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ProductInformation

MONOCLONAL ANTI- SODIUM CHANNEL (PAN), CLONE K58/35
Purified Mouse Immunoglobulin

Product Number **S 8809**

Product Description

Monoclonal Anti-Pan Sodium Channel (mouse IgG1 isotype) is derived from the hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a Balb/c mouse immunized with the synthetic peptide TEEQKKYYNAMKKLGSKK, with an N-terminally added cysteine, conjugated to KLH.[1] This sequence is from the intracellular III-IV loop of Na^+ channels and is identical in all known vertebrate Na^+ channels. The antibody is purified from ascites fluid using ammonium sulfate precipitation followed by DEAE chromatography.

Monoclonal Anti-Pan Sodium Channel reacts strongly with Na^+ channels in mammalian central and peripheral nervous system. In cultured hippocampal neurons, the antibody specifically stains the axon initial segment, and in sciatic and optic nerves, it stains the nodes of Ranvier.

The antibody may be used for immunoblotting, immunofluorescence[1] and immunohistochemistry.

Voltage-gated sodium channels are present in most excitable cell membranes and play an important role in generating action potentials by forming a sodium-selective channel through which Na^+ ions may pass in accordance with their electrochemical gradient. The sodium channels of brain comprise one α subunit of 260 kDa one β1 subunit of 33 kDa, and one β2 subunit of 33 kDa. The α subunit is the major constituent comprising four domains that form a channel, and each domain consists of six transmembrane segments. The sodium channel of skeletal muscle consists of one α and one β1-like subunit, whereas those of the heart appear to be composed of only one α subunit.[2]

Reagents

The product is supplied as a solution in 0.01 M tris-HCl, pH 7.4, containing 0.1 M sodium chloride, 30% glycerol and 15 mM sodium azide as a preservative.

Antibody Concentration: Approx. 1 mg/ml

Precautions and Disclaimer

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

Storage/Stability

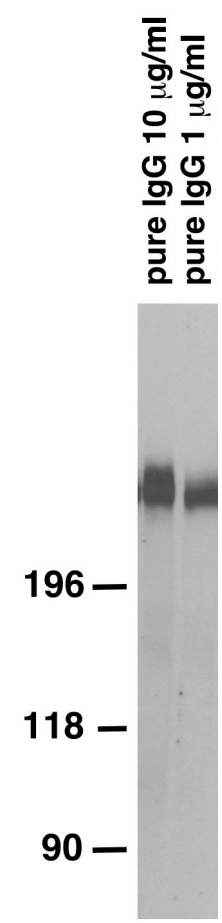
Store at 0 °C to –20 °C. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working concentration of 1 µg/ml is recommended for immunoblotting using 50 µg of a crude rat brain membrane preparation. DO NOT boil the sample prior to SDS-PAGE, heat the sample to 50 °C for 5 min. in sample buffer before loading.

A minimum working concentration of 1 µg/ml is recommended for immunofluorescent staining of sciatic and optic nerve sections and cultured hippocampal neurons.[1]

Note: In order to obtain the best results in various techniques and preparations we recommend determining optimal working dilution by titration.



References

1. Rasband, M.N., Peles, E., Trimmer, J.S., Levinson, S.R., Lux, S.E., and Shrager, P., Dependence of nodal sodium channel clustering on paranodal axoglial contact in the developing CNS. J. Neurosci., **19**, 7516-7528 (1999).
2. Catterall, W.A., Structure and function of voltage-gated ion channels. Annu. Rev. Biochem., **64**, 493-531 (1995).

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