Mouse Cav1.3 Monoclonal Antibody | anti-Cacna1d antibody

CaV1.3 Antibody: FITC

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA102924	**Mouse**	**Human, Mouse, Rat**	**Immunofluorescence, Immunocytochemistry, Immunoprecipitation, Western Blot**

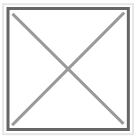
PRODUCT SYNONYMS

Cav1.3; Monoclonal Antibody; CaV1.3 Antibody: FITC; alpha-1 polypeptide; CAC1D_HUMAN; CACH3; CACN4; CACNA 1D; Cacna1d; CACNL1A2; Calcium channel; Calcium channel L type alpha 1 polypeptide isoform 2; Calcium channel neuroendocrine/brain type alpha 1 subunit; Calcium channel voltage dependent L type alpha 1; anti-Cacna1d antibody

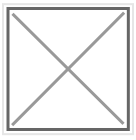
PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse, Rat
Clonality	Monoclonal
Isotype	IgG2a
Clone Number	S48A-9
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	2203
Applicable Applications for anti-Cacna1d antibody	IF (Immunofluorescence), ICC (Immunocytochemistry), IP (Immunoprecipitation), WB (Western Blot)
Conjugate	FITC
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

IMAGES



IHC (Immunohiostchemistry)
Immunohistochemistry analysis using Mouse Anti-CaV1.3 Calcium Channel Monoclonal Antibody, Clone S48A-9. Tissue: hippocampus. Species: Human. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-CaV1.3 Calcium Channel Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-CaV1.3 Calcium Channel Monoclonal Antibody, Clone S48A-9. Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-CaV1.3 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-Cacna1d antibody	**Background Info:** Detects ~250kDa. No cross-reactivity against Cav1.2 **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 a 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, CaV1.3, also known as the calcium channel, voltage-dependent, L type, alpha 1D subunit (CACNA1D), is a human gene. CaV1.3 subunits are primarily expressed in neurons and neuroendocine cells. Some studies suggest however that CaV1.3 is also found in the atria, and may figure prominently in atrial arrhythmias (3). CaV1.3 also carries the primary sensory receptors of the mammalian cochlea, and are also expressed in the electromotile outer hair cells (4).
Product Categories/Family for anti-Cacna1d 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. Zhang Z., et al. (2005) Circulation 112: 1936-1944. 4. Johnson S.L. and Marcotti W. (2008) The Journal of Physiology. 586: 1029-1042.

NCBI AND UNIPROT INFORMATION

NCBI GI #	8393030
NCBI GeneID	29716
NCBI Accession #	NP_058994.1
NCBI GenBank Nucleotide #	NM_017298.1
UniProt Accession #	P27732; O09022; O09023; O09024; Q01542; Q62691; Q62815; Q63491; Q63492
Molecular Weight	– Da
NCBI Official Full Name	voltage-dependent L-type calcium channel subunit alpha-1D
NCBI Official Synonym Full Names	calcium channel, voltage-dependent, L type, alpha 1D subunit
NCBI Official Symbol	Cacna1d
NCBI Protein Information	voltage-dependent L-type calcium channel subunit alpha-1D; RBD; CaV1.3alpha1; brain class D; calcium channel alpha-1 subunit; voltage-dependent calcium channel subunit alpha1D; voltage-gated calcium channel subunit alpha Cav1.3; calcium channel, L type, alpha-1 polypeptide, isoform 2; voltage-gated calcium channel pore forming subunit CaV1.3alpha1 IVS3-IVS4 extracellular linker
UniProt Protein Name	Voltage-dependent L-type calcium channel subunit alpha-1D
UniProt Gene Name	**Cacna1d**
UniProt Synonym Gene Names	Cach3; Cacn4; Cacnl1a2; Cchl1a2; RBD
UniProt Entry Name	CAC1D_RAT

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/cav13-antibody-clone-s48a-9-immunofluorescence-immunocytochemistry-immunoprecipitation-western-blot-elisa/102924