

Mouse Nav1.7 Monoclonal Antibody | anti-SCN9A antibody

Nav1.7 Antibody: ATTO 594

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103254	Mouse	Human, Mouse, Rat	Immunofluorescence, Immunocytochemistry, Immunoprecipitation, Western Blot

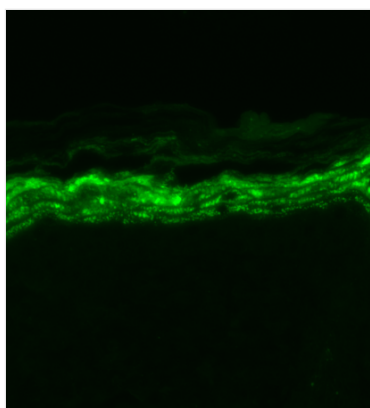
PRODUCT SYNONYMS

Nav1.7; Monoclonal Antibody; Nav1.7 Antibody: ATTO 594; ETHA; hNE Na; NE NA; PN1; SCN9A; voltage gated sodium channel subunit alpha Nav1; peripheral sodium channel 1; neuroendocrine sodium channel; anti-SCN9A antibody

PRODUCT SPECIFICATIONS

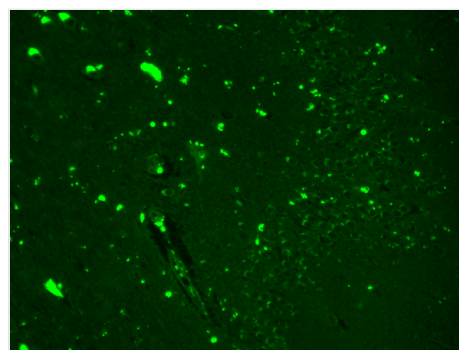
Host	Mouse
Reactivity	Human, Mouse, Rat
Clonality	Monoclonal
Isotype	IgG1
Clone Number	S68-6
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	1977
Applicable Applications for anti-SCN9A antibody	IF (Immunofluorescence), ICC (Immunocytochemistry), IP (Immunoprecipitation), WB (Western Blot)
Conjugate	ATTO 594
Storage Buffer	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

IMAGES



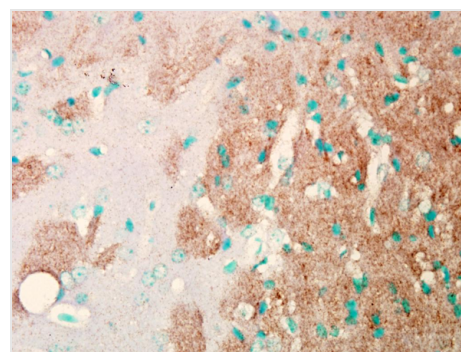
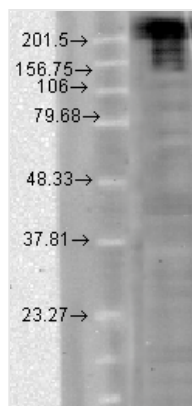
IHC (Immunohistochemistry)

Immunohistochemistry analysis using Mouse Anti-Nav1.7 Sodium Channel Monoclonal Antibody, Clone S68-6. Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Nav1.7 Sodium 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.



IHC (Immunohistochemistry)

Immunohistochemistry analysis using Mouse Anti-Nav1.7 Sodium Channel Monoclonal Antibody, Clone S68-6. Tissue: hippocampus. Species: Human. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Nav1.7 Sodium 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-Nav1.7 Sodium Channel Monoclonal Antibody, Clone S68-6. Tissue: Brain Slice. Species: Mouse. Fixation: Frozen sections. Primary Antibody: Mouse Anti-Nav1.7 Sodium Channel Monoclonal Antibody at 1:1000. Secondary Antibody: HRP/DAB Detection System: Biotinylated Goat Anti-Mouse, Streptavidin Peroxidase, DAB Chromogen (brown). Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain.

WB (Western Blot)

Western Blot analysis of hamster CHO cells showing detection of Nav1.7 Sodium Channel protein using Mouse Anti-Nav1.7 Sodium Channel Monoclonal Antibody, Clone S68-6. Load: 15 ug. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Nav1.7 Sodium Channel Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

ADDITIONAL INFORMATION

Related Product Information for anti-SCN9A antibody

Background Info: Detects ~230kDa. No cross-reactivity against other Nav channels.

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, mechanosensitive 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). Nav1.7 is a voltage-gated sodium channel and plays a critical role in the generation and conduction of action potentials and is thus important for electrical signaling by most excitable cells. Therapeutically, the association of pain insensitivity with the loss of function of a certain sodium channel may have implications. Since Nav1.7 is not present in cardiac muscle or neurons in the central nervous system, blockers of Nav1.7 will not have direct action on these cells and thus can have less side effects than current pain medications. By performing more studies, there is a possibility to develop a new generation of drugs that can reduce the pain intensity in animals (3-5).

Product Categories/Family for anti-SCN9A 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. Dray A. (2008) Br. J. Anaesth. 101(1): 48-58.
4. Dray A., Read S.J (2007) Arthritis Res. Ther. 9(3): 212.
5. Samuels M.E., teMorshe R.H., Lynch M.E., Drenth J.P. (2008) Mol Pain. 4: 21.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4506813
NCBI GeneID	6335
NCBI Accession #	NP_002968.1
NCBI GenBank Nucleotide #	NM_002977.3

UniProt Accession #	Q15858; Q6B4R9; Q6B4S0; Q6B4S1; Q70HX1; Q70HX2; Q8WTU1; Q8WWN4; A1BUH5
Molecular Weight	225,227 Da
NCBI Official Full Name	sodium channel protein type 9 subunit alpha
NCBI Official Synonym Full Names	sodium channel, voltage-gated, type IX, alpha subunit
NCBI Official Symbol	SCN9A
NCBI Official Synonym Symbols	PN1; ETHA; NENA; SFNP; FEB3B; NE-NA; GEFSP7; Nav1.7
NCBI Protein Information	sodium channel protein type 9 subunit alpha; hNE-Na; peripheral sodium channel 1; neuroendocrine sodium channel; sodium channel protein type IX subunit alpha; voltage-gated sodium channel alpha subunit Nav1.7; voltage-gated sodium channel subunit alpha Nav1.7; sodium channel, voltage-gated, type IX, alpha polypeptide
UniProt Protein Name	Sodium channel protein type 9 subunit alpha
UniProt Gene Name	SCN9A
UniProt Synonym Gene Names	NENA; hNE-Na; PN1
UniProt Entry Name	SCN9A_HUMAN

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/nav17-antibody-clone-s68-6-immunofluorescence-immunocytochemistry-immunoprecipitation-western-blot-elisa/103254>