Product Datasheet

EAAT2/GLT1 Antibody
NBP1-20136

Unit Size: 0.1 ml

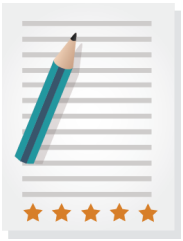
Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

www.novusbio.com technical@novusbio.com

Publications: 13

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NBP1-20136

Updated 9/9/2025 v.20.1



NBP1-20136

EAAT2/GLT1 Antibody

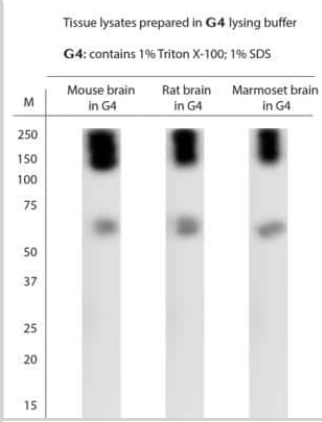
Product Information	
Unit Size	0.1 ml
Concentration	This product is unpurified. The exact concentration of antibody is not quantifiable.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	No Preservative
Reconstitution Instructions	Reconstitute in 0.1 ml of sterile water. Centrifuge to remove any insoluble material. Glycerol may be added (1:1) for additional stability. Please note the sample size is provided in reconstituted format.
Isotype	IgG
Purity	Unpurified
Buffer	Lyophilized from whole antisera

Product Description	
Description	Novus Biologicals Rabbit EAAT2/GLT1 Antibody (NBP1-20136) is a polyclonal antibody validated for use in IHC, WB, Flow and ICC/IF. Anti-EAAT2/GLT1 Antibody: Cited in 13 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	6506
Gene Symbol	SLC1A2
Species	Human, Mouse, Rat, Monkey
Reactivity Notes	Marmoset
Immunogen	A synthetic peptide from mouse EAAT2/GLT1 conjugated to blue carrier protein was used as the antigen. The peptide is homologous in rat and human.

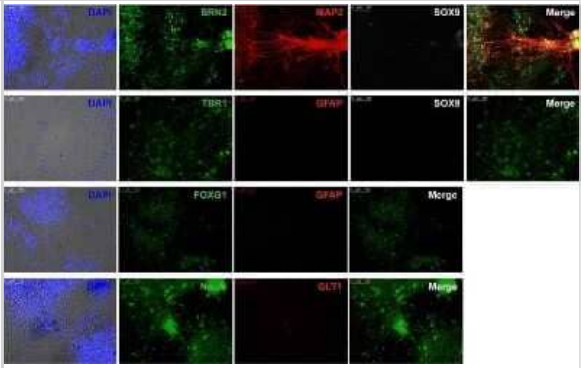
Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, In vivo assay, In-situ Hybridization
Recommended Dilutions	Western Blot 1:1000, Flow Cytometry 1:10-1:1000, Immunohistochemistry 1:1000, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry-Paraffin 1:1000, In-situ Hybridization, In vivo assay
Application Notes	Although not tested this antibody may work in IHC-Frozen. Use in flow was reported in scientific literature (PMID: 23793269). Use in In-vivo and in ICC/IF reported in scientific literature (PMID 25581361). Use in In-situ Hybridization reported in scientific literature (PMID: 26150391).

Images

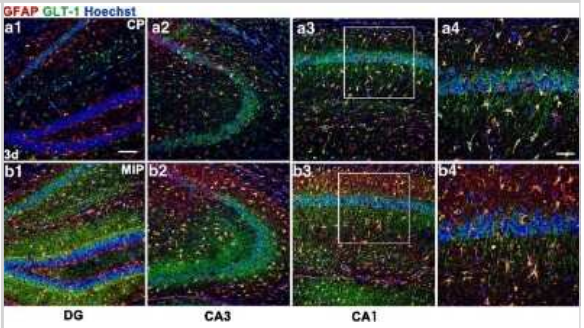
Western Blot: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Blocking: 1% LFDM for 30 min at RT; primary antibody: dilution 1:1000 incubated overnight at 4C.



