Product datasheet

Anti-Nav1.7 antibody [N68/6] ab85015

Overview

Product name: Anti-Nav1.7 antibody [N68/6]
Description: Mouse monoclonal [N68/6] to Nav1.7
Host species: Mouse
Specificity: No cross reactivity against other Nav channels.
Tested applications: Suitable for: ICC/IF, IP, IHC-P, IHC-Fr, Flow Cyt
Species reactivity: Reacts with: Mouse, Rat, Human
Immunogen: Fusion protein corresponding to Human Nav1.7 aa 1750-1950 (C terminal).
General notes: The clone number has been updated from S68-6 to N68/6, both clone numbers name the same antibody clone.

This monoclonal antibody is manufactured by Abcam. If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here.

Properties

Form: Liquid
Storage instructions: Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer: pH: 7.40
Preservative: 0.02% Sodium azide
Constituent: PBS
Purity: Protein G purified
Clonality: Monoclonal
Clone number: N68/6
Isotype: IgG1
Light chain type: kappa
Function


Tissue specificity

Expressed strongly in dorsal root ganglion, with only minor levels elsewhere in the body, smooth muscle cells, MTC cell line and C-cell carcinoma. Isoform 1 is expressed preferentially in the central and peripheral nervous system. Isoform 2 is expressed preferentially in the dorsal root ganglion.

Involvement in disease

Primary erythermalgia
Indifference to pain, congenital, autosomal recessive
Paroxysmal extreme pain disorder
Generalized epilepsy with febrile seizures plus 7
Febrile seizures, familial, 3B

Sequence similarities

Belongs to the sodium channel (TC 1.A.1.10) family. Nav1.7/SCN9A subfamily.
Contains 1 IQ domain.

Domain

The sequence contains 4 internal repeats, each with 5 hydrophobic segments (S1,S2,S3,S5,S6) and one positively charged segment (S4). Segments S4 are probably the voltage-sensors and are characterized by a series of positively charged amino acids at every third position.

Post-translational modifications

Phosphorylation at Ser-1490 by PKC in a highly conserved cytoplasmic loop increases peak sodium currents.
Ubiquitinated by NEDD4L; which may promote its endocytosis. Does not seem to be ubiquitinated by NEDD4.
Cellular localization


Images

Paraformaldehyde-fixed human NSC derived neurons stained for Nav1.7 (red) using ab85015 at 1/200 dilution in ICC/IF, followed by Donkey Anti-Mouse IgG (H+L) Cy3® at 1/100 dilution.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nav1.7 antibody [N68/6] (ab85015)

IHC image of Nav1.7 staining in mouse dorsal root ganglion formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab85015, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
IHC image of Nav1.7 staining in rat dorsal root ganglion formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab85015, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

Overlay histogram showing SH-SY5Y cells stained with ab85015 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab85015, 1µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive result in SH-SY5Y cells fixed with 4% paraformaldehyde (10 min)permeabilized in 0.1% PBS-Tween for 20 min used under the same conditions.
ab85015 at 1/100 dilution staining Nav1.7 in mouse back skin tissue section by IHC-P. Bouin's fixed and paraffin-embedded tissue sections were used. Tissue underwent heat mediated antigen retrieval in microwave with two, 5 minutes incubation intervals in citrate buffer. A Fluorophore conjugated goat anti mouse at 1/50 dilution was used as secondary.

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