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Product datasheet for TA326452

Nav1.7 (SCN9A) Mouse Monoclonal Antibody [Clone ID: S68-6]

Product data:

Product Type:	Primary Antibodies
Clone Name:	S68-6
Applications:	IHC, WB
Recommend Dilution:	WB: 1-10ug/ml, IHC: 0.1-1.0ug/ml, IF: 1.0-10ug/ml
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Fusion protein amino acids 1751-1946 (C-terminus) of human Nav1.7
Formulation:	PBS pH7.4, 50% glycerol, 0.09% sodium azide
Concentration:	1 mg/ml
Purification:	Protein G Purified
Gene Name:	sodium voltage-gated channel alpha subunit 9
Database Link:	NP_002968 Entrez Gene 20274 MouseEntrez Gene 78956 RatEntrez Gene 6335 Human

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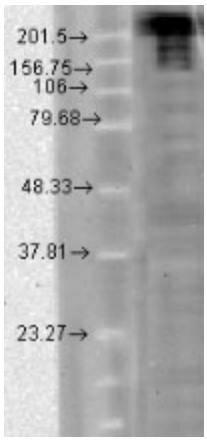
Background: Ion channels are integral membrane proteins that help establish and control the small voltage gradient across the plasma membrane of living cells by allowing the flow of ions down their electrochemical gradient . They are present in the membranes that surround all biological cells because 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 .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 .

Synonyms: ETHA; FEB3B; GEFSP7; HSAN2D; Nav1.7; NE-NA; NENA; PN1; SFNP

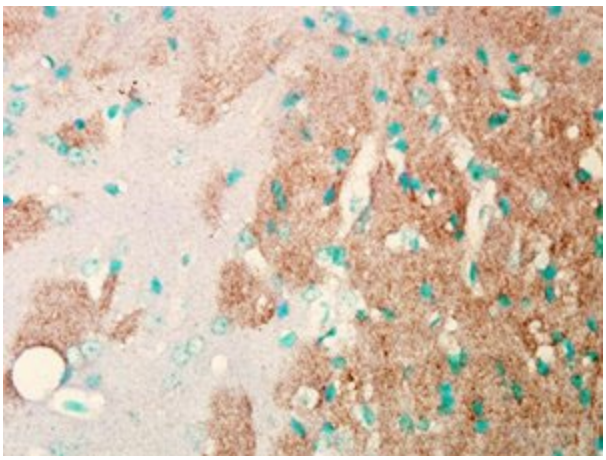
Note: Detects ~230kDa. No cross-reactivity against other Nav channels.

Protein Families: Druggable Genome, Ion Channels: Sodium

Product images:



Western blot analysis of Nav1.7 in CHO cells using a 1:1000 dilution of the antibody



IHC analysis of Nav1.7 in mouse brain tissue using a dilution of the antibody