10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# SCN1B Antibody (N-Term)

**Affinity Purified Rabbit Polyclonal Antibody (Pab)**
**Catalog # AP10645A**

## Specification

### SCN1B Antibody (N-Term) - Product Information

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

### SCN1B Antibody (N-Term) - 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**
FC~~1:10~50
IHC-P~~1:10~50
WB~~1:1000
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.

### SCN1B Antibody (N-Term) - Protein Information

**Name** SCN1B (HGNC:10586)

**Function** Regulatory subunit of multiple voltage-gated sodium (Nav) channels directly mediating the depolarization of excitable membranes. 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. 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)

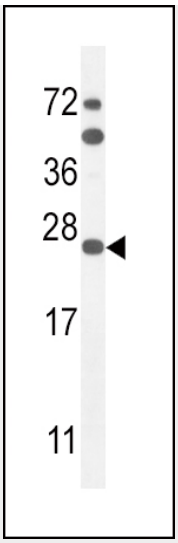
## SCN1B Antibody (N-Term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

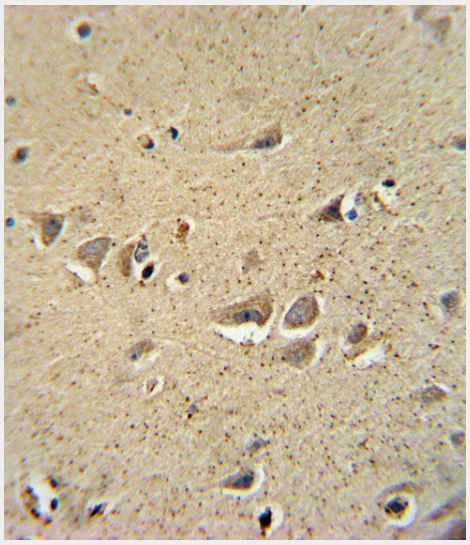
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## SCN1B Antibody (N-Term) - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

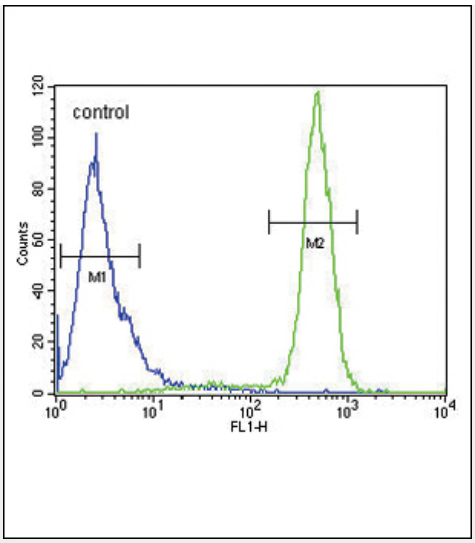



SCN1B Antibody (N-Term) (Cat. #AP10645a) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the SCN1B antibody detected the SCN1B protein (arrow).



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.

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999




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.

## SCN1B Antibody (N-Term) - 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.

## SCN1B Antibody (N-Term) - References

Grover, S., et al. Pharmacogenomics 11(7):927-941(2010)
Tan, B.H., et al. Heart Rhythm 7(6):771-778(2010)
Casini, S., et al. Cardiovasc. Res. 85(4):691-700(2010)
Ogawa, R., et al. Int J Clin Pharmacol Ther 48(2):109-119(2010)
Watanabe, H., et al. Circ Arrhythm Electrophysiol 2(3):268-275(2009)