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SCN1B Antibody (N-Term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10645A

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q07699
Other Accession	Q00954, P53788, P97952, Q17QN4, NP_950238.1
Reactivity	Human, Mouse
Predicted	Rat, Rabbit, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	24707
Antigen Region	63-90

Additional Information

Gene ID	6324
Other Names	Sodium channel subunit beta-1, SCN1B
Target/Specificity	This SCN1B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 63-90 amino acids from the N-terminal region of human SCN1B.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SCN1B Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SCN1B (HGNC:10586)
Function	Regulatory subunit of multiple voltage-gated sodium (Nav) channels directly mediating the depolarization of excitable membranes (PubMed:40768348). Navs, also called VGSCs (voltage-gated sodium channels) or VDSCs

	(voltage-dependent sodium channels), operate by switching between closed and open conformations depending on the voltage difference across the membrane. In the open conformation they allow Na(+) ions to selectively pass through the pore, along their electrochemical gradient (PubMed:40768348). The influx of Na+ ions provokes membrane depolarization, initiating the propagation of electrical signals throughout cells and tissues (PubMed:14622265, PubMed:15525788, PubMed:18464934, PubMed:19710327, PubMed:29992740, PubMed:36696443, PubMed:8125980, PubMed:8394762). The accessory beta subunits participate in localization and functional modulation of the Nav channels (PubMed:15525788, PubMed:19710327, PubMed:29992740). Modulates the activity of SCN1A/Nav1.1, SCN2A/Nav1.2, SCN3A/Nav1.3, SCN4A/Nav1.4, SCN5A/Nav1.5, SCN8A/Nav1.6, SCN9A/Nav1.7 and SCN10A/Nav1.8 (PubMed:14622265, PubMed:15525788, PubMed:18464934, PubMed:30765606, PubMed:36696443, PubMed:8125980, PubMed:8394762).
Cellular Location	[Isoform 1]: Cell membrane; Single-pass type I membrane protein. Perikaryon {ECO:0000250|UniProtKB:P97952} Cell projection {ECO:0000250|UniProtKB:P97952}. Cell projection, axon {ECO:0000250|UniProtKB:Q00954}. Note=Detected at nodes of Ranvier on the sciatic nerve. {ECO:0000250|UniProtKB:Q00954}
Tissue Location	The overall expression of isoform 1 and isoform 2 is very similar. Isoform 1 is abundantly expressed in skeletal muscle, heart and brain. Isoform 2 is highly expressed in brain and skeletal muscle and present at a very low level in heart, placenta, lung, liver, kidney and pancreas. In brain, isoform 2 is most abundant in the cerebellum, followed by the cerebral cortex and occipital lobe, while isoform 1 levels are higher in the cortex compared to the cerebellum Isoform 2 is expressed in many regions of the brain, including cerebellar Purkinje cells, cortex pyramidal neurons and many of the neuronal fibers throughout the brain (at protein level). Also detected in dorsal root ganglion, in fibers of the spinal nerve and in cortical neurons and their processes (at protein level)

Background

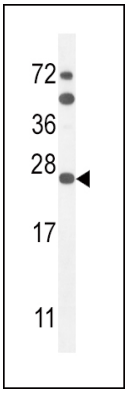
Voltage-gated sodium channels are heteromeric proteins that function in the generation and propagation of action potentials in muscle and neuronal cells. They are composed of one alpha and two beta subunits, where the alpha subunit provides channel activity and the beta-1 subunit modulates the kinetics of channel inactivation. SCN1B encodes a sodium channel beta-1 subunit. Mutations in this gene result in generalized epilepsy with febrile seizures plus, Brugada syndrome 5, and defects in cardiac conduction. Multiple transcript variants encoding different isoforms have been found for this gene.

References

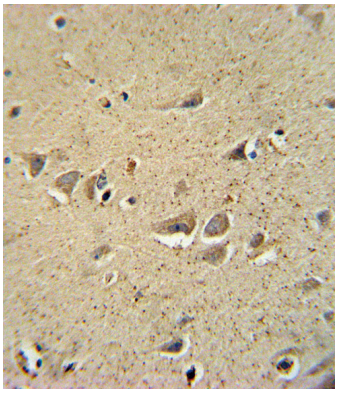
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Images

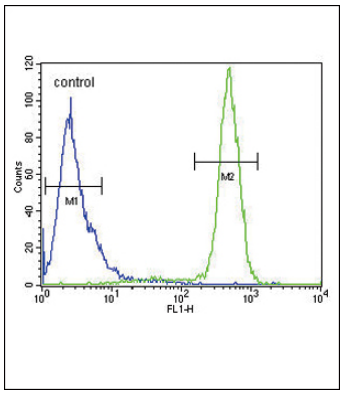
SCN1B Antibody (N-Term) (Cat. #AP10645a) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the SCN1B antibody



detected the SCN1B protein (arrow).



SCN1B Antibody (N-Term) (Cat. #AP10645a) immunohistochemistry analysis in formalin fixed and paraffin embedded human brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the SCN1B Antibody (N-Term) for immunohistochemistry. Clinical relevance has not been evaluated.



SCN1B Antibody (N-Term) (Cat. #AP10645a) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.