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ProductInformation

Anti-Sodium Channel ASIC1
(Amiloride-sensitive brain sodium channel, BNaC2, ACCN2)
Developed in Rabbit, Affinity Isolated Antibody

Product Number **S 7944**

Product Description

Anti-Sodium Channel ASIC1 is developed in rabbit using a synthetic peptide CQKEAKRSSADKGV-ALSLDD corresponding to residues 469-488 of rat ASIC1 as the immunogen. The sequence is highly conserved in human (identical) and mouse (19/20 residues identical) antigens. The antibody was affinity isolated on immobilized immunogen.

Anti-Sodium Channel ASIC1 specifically recognizes isoforms ASIC1α and ASIC1β in rat brain membranes by immunoblotting.

The non-voltage gated sodium channel superfamily encodes a group of conserved proteins involved in diverse biological processes, including sodium homeostasis, salt taste, nociception, touch sensation, and response to acidic pH.[1] Members of this family include the Acid-Sensing Ion Channels (ASICs), the Epithelial Sodium Channel (ENaC) and the Degenerins; most of these channels are blocked by the diuretic amiloride.

Acid-sensing ion channels (ASICs) are non-voltage-gated Na^+ channels that are transiently activated by a rapid drop in extracellular pH.[2] To date four ASIC genes have been identified in mammals, two of which exist in different splice variants.[3]. Functional ASICs are formed by homo- or heterotetrameric assembly of ASIC subunits 1a, 1b, 2a, 2b and 3. Each subunit has two transmembrane domains separated by a large extracellular loop; four subunits form the functional channel.[3]

ASIC1a, 2a and 2b are expressed in the peripheral and the central nervous system, whereas expression of ASIC1b and 3 is restricted to the peripheral nervous system.[2] In the periphery, they are found in sensory neurons involved in pain perception, suggesting a role in pain perception following tissue acidosis caused by tissue injury, ischemia, or inflammation.[4-6] ASICs in central neurons might play a similar role and might also contribute to the neuronal death associated with brain ischemia or epilepsy, both of which are accompanied by extracellular acidification. In addition, studies with knockout mice indicate a central role for ASICs in learning and memory.[3,7] Some of the evidence is contradictory, and the exact functional significance of the ASICs in pain perception, mechanoreception, plasticity, learning and memory have yet to be determined.

Reagents

The antibody is supplied lyophilized from phosphate buffered saline (PBS), pH 7.4, 1% BSA, and 0.05% sodium azide as preservative.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling.

Preparation Instructions

Reconstitute the lyophilized vial with 0.05 ml or 0.2 ml 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 is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Centrifuge all antibody preparations before use (10000 x g 5 min). Working dilution samples should be discarded if not used within 12 hours.

Product Profile
The recommended working dilution is (1:200) for immunoblotting.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

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