone S57-46. Primary Antibody: Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody at 1:1000.



IP (Immunoprecipitation)
Immunoprecipitation analysis using Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody, Clone S57-46. Tissue: INS-1E cells. Species: Rat. Primary Antibody: Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody at 1:200. Courtesy of: Merrie Mosedale.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody, Clone S57-46. Tissue: hippocampus. Species: Human. Fixation: 10% formalin. Primary Antibody: Mouse Anti-CaV1.2 Calcium Channel Monoclonal Antibody at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.

ADDITIONAL INFORMATION

Related Product Information for anti-CACNA1C antibody	**Background Info:** Detects ~240kDa (varies with cell background due to glycosylation) **Scientific Background:** Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient (1). They are present in the membranes that surround all biological cells because their main function is to regulate the flow of ions across this membrane. Whereas some ion channels permit the passage of ions based on charge, others conduct based on an ionic species, such as sodium or potassium. Furthermore, in some ion channels, the passage is governed by a gate which is controlled by chemical or electrical signals, temperature, or mechanical forces. There are a few main classifications of gated ion channels. There are voltage- gated ion channels, ligand- gated, other gating systems and finally those that are classified differently, having more exotic characteristics. The first are voltage- gated ion channels which open and close in response to membrane potential. These are then separated into sodium, calcium, potassium, proton, transient receptor, and cyclic nucleotide-gated channels; each of which is responsible for a unique role. Ligand-gated ion channels are also known as ionotropic receptors, and they open in response to specific ligand molecules binding to the extracellular domain of the receptor protein. The other gated classifications include activation and inactivation by second messengers, inward-rectifier potassium channels, calcium-activated potassium channels, two-pore-domain potassium channels, light-gated channels, mechano-sensitive ion channels and cyclic nucleotide-gated channels. Finally, the other classifications are based on less normal characteristics such as two-pore channels, and transient receptor potential channels (2). Specifically, Cav1.2 is a cardiac L-type calcium channel, and is important for excitation and contraction of the heart (3). It may be associated with a variant of Long QT syndrome called Timothy's syndrome (4, 5) and also with Brugada syndrome. Some references also suggest it is related to bipolar disease as well (5).
Product Categories/Family for anti-CACNA1C antibody	Ion Channels; Neuroscience
References	1. Hille B. (2001) Ion Channels of Excitable Membranes, 3rd Ed., Sinauer Associated Inc.:Sunderland, MA USA. 2. www.iochannels.org 3. Splawski I., et al. (2004) Cell. 119 (1): 19-31. 4. Krey J.F., and Dolmetsch R. (2009) Biophysical. 96 (3): 221a-222a. 5. Crotti L., Celano G., Dagradi F. and Schwartz P.J. (2008) Orphanet J Rare Disease 3:18.

NCBI AND UNIPROT INFORMATION

NCBI GI #	211904105
NCBI GeneID	100101555
NCBI Accession #	NP_001129994.1
NCBI GenBank Nucleotide #	NM_001136522.1
UniProt Accession #	P15381; Q03716; Q28676; Q99243
Molecular Weight	238,515 Da
NCBI Official Full Name	voltage-dependent L-type calcium channel subunit alpha-1C
NCBI Official Symbol	CACNA1C
NCBI Official Synonym Symbols	CACB
NCBI Protein Information	voltage-dependent L-type calcium channel subunit alpha-1C; CaCB receptor; smooth muscle calcium channel blocker

UniProt Protein Name	Voltage-dependent L-type calcium channel subunit alpha-1C
UniProt Gene Name	**CACNA1C**
UniProt Synonym Gene Names	CACH2; CACN2; CACNL1A1; CCHL1A1; CACB-receptor
UniProt Entry Name	CAC1C_RABIT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: https://stage.aaabiotech.com/monoclonal/cav12-antibody-clone-s57-46-immunofluorescence-immunohistochemistry-immunoprecipitation-western-blot-elisa/103417