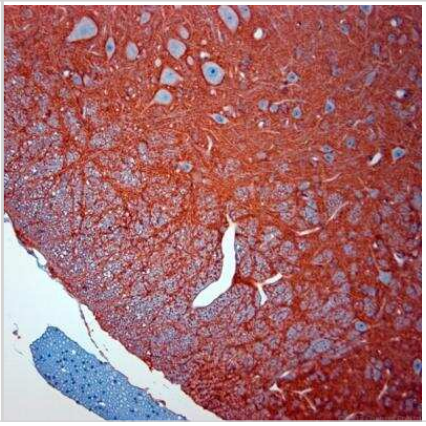
Immunocytochemistry/Immunofluorescence: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Human NPCs differentiate into mature neurons. Immunofluorescence staining of differentiated neurons derived from human dorsal NPCs (1323-2 line, day 35 after differentiation) for mature cortical neuronal markers expressed in the nucleus (BRN2, TBR1, NeuN) and cytoplasm (MAP2), glial markers (SOX9, GFAP, GLT1), and dorsal forebrain marker (FOXG1). Nuclei stained with DAPI, shown as an overlay over brightfield images. The merge is an overlay of the neuronal and glial markers. Scale bar 100 um. DAPI 4,6'-diamino-2-phenylindole Image collected and cropped by CiteAb from the following publication (//stemcellres.biomedcentral.com/articles/10.1186/s13287-018-0812-6) licensed under a CC-BY license.



Immunohistochemistry: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Hippocampal GLT-1 and NR1 expression 3 days after SE with MyD88 inhibition. Sections from the hippocampi of mice in the CP group (A1-A3) and MIP group (B1-B3) 3 days after SE with GLT-1 immunoreactivity in astrocytes and neuronal processes. (A4, B4) Higher magnification of the boxes in (A3) and (B3). Scale bars: (A1-A3, B1-B3) 100 um; (A4, B4) 50 um. SE = status epilepticus, DG=dentate gyrus, hippocampal regions CA3 and CA1, CP = control peptide, MIP = MyD88 inhibitory peptide. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/30112701/) licensed under a CC-BY license.



Immunohistochemistry-Paraffin: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Mouse spinal cord. The animal was perfused using Autoperfuser at a pressure of 130 mmHg with 300 ml 4% FA before being processed for paraffin embedding. HIER: Tris-EDTA, pH 9 for 20 min. Blocking: 0.2% LFDM in TBST filtered thru 0.2 um.



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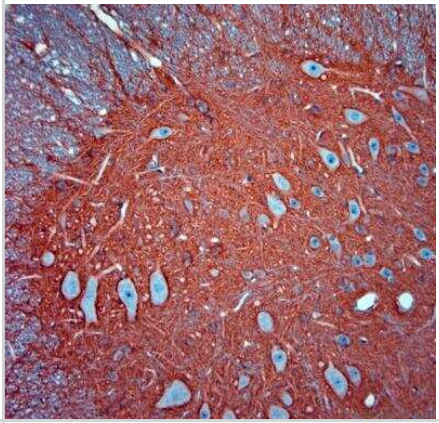
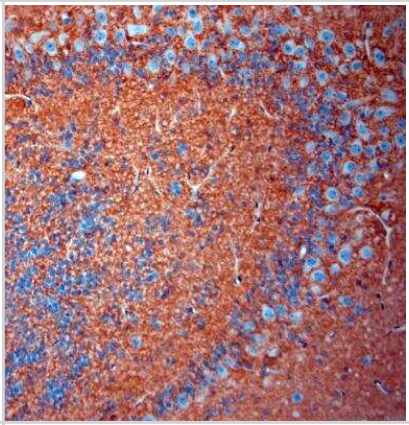
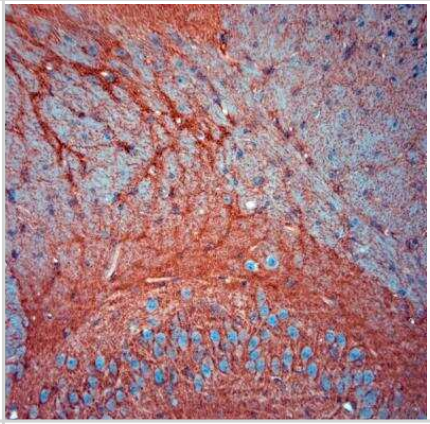


