

GRIN2B

Reactivity: Mouse

Tested applications: WB

Recommended Dilution: WB 1:500 - 1:1000

Calculated MW: 166kDa

Observed MW: Refer to Figures

Immunogen:

A synthetic peptide of human GRIN2B

Storage Buffer:

Store at 4. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

gi

Synonym:

GRIN2B;MGC142178;MGC142180;NMDAR2B;NR2B;hNR3 ;

Catalog #: A0890

Antibody Type:

Polyclonal Antibody

Species: Rabbit

Gene ID: 2904

Isotype: IgG

Swiss Prot: Q13224

Purity: Affinity purification

For research use only.

Background:

N-methyl-D-aspartate receptor (NMDAR) forms a heterodimer of at least one NR1 and one NR2A-D subunit. Multiple receptor isoforms with distinct brain distributions and functional properties arise by selective splicing of the NR1 transcripts and differential expression of the NR2 subunits. NR1 subunits bind the co-agonist glycine and NR2 subunits bind the neurotransmitter glutamate. Activation of the NMDA receptor or opening of the ion channel allows flow of Na⁺ and Ca²⁺ ions into the cell, and K⁺ out of the cell (1). Each subunit has a cytoplasmic domain that can be directly modified by the protein kinase/phosphatase (2). PKC can phosphorylate the NR1 subunit (NMDAR1) of the receptor at Ser890/Ser896, and PKA can phosphorylate NR1 at Ser897 (3). The phosphorylation of NR1 by PKC decreases its affinity for calmodulin, thus preventing the inhibitory effect of calmodulin on NMDAR (4). The phosphorylation of NR1 by PKA probably counteracts the inhibitory effect of calcineurin on the receptor (5). NMDAR mediates long-term potentiation and slow postsynaptic excitation, which play central roles in learning, neurodevelopment, and neuroplasticity (6). EphrinB2 binding to the receptor EphB leads to the activation of Src family tyrosine kinases, which phosphorylate NMDAR2B at Tyr1252, Tyr1336 and Tyr1472. In turn, phosphorylated NMDAR2B enhances the ability of the functional NMDA receptor to regulate Ca²⁺ influx in response to glutamate (7).

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