# Anti-NMDAR2B Antibody [PSH05-46]

## HA722284

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|---|---|
| **Product Type:** | Recombinant Rabbit monoclonal IgG, primary antibodies |
| **Species reactivity:** | Human, Mouse, Rat |
| **Applications:** | WB, IHC-P, IHC-Fr |
| **Molecular Wt:** | Predicted band size: 166 kDa |
| **Clone number:** | PSH05-46 |

**Description:** Glutamate [NMDA] receptor subunit epsilon-2, also known as N-methyl D-aspartate receptor subtype 2B (NMDAR2B or NR2B), is a protein that in humans is encoded by the GRIN2B gene. NR2B has been associated with age- and visual-experience-dependent plasticity in the neocortex of rats, where an increased NR2B/NR2A ratio correlates directly with the stronger excitatory LTP in young animals. This is thought to contribute to experience-dependent refinement of developing cortical circuits. Engineered to overexpress GRIN2B in their brains, mice and rats exhibit improved mental function. The "Doogie" mouse performed twice as well on one learning test.

**Immunogen:** Recombinant protein within human NMDAR2B aa 27-450 / 1,484.

**Positive control:** Mouse brain tissue lysate, mouse hippocampus tissue lysate, rat brain tissue lysate, rat hippocampus tissue lysate, human brain tissue lysate, mouse hippocampus tissue, rat hippocampus tissue, mouse cerebellum tissue.

**Subcellular location:** Cell membrane, Postsynaptic cell membrane, Late endosome, Lysosome, Cytoplasm, cytoskeleton.

**Database links:** SwissProt: Q13224 Human | Q01097 Mouse | Q00960 Rat

**Recommended Dilutions:**

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|---|---|
| **WB** | 1:2,000 |
| **IHC-P** | 1:2,000-1:8,000 |
| **IHC-Fr** | 1:500 |

**Storage Buffer:** PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

## Images

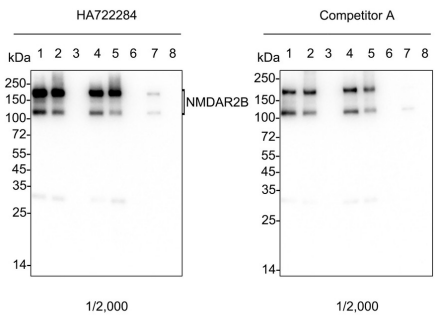


**Fig1:** Western blot analysis of NMDAR2B on different lysates with Rabbit anti-NMDAR2B antibody (HA722284) at 1/2,000 dilution and competitor's antibody at 1/2,000 dilution.

Lane 1: Mouse brain tissue lysate
Lane 2: Mouse hippocampus tissue lysate
Lane 3: Mouse liver tissue lysate (negative)
Lane 4: Rat brain tissue lysate
Lane 5: Rat hippocampus tissue lysate
Lane 6: Rat liver tissue lysate (negative)
Lane 7: Human brain tissue lysate
Lane 8: Human liver tissue lysate (negative)

Lysates/proteins at 20 µg/Lane.

Predicted band size: 166 kDa
Observed band size: 115/180 kDa

Exposure time: 59 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722284) at 1/2,000 dilution and competitor's antibody at 1/2,000 dilution were used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

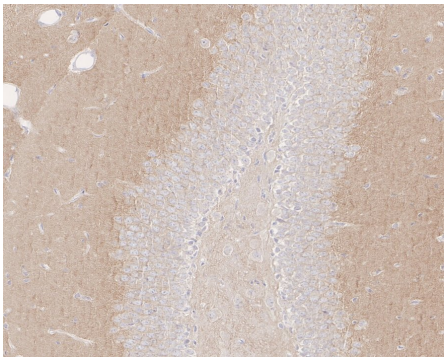

**Fig2:** Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue with Rabbit anti-NMDAR2B antibody (HA722284) at 1/8,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with dd$H_2O$ and PBS, and then probed with the primary antibody (HA722284) at 1/8,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

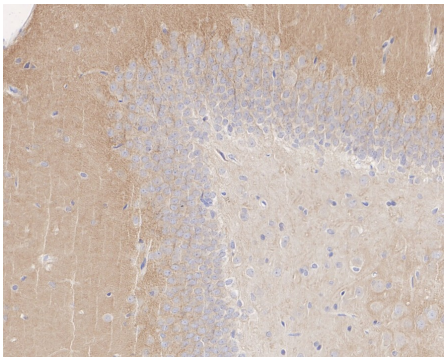

**Fig3:** Immunohistochemical analysis of paraffin-embedded rat hippocampus tissue with Rabbit anti-NMDAR2B antibody (HA722284) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with $ddH_2O$ and PBS, and then probed with the primary antibody (HA722284) at 1/2,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

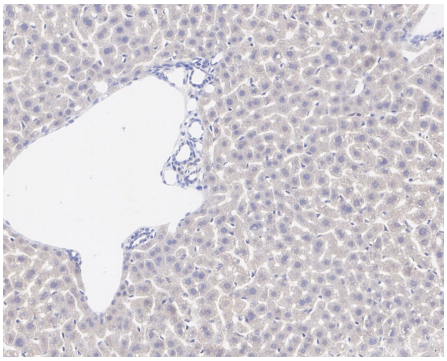

**Fig4:** Immunohistochemical analysis of paraffin-embedded mouse liver tissue (negative) with Rabbit anti-NMDAR2B antibody (HA722284) at 1/8,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with $ddH_2O$ and PBS, and then probed with the primary antibody (HA722284) at 1/8,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

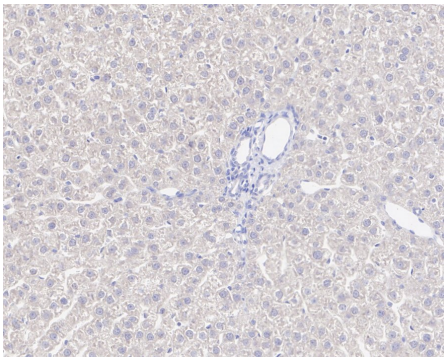

**Fig5:** Immunohistochemical analysis of paraffin-embedded rat liver tissue (negative) with Rabbit anti-NMDAR2B antibody (HA722284) at 1/8,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with $ddH_2O$ and PBS, and then probed with the primary antibody (HA722284) at 1/8,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

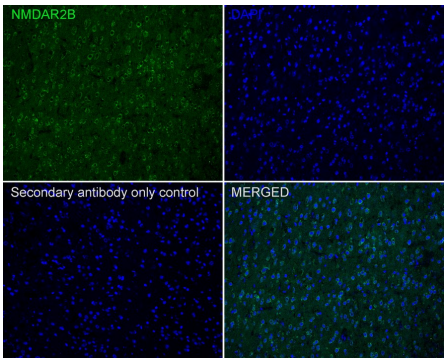


**Fig6:** Immunofluorescence analysis of frozen mouse cerebellum tissue with Rabbit anti-NMDAR2B antibody (HA722284) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722284, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).



## Background References

1. Gallo S et al. MET Oncogene Enhances Pro-Migratory Functions by Counteracting NMDAR2B Cleavage. Cells. 2023 Dec
2. Liu WY et al. Carnosic Acid Attenuates AbetaOs-Induced Apoptosis and Synaptic Impairment via Regulating NMDAR2B and Its Downstream Cascades in SH-SY5Y Cells. Mol Neurobiol. 2023 Jan