Synaptic Systems

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GluA1

Cat.No. 182 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Azide was added before lyophilization. For reconstitution add 100 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 500 up to 1 : 1000 (AP staining) (see remarks) **IP**: yes **ICC**: 1 : 200 **IHC**: yes **IHC-P/FFPE**: not tested yet
Clone	160E5
Subtype	IgG2b (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 895 to 907 from rat GluA1 (UniProt Id: P19490)
Epitop	Epitop: AA 895 to 907 from rat GluA1 (UniProt Id: P19490)
Reactivity	Reacts with: human (P42261), rat (P19490), mouse (P23818). No signal: zebrafish. Other species not tested yet.
Specificity	Specific for GluA 1. (K.O. verified)
matching control	182-01P
Remarks	**WB**: This antibody is less sensitive than the rabbit polyclonal antibody (cat. no. 182 003).

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Ionotropic **glu**tamate **r**eceptors (i**GluR**s) mediate rapid excitatory neurotransmission in the mammalian CNS. They can be subdivided into three major groups, the **AMPA/GluA**, NMDA/GluN and kainate/GluK receptors (KARs). mRNAs coding for glutamate receptors are substrates for an adenosine deaminase acting on RNA (ADAR) that increases the diversity of these proteins. Glutamate receptors of the AMPA subtype are monovalent cation channels and are composed of the four AMPA subunits **GluA 1**, GluA 2, GluA 3, and GluA 4.

Selected References SYSY Antibodies

Fusion Competent Synaptic Vesicles Persist upon Active Zone Disruption and Loss of Vesicle Docking.
Wang SSH, Held RG, Wong MY, Liu C, Karakhanyan A, Kaeser PS
Neuron (2016) 91(4): 777-791. **WB, ICC**

Chronic mild corticosterone exposure during adolescence enhances behaviors and upregulates neuroplasticity-related proteins in rat hippocampus.
Li J, Li Y, Sun Y, Wang H, Liu X, Zhao Y, Wang H, Su Y, Si T
Progress in neuro-psychopharmacology & biological psychiatry (2019) 89: 400-411. **WB; tested species: rat**

Kibra Modulates Learning and Memory via Binding to Dendrin.
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Frontiers in molecular neuroscience (2018) 11: 283. **WB; tested species: rat**

Heterogeneity of Cell Surface Glutamate and GABA Receptor Expression in Shank and CNTN4 Autism Mouse Models.
Heise C, Preuss JM, Schroeder JC, Battaglia CR, Kolibius J, Schmid R, Kreutz MR, Kas MJH, Burbach JPH, Boeckers TM
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STIM2 regulates AMPA receptor trafficking and plasticity at hippocampal synapses.
Yap KA, Shetty MS, Garcia-Alvarez G, Lu B, Alagappan D, Oh-Hora M, Sajikumar S, Fivaz M
Neurobiology of learning and memory (2017) 138: 54-61. **WB**

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Frontiers in molecular neuroscience (2017) 10: 244. **WB; tested species: rat**

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Proceedings of the National Academy of Sciences of the United States of America (2014) 111(24): 8973-8. **WB; tested species: mouse**

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The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(2): 595-610. **ICC**

Synapse associated protein 102 (SAP102) binds the C-terminal part of the scaffolding protein neurobeachin.
Lauks J, Klemmer P, Farzana F, Karupothula R, Zalm R, Cooke NE, Li KW, Smit AB, Toonen R, Verhage M
PloS one (2012) 7(6): e39420. **ICC**

Selected General References

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Prithviraj R, Kelly KM, Espinoza-Lewis R, Hexom T, Clark AB, Inglis FM
Developmental neurobiology (2008) 68(2): 247-64.

Influence of environmental enrichment on steady-state mRNA levels for EAAC1, AMPA1 and NMDA2A receptor subunits in rat hippocampus.
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Identification and characterization of a novel phosphorylation site on the GluR1 subunit of AMPA receptors.
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Molecular and cellular neurosciences (2007) 36(1): 86-94.

Receptor occupancy and channel-opening kinetics: a study of GLUR1 L497Y AMPA receptor.
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The Journal of biological chemistry (2007) 282(31): 22731-6.

Differential localization of the GluR1 and GluR2 subunits of the AMPA-type glutamate receptor among striatal neuron types in rats.
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Journal of chemical neuroanatomy (2007) 33(4): 167-92.