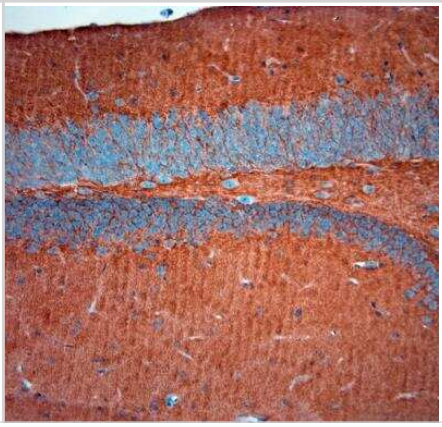
Immunohistochemistry-Paraffin: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Mouse olfactory bulbs. The animal was perfused using Autoperfuser at a pressure of 130 mmHg with 300 ml 4% FA before being processed for paraffin embedding. HIER: Tris-EDTA, pH 9 for 20 min. Blocking: 0.2% LFDM in TBST filtered thru 0.2 um.



Immunohistochemistry-Paraffin: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Mouse brain (hippocampus). The animal was perfused at a pressure of 130 mmHg with 300 ml 4% FA before being processed for paraffin embedding. HIER: Tris-EDTA, pH 9 for 20 min.



Immunohistochemistry-Paraffin: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Mouse brain (hippocampus). The animal was perfused at a pressure of 130 mmHg with 300 ml 4% FA before being processed for paraffin embedding. HIER: Tris-EDTA, pH 9 for 20 min.



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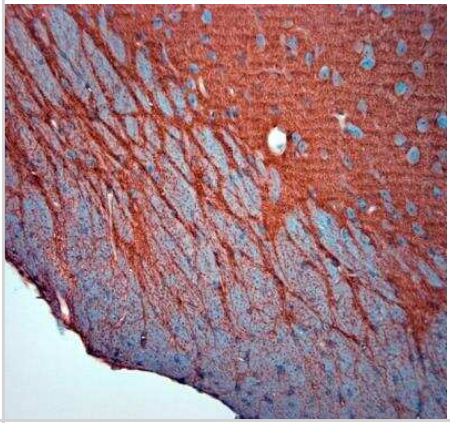

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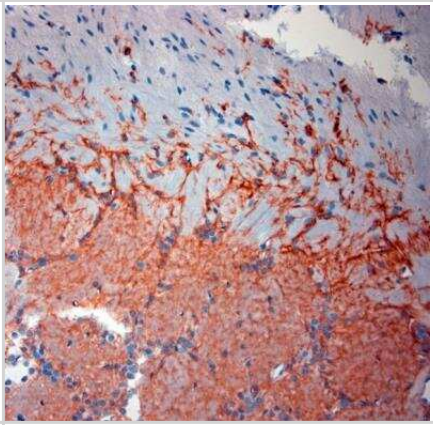

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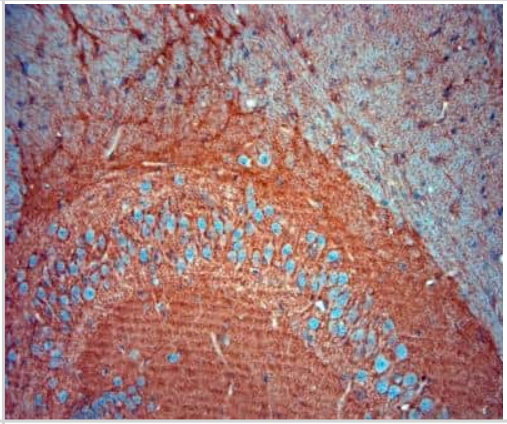
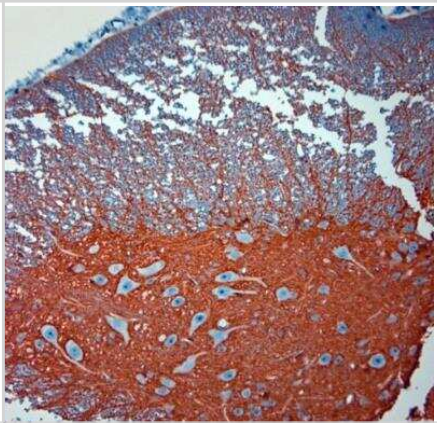


