Anti-Nav1.7 antibody ab65167

Product name: Anti-Nav1.7 antibody
Description: Rabbit polyclonal to Nav1.7
Host species: Rabbit

Tested applications:
Suitable for: ICC/IF, IHC-P, IHC-Fr, WB, IHC-FoFr

Species reactivity:
Reacts with: Mouse, Human
Predicted to work with: Rat

Immunogen: Synthetic peptide within Human Nav1.7 aa 1000-1100. The exact sequence is proprietary.
(Peptide available as ab192016)

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: Constituent: Whole serum
Purity: Whole antiserum
Clonality: Polyclonal
Isotype: IgG

Applications:
Our Abpromise guarantee covers the use of ab65167 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>1/200.</td>
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<tr>
<td>IHC-P</td>
<td>★★★★☆☆☆</td>
<td>Use at an assay dependent concentration.</td>
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<tr>
<td>IHC-Fr</td>
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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

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<td>IHC-FoFr</td>
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ab65167 staining Nav1.7 in human sperm cells by Immunocytochemistry/ Immunofluorescence.

Sperm cells were washed, re-suspended in phosphate-buffered saline and smeared onto poly-L-lysine-coated slides. Spermatozoa were then fixed by incubation in cold methanol (-20°C) for 20 minutes. Slides were washed three times for 10 minutes with PBS and incubated with 2% BSA in PBS for 30 minutes to block non-specific sites. Test slides were incubated with ab65167 at a 1/100 dilution. Samples were washed three times in PBS, and incubated for 60 minutes with appropriate FITC-conjugated secondary antibodies. Slides were further washed in PBS, mounted using Vectashield and examined with a Olympus BX-51 fluorescence microscopy using a 100× immersion objective.

ICC/IF image of ab65167 stained PC12 cells. The cells were 100% methanol fixed (5 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab65167, 1/1000 dilution) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.
Immunohistochemical analysis of rat dorsal root ganglia, staining Nav1.7 with ab65167.

Tissue was blocked with 1% BSA and permeabilized with 0.01% Triton X-100, before incubating with primary antibody (1/500 in PBS with 0.1% BSA + 0.01% Triton X-100) was overnight at 4°C. An AlexaFluor®488-conjugated goat anti-rabbit IgG (1/2000) was used as the secondary antibody.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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