Product Information

Anti-Glutamate Receptor NMDAR1 (NR1) (Splice Variant Insert N1)
produced in rabbit, affinity isolated antibody

Catalog Number G0541

Product Description
Anti-Glutamate Receptor NMDAR1 (NR1) (Splice Variant Insert N1) is produced in rabbit using a synthetic peptide representing the sequence of the N1 splice variant as an immunogen.

Anti-Glutamate Receptor NMDAR1 (NR1) (Splice Variant Insert N1) recognizes the NMDA NR1 splice variant insert N1 by immunoblotting (100 kDa) using rat brain hippocampal homogenates.

The ion channels activated by glutamate are typically divided into two classes. Those that are sensitive to N-methyl-D-aspartate (NMDA) are designated NMDA receptors (NMDAR) while those activated by kainate and α-amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as kainate/AMPAR receptors (K/AMPAR). The NMDA receptor plays an essential role in the induction of LTP in the CA1 and dentate areas of the hippocampus as the specific NMDA antagonist, APV, blocks LTP in these areas. This receptor has also been linked to neuronal development and it has been implicated in several disorders of the central nervous system including epilepsy and ischemic neuronal cell death. The rat NMDAR1 (NR1) was the first subunit of the NMDAR to be cloned. The NR1 protein can form NMDA activated channels when expressed in Xenopus oocytes but the currents in such channels are much smaller than those seen in situ.

In addition there are also a number of different splice variants of the NR1. Differential splicing of three exons in the NR1 subunit generates up to eight NR1 splice variants and 7 of these have been identified in cDNA libraries. These exons encode a 21 amino acid N-terminal domain (N1) and adjacent sequences in the C-terminus (C1 and C2). Splicing out the C2 cassette eliminates the first stop codon and produces a new reading frame that generates a new sequence of 22 amino acids (C2'). Considerable attention has been focussed on the distribution and expression of these splice variants that may affect the functional properties and regulation of the NMDAR.

Reagents
Supplied as a lyophilized powder from 5 mM ammonium bicarbonate.

Preparation Instructions
Reconstitute with 0.05 ml of phosphate buffered saline.

Storage/Stability
Store lyophilized powder at 2-8°C. After reconstitution, 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
Immunoblotting, Immunohistochemistry, and Dot Blot: the recommended working dilution is 1:1,000

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

References

FF,PHC 06/11-1