Immunohistochemistry-Paraffin: EAAT2/GLT1 Antibody - Azide Free [NBP1-20136] - Sections of mouse spinal cord. The animal was perfused using Autoperfuser at a pressure of 130 mmHg with 300 ml 4% FA before being processed for paraffin embedding. HIER: Tris-EDTA, pH 9 for 20 min. Blocking: 0.2% LFDM in TBST filtered thru 0.2 um.



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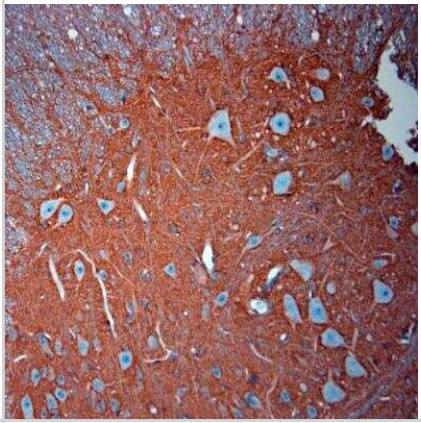

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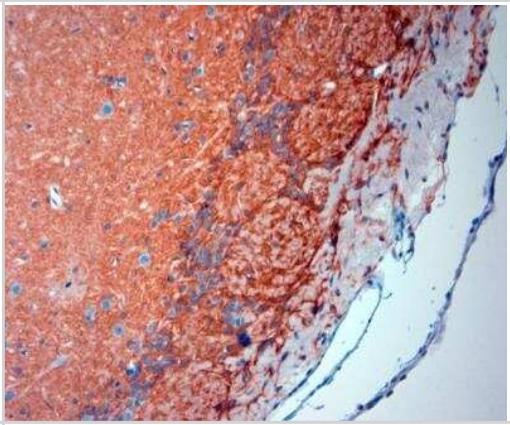

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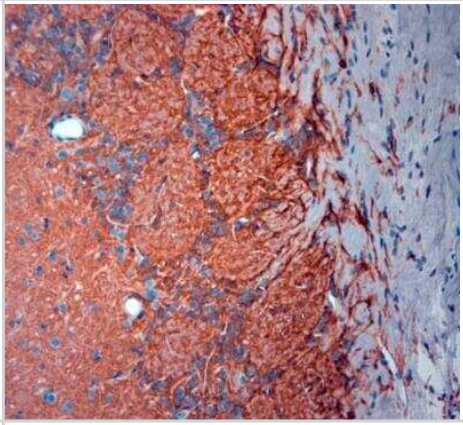
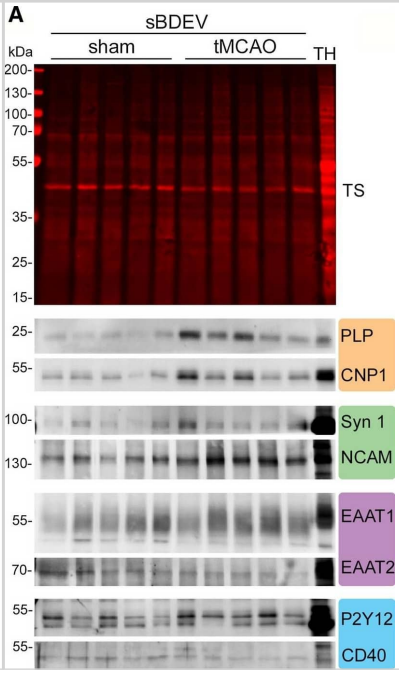
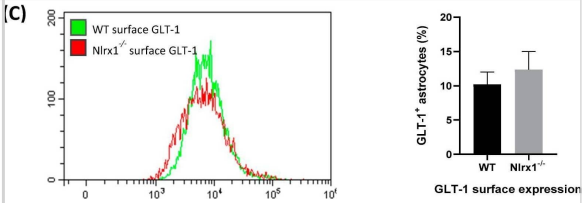


