Anti-Glutamate receptor 1 Antibody [SD2010]

ET1612-10

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IHC-Fr
Molecular Wt:	Predicted band size: 102 kDa
Clone number:	SD2010

Description: Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are categorized into NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Kainate/AMPA receptors are co-localized with NMDA receptors in many synapses and consist of seven structurally related subunits designated GluR-1 to -7. The kainate/AMPA receptors are primarily responsible for the fast excitatory neuro-transmission by glutamate whereas the NMDA receptors are functionally characterized by a slow kinetic and a high permeability for Ca2+ ions. The NMDA receptors consist of five subunits: epsilion 1, 2, 3, 4 and one zeta subunit. The zeta subunit is expressed throughout the brainstem whereas the four epsilon subunits display limited distribution.

Immunogen: Synthetic peptide within Human Glutamate receptor 1 aa 857-906 / 906.

Positive control: Rat brain tissue lysates, mouse hippocampus tissue lysates, rat brain tissue, rat cerebellum tissue, mouse brain tissue, mouse cerebellum tissue.

Subcellular location: Cell membrane, postsynaptic cell membrane, postsynaptic density membrane, Endoplasmic reticulum membrane, Early endosome membrane, Recycling endosome membrane, dendrite, dendritic spine.

Database links: SwissProt: P42261 Human | P23818 Mouse | P19490 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:50-1:200
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

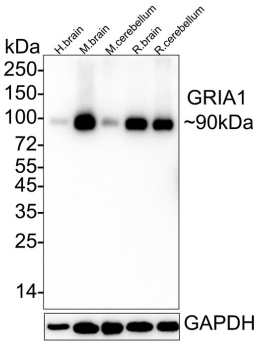

Fig1: Western blot analysis of Glutamate receptor 1 on different lysates with Rabbit anti-Glutamate receptor 1 antibody (ET1612-10) at 1/1,000 dilution.

Lane 1: Human brain tissue lysate
Lane 2: Mouse brain tissue lysate
Lane 3: Mouse cerebellum tissue lysate
Lane 4: Rat brain tissue lysate
Lane 5: Rat cerebellum tissue lysate

Lysates/proteins at 40 µg/Lane.

Predicted band size: 90 kDa
Observed band size: 90 kDa

Exposure time: 2 minutes

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 (ET1612-10) at 1/1,000 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.

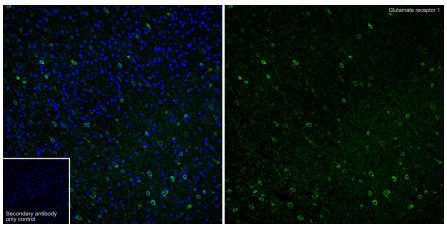

Fig2: Immunofluorescence analysis of frozen mouse brain tissue with Rabbit anti-Glutamate receptor 1 antibody (ET1612-10) at 1/200 dilution.

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 (ET1612-10, 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).

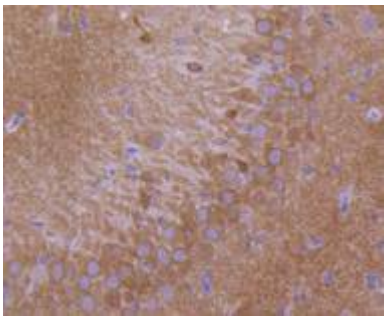

Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue using anti-Glutamate receptor 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1612-10, 1/50) for 30 minutes 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.

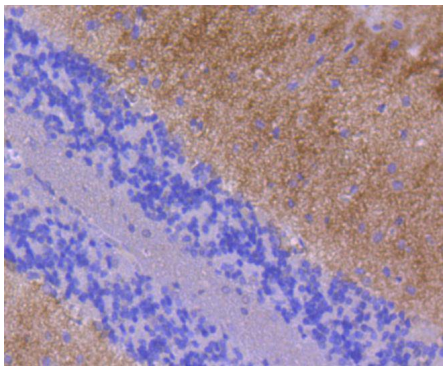

Fig4: Immunohistochemical analysis of paraffin-embedded rat cerebellum tissue using anti-Glutamate receptor 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1612-10, 1/50) for 30 minutes 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.

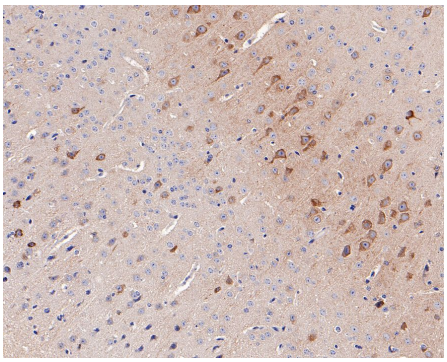

Fig5: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Glutamate receptor 1 antibody (ET1612-10) at 1/200 dilution.

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 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1612-10) at 1/200 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.

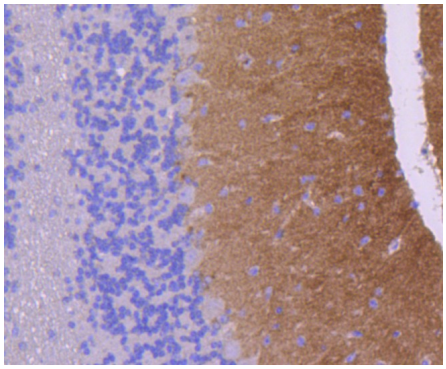

Fig6: Immunohistochemical analysis of paraffin-embedded mouse cerebellum tissue using anti-Glutamate receptor 1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ET1612-10, 1/50) for 30 minutes 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.

Background References

1. Chen C et al. Epigenetic modification of PKM rescues aging-related cognitive impairment. Sci Rep 6:22096 (2016).
2. Gascon E et al. Alterations in microRNA-124 and AMPA receptors contribute to social behavioral deficits in frontotemporal dementia. Nat Med 20:1444-51 (2014).