

Product Information

Anti-Sodium Channel Na_v1.8

(Anti-SCN10A, Anti-PN3)

antibody produced in rabbit, affinity isolated antibody

Catalog Number **S2071**

Product Description

Anti-Sodium Channel Na_v1.8 is developed in rabbit using a peptide (C)EDEVAAKEGNSPGPQ corresponding to residues 1943-1957 of rat Na_v1.8 as the immunogen. This sequence has 14/15 residues identical in mouse and 7/15 residues identical in human. The antibody was affinity isolated on immobilized immunogen.

Anti-Sodium Channel Na_v1.8 specifically recognizes Na_v1.8 in rat DRG (dorsal root ganglion) lysates by immunoblotting.

Voltage-gated sodium channels (VGSCs) are present in most excitable cells. They play a crucial role in regulating the cell excitability, being primarily responsible for the initial depolarization phase of the action potential.¹ Muscle and nerve function cannot occur without them. There are 10 types of voltage-gated sodium channels, named for their α -subunits, Na_v1.1- Na_v1.9 and Na_x. They differ in structure, distribution, rate of inactivation, and sensitivity to tetrodotoxin.²

The majority of Na⁺ channels in the mammalian heart are tetrodotoxin (TTX)-insensitive Na_v1.5. They are responsible for myocardial conduction and maintenance of the cardiac rhythm.³ Mutations in the C-terminus of Na_v1.5 were described in connection to Long QT syndrome and Brugada syndrome.⁴

TTX-resistant channels have been suggested to play an important role in nociceptive transmission.^{5,6} Two TTX-resistant Na_v channels, Na_v1.8 and Na_v1.9, are mainly expressed in small-diameter DRG neurons, but have also been found in other areas. Involvement of Na_v1.8 in multiple sclerosis (MS) was suggested due to up-regulation of both mRNA and protein in Purkinje cells of MS patients and also in animal models.⁷ Recently, it has been shown that BDNF activated Nav1.9 channels in the hippocampus suggesting that its expression is not restricted to DRG alone.⁸

Reagent

The antibody is supplied lyophilized from phosphate buffered saline, pH 7.4, with 1% bovine serum albumin and 0.05 % sodium azide as preservative.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 or 0.2 ml of deionized water, depending on the package size purchased. Antibody dilutions should be made in buffer containing 1 % bovine serum albumin.

Storage/Stability

Lyophilized powder can be stored intact at room temperature for several weeks. For extended storage, it should be stored at -20 °C or below. The reconstituted solution can be stored at 2-8 °C for up to 2 weeks. For longer storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution by immunoblotting is 1:200 using rat DRG lysate.

Note: In order to obtain the best results in various techniques and preparations, it is recommended to determine the optimal working dilution by titration.

References

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TT,MCT,PHC,MAM 12/18-1