The contribution of oligodendrocytes to the BDEVs pool is significantly upregulated at 72 h after tMCAO. A Western blots of sBDEVs samples from tMCAO and shams (n = 5 per group) blotted for cell-type-specific markers: PLP and CNP1 are used as protein markers for oligodendrocytes (orange frame); synapsin 1 (Syn1) and NCAM as markers for neurons (green); EAAT1 and EAAT2 as protein markers for astrocytes (pink) and P2Y12 and CD40 as markers for microglia/macrophages (blue). TH is a total mouse brain homogenate loaded in parallel for comparison purposes. TS is a representative total protein staining of the nitrocellulose membranes (TSs of all blots used for these analyses are provided in Suppl. Fig. 5). B Dot plots showing the quantifications of the western blot intensities. For the quantification, each band intensity was first referred to the corresponding lanes of the total protein staining. Both markers for oligodendrocytes were found significantly increased upon stroke. Regarding neuronal markers, NCAM was significantly increased while Syn1 only showed a tendency to be elevated. Exact p-values are given in the main text Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/35639208), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



mRNA and protein expression of GLT-1 and GLAST in astrocytes. (A) mRNA expression of GLT-1 and GLAST is significantly upregulated in Nlrx1-/- astrocytes compared to WT (n = 5). ** p < 0.01 as determined by Mann–Whitney test; (B) the total protein expression of GLT-1 and GLAST proteins in WT and Nlrx1-/- astrocytes was measured by flow cytometry (n = 5); (C) the cell surface expression of both transporters on astrocytes was measured by flow cytometry (n = 7). Representative flow cytometric histograms presented on the left side, p > 0.05 as determined by Mann–Whitney test, results are presented as mean +/- SEM. Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/31052241), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



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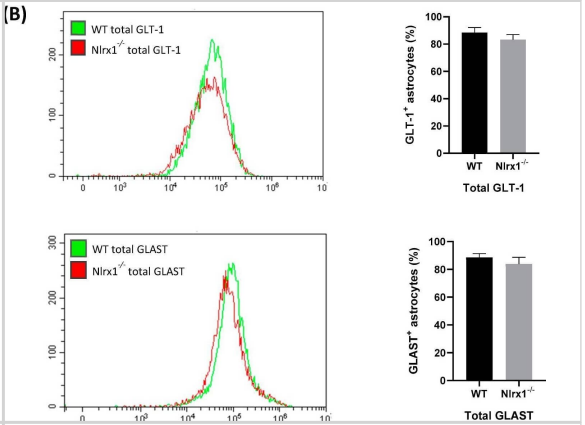
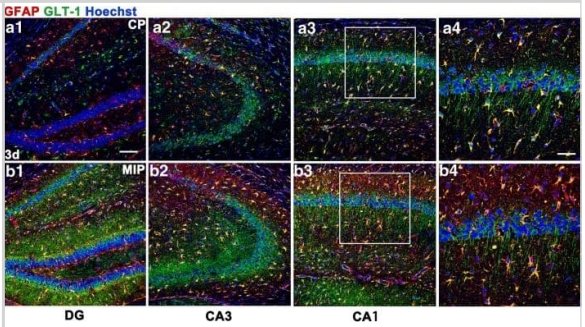
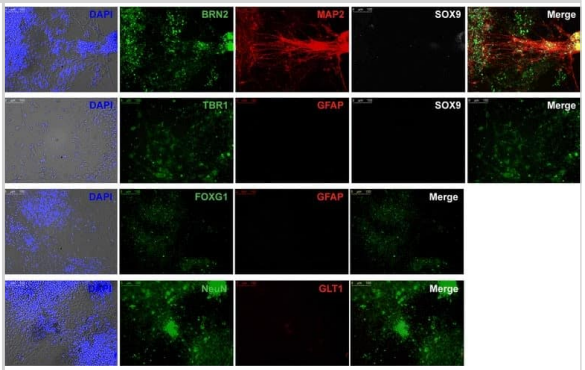


