# Anti-NMDAR1 Antibody [JM11-26]

## ET1703-75

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|---|---|
| **Product Type:** | Recombinant Rabbit monoclonal IgG, primary antibodies |
| **Species reactivity:** | Human, Mouse, Rat |
| **Applications:** | WB, IF-Cell, IF-Tissue, IHC-P, FC, IHC-Fr |
| **Molecular Wt:** | Predicted band size: 105 kDa |
| **Clone number:** | JM11-26 |

**Description:** Component of NMDA receptor complexes that function as heterotetrameric, ligand-gated ion channels with high calcium permeability and voltage-dependent sensitivity to magnesium. Channel activation requires binding of the neurotransmitter glutamate to the epsilon subunit, glycine binding to the zeta subunit, plus membrane depolarization to eliminate channel inhibition by Mg2+.Sensitivity to glutamate and channel kinetics depend on the subunit composition.

**Immunogen:** Synthetic peptide within human NMDAR1 aa 870-910.

**Positive control:** MCF7 cell lysate, human brain tissue lysate, mouse brain tissue lysate, rat brain tissue lysate, N2A, SHG-44, SH-SY5Y, mouse cerebral cortex tissue, rat cerebral cortex tissue, mouse hippocampus tissue, mouse cerebral cortex tissue, rat cerebral cortex tissue.

**Subcellular location:** Cell membrane, postsynaptic cell membrane, postsynaptic density.

**Database links:** SwissProt: Q05586 Human | P35438 Mouse | P35439 Rat

**Recommended Dilutions:**

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| **WB** | 1:1,000-1:5,000 |
| **IF-Cell** | 1:100-1:500 |
| **IF-Tissue** | 1:50-1:200 |
| **IHC-P** | 1:1,000 |
| **FC** | 1:50-1:100 |
| **IHC-Fr** | 1:200 |

**Storage Buffer:** 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

## Images

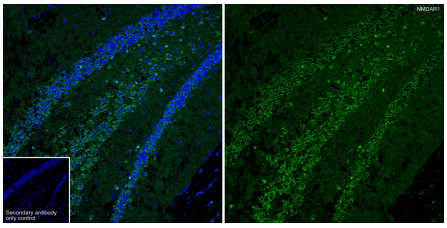

**Fig1:** Immunofluorescence analysis of frozen mouse hippocampus tissue with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/200 dilution.

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 (ET1703-75, green) at 1/200 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).

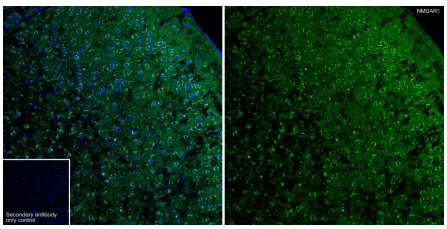

**Fig2:** Immunofluorescence analysis of frozen mouse cerebral cortex tissue with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/200 dilution.

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 (ET1703-75, green) at 1/200 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).

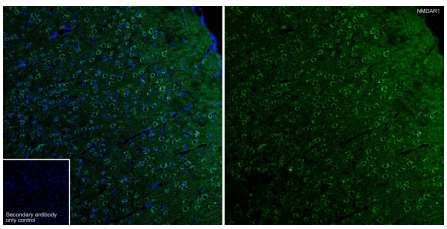

**Fig3:** Immunofluorescence analysis of frozen rat cerebral cortex tissue with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/200 dilution.

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 (ET1703-75, green) at 1/200 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).

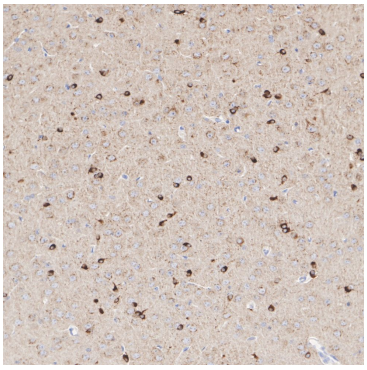

**Fig4:** Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/1,000 dilution.

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 (ET1703-75) at 1/1,000 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.

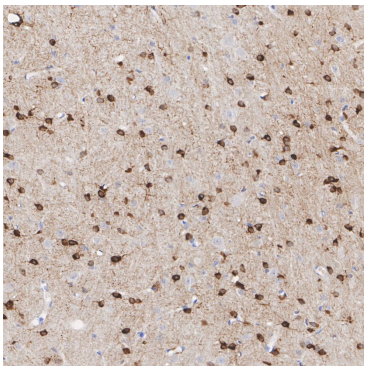

**Fig5:** Immunohistochemical analysis of paraffin-embedded rat cerebral cortex tissue with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/1,000 dilution.

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 (ET1703-75) at 1/1,000 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.

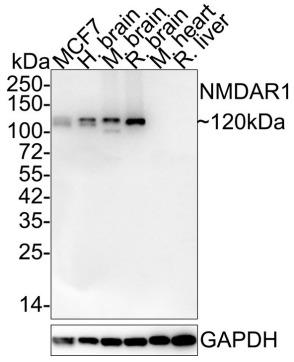


**Fig6:** Western blot analysis of NMDAR1 on different lysates with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/5,000 dilution.

Lane 1: MCF7 cell lysate (15 µg/Lane)
Lane 2: Human brain tissue lysate (20 µg/Lane)
Lane 3: Mouse brain tissue lysate (20 µg/Lane)
Lane 4: Rat brain tissue lysate (20 µg/Lane)
Lane 5: Mouse heart tissue lysate (negative) (20 µg/Lane)
Lane 6: Rat liver tissue lysate (negative) (20 µg/Lane)

Predicted band size: 105 kDa
Observed band size: 120 kDa

Exposure time: 1 minute 2 seconds; ECL: K1802;
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 (ET1703-75) at 1/5,000 dilution was 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.

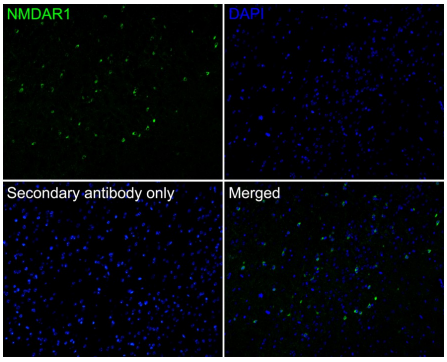


**Fig7:** Immunofluorescence analysis of paraffin-embedded mouse brain tissue labeling NMDAR1 with Rabbit anti-NMDAR1 antibody (ET1703-75) at 1/200 dilution.

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 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (ET1703-75, green) at 1/200 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).

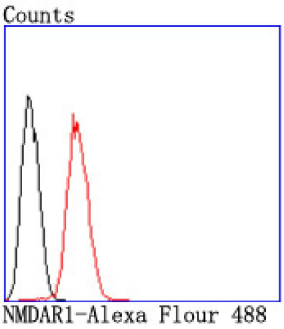


**Fig8:** Flow cytometric analysis of NMDAR1 was done on SH-SY5Y cells. The cells were fixed, permeabilized and stained with the primary antibody (ET1703-75, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit IgG Secondary antibody at 1/1000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

## Background References

1. Zhang X et al. A lasting effect of postnatal sevoflurane anesthesia on the composition of NMDA receptor subunits in rat prefrontal cortex. Int J Dev Neurosci 54:62-69 (2016).
2. Sloniecka M et al. Expression Profiles of Neuropeptides, Neurotransmitters, and Their Receptors in Human Keratocytes In Vitro and In Situ. PLoS One 10:e0134157 (2015).