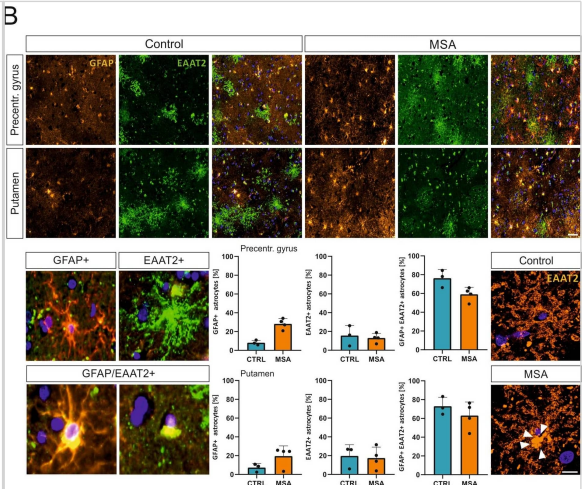
Hippocampal GLT-1 and NR1 expression 3 days after SE with MyD88 inhibition. Sections from the hippocampi of mice in the CP group (A1–A3) and MIP group (B1–B3) 3 days after SE with GLT-1 immunoreactivity in astrocytes and neuronal processes. (A4, B4) Higher magnification of the boxes in (A3) and (B3). (C) Comparison of the numbers of GFAP/GLT-1 double-labeled cells in the DG, CA1, and CA3 between the CP and MIP groups (means +/- SEM, n = 3). *p < 0.05 versus the CP group; **p < 0.01 versus the CP group. Independent samples t tests were performed. (D1) Immunoblots of NR1, NR2a, and NR2b for the control, CP, and MIP groups. (D2–D4) Comparison of NR1, NR2a, and NR2b levels among the above groups (calibrated to β-actin). *p < 0.05; ***p < 0.001 between groups. One-way ANOVA followed by Tukey's test. Scale bars: (A1–A3, B1–B3) 100 μm; (A4, B4) 50 μm Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/30112701), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



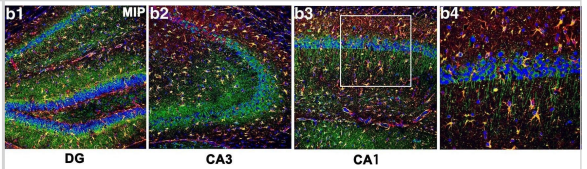
Human NPCs differentiate into mature neurons. Immunofluorescence staining of differentiated neurons derived from human dorsal NPCs (1323–2 line, day 35 after differentiation) for mature cortical neuronal markers expressed in the nucleus (BRN2, TBR1, NeuN) and cytoplasm (MAP2), glial markers (SOX9, GFAP, GLT1), and dorsal forebrain marker (FOXG1). Nuclei stained with DAPI, shown as an overlay over brightfield images. The merge is an overlay of the neuronal and glial markers. Scale bar 100 μm. DAPI 4,6′-diamino-2-phenylindole Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/29544541), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



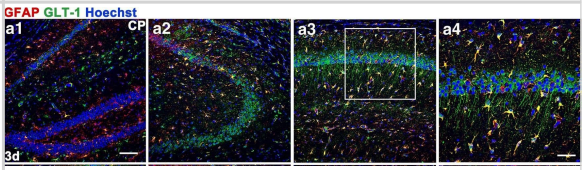
Astrogliosis in post mortem brain tissue of MSA patients. A Representative image of DAB staining of GFAP+ astrocytes in precentral gyrus, putamen, and substantia nigra of MSA-P patient (female, 67) and control individual (female, 60) and quantification of GFAP+ cells/mm2 (4 MSA patients vs. 4 Controls). SN was identified by presence of neuromelanin-containing neurons (white asterisks). Welch's t-test was used for statistical analysis. Scale bar = 20 um. All three regions display elevated numbers of GFAP+ astrocytes in cortex (p = 0.002), putamen (p = 0.0003), and substantia nigra (p < 0.0001) of MSA patients. CTRL = Control, MSA = multiple system atrophy, SN = substantia nigra. (B, Upper panel) Immunofluorescence staining of four MSA-P patients and three controls. For visualization of astrocytes GFAP was used as a marker (orange). To analyze expression of glutamate reuptake transporter tissue was stained for EAAT2 (green). Scale bar = 50 um. (B, Lower panel) Overview of single cells expressing GFAP, EAAT2, and GFAP/EAAT2 (yellow, lower panel). Astrocytic GFAP/EAAT2 expression is decreased in the precentral gyrus (p = 0.0571). Moreover, a re-distribution towards the cytoplasm of EAAT2 is observed in astrocytes of MSA patients (Lower right panel) Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/38167307), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Hippocampal GLT-1 and NR1 expression 3 days after SE with MyD88 inhibition. Sections from the hippocampi of mice in the CP group (A1–A3) and MIP group (B1–B3) 3 days after SE with GLT-1 immunoreactivity in astrocytes and neuronal processes. (A4, B4) Higher magnification of the boxes in (A3) and (B3). (C) Comparison of the numbers of GFAP/GLT-1 double-labeled cells in the DG, CA1, and CA3 between the CP and MIP groups (means +/- SEM, n = 3). *p < 0.05 versus the CP group; **p < 0.01 versus the CP group. Independent samples t tests were performed. (D1) Immunoblots of NR1, NR2a, and NR2b for the control, CP, and MIP groups. (D2–D4) Comparison of NR1, NR2a, and NR2b levels among the above groups (calibrated to β-actin). *p < 0.05; ***p < 0.001 between groups. One-way ANOVA followed by Tukey's test. Scale bars: (A1–A3, B1–B3) 100 μm; (A4, B4) 50 μm Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/30112701), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Hippocampal GLT-1 and NR1 expression 3 days after SE with MyD88 inhibition. Sections from the hippocampi of mice in the CP group (A1–A3) and MIP group (B1–B3) 3 days after SE with GLT-1 immunoreactivity in astrocytes and neuronal processes. (A4, B4) Higher magnification of the boxes in (A3) and (B3). (C) Comparison of the numbers of GFAP/GLT-1 double-labeled cells in the DG, CA1, and CA3 between the CP and MIP groups (means +/- SEM, n = 3). *p < 0.05 versus the CP group; **p < 0.01 versus the CP group. Independent samples t tests were performed. (D1) Immunoblots of NR1, NR2a, and NR2b for the control, CP, and MIP groups. (D2–D4) Comparison of NR1, NR2a, and NR2b levels among the above groups (calibrated to β-actin). *p < 0.05; ***p < 0.001 between groups. One-way ANOVA followed by Tukey's test. Scale bars: (A1–A3, B1–B3) 100 μm; (A4, B4) 50 μm Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/30112701), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Schneider, Y;Gauer, C;Andert, M;Hoffmann, A;Riemenschneider, MJ;Krebs, W;Chalmers, N;Lötzsch, C;Naumann, UJ;Xiang, W;Rothhammer, V;Beckervordersandforth, R;Schlachetzki, JCM;Winkler, J; Distinct forebrain regions define a dichotomous astrocytic profile in multiple system atrophy Acta neuropathologica communications 2024-01-02 [PMID: 38167307]

Tsuboi M, Nakamura Y, Sakuma H Direct effect of 2-palmitoyl glycerol on promotion of gamma aminobutyric acid synthesis in normal human fetal-derived astrocytes FEBS open bio 2023-05-18 [PMID: 37199045] (IHC, Human)

Thomason EJ, SuArez-Pozos E, Afshari FS et al. Deletion of the Sodium-Dependent Glutamate Transporter GLT-1 in Maturing Oligodendrocytes Attenuates Myelination of Callosal Axons During a Postnatal Phase of Central Nervous System Development Frontiers in cellular neuroscience 2022-06-03 [PMID: 35722615] (FLOW, Mouse)

Radulescu AR, Todd GC, Williams CL et al. Estimating the glutamate transporter surface density in distinct sub-cellular compartments of mouse hippocampal astrocytes PLoS computational biology 2022-02-01 [PMID: 35120128] (Cytometric Bead Assay Standard, Mouse)

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