Synaptic Systems

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GluA2

Cat.No. 182 103; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P/FFPE**: not tested yet
Immunogen	Recombinant protein corresponding to AA 836 to 883 from rat GluA2 (UniProt Id: P19491)
Reactivity	Reacts with: human (P42262), rat (P19491), mouse (P23819). Other species not tested yet.
Specificity	Some cross reactivity to GluA 3.
matching control	182-1P

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

Clustering of Tau fibrils impairs the synaptic composition of α3-Na+/K+-ATPase and AMPA receptors.
Shrivastava AN, Redeker V, Pieri L, Bousset L, Renner M, Madiona K, Mailhes-Hamon C, Coens A, Buée L, Hantraye P, Triller A, et al.
The EMBO journal (2019) : . **IP, ICC, IHC; tested species: mouse**

PICK1 regulates AMPA receptor endocytosis via direct interactions with AP2 α-appendage and dynamin.
Fiuza M, Rostosky CM, Parkinson GT, Bygrave AM, Halemani N, Baptista M, Milosevic I, Hanley JG
The Journal of cell biology (2017) 216(10): 3323-3338. **ICC, WB; tested species: rat**

Sorting nexin 27 rescues neuroligin 2 from lysosomal degradation to control inhibitory synapse number.
Binda C, Nakamura Y, Henley J, Wilkinson K
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Kibra Modulates Learning and Memory via Binding to Dendrin.
Ji Z, Li H, Yang Z, Huang X, Ke X, Ma S, Lin Z, Lu Y, Zhang M
Cell reports (2019) 26(8): 2064-2077.e7. **WB; tested species: mouse**

MEF2A regulates mGluR-dependent AMPA receptor trafficking independently of Arc/Arg3.1.
Carmichael RE, Wilkinson KA, Craig TJ, Ashby MC, Henley JM
Scientific reports (2018) 8(1): 5263. **WB; tested species: rat**

Cortactin regulates endo-lysosomal sorting of AMPARs via direct interaction with GluA2 subunit.
Parkinson GT, Chamberlain SEL, Jaafari N, Turvey M, Mellor JR, Hanley JG
Scientific reports (2018) 8(1): 4155. **WB**

NMDAR-dependent Argonaute 2 phosphorylation regulates miRNA activity and dendritic spine plasticity.
Rajgor D, Sanderson TM, Amici M, Collingridge GL, Hanley JG
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Hippocampal Memory Recovery After Acute Stress: A Behavioral, Morphological and Molecular Study.
Aguayo FI, Tejos-Bravo M, Díaz-Véliz G, Pacheco A, García-Rojo G, Corrales W, Olave FA, Aliaga E, Ulloa JL, Avalos AM, Román-Albasini L, et al.
Frontiers in molecular neuroscience (2018) 11: 283. **WB; tested species: rat**

The PICK1 Ca2+ sensor modulates N-methyl-d-aspartate (NMDA) receptor-dependent microRNA-mediated translational repression in neurons.
Rajgor D, Fiuza M, Parkinson GT, Hanley JG
The Journal of biological chemistry (2017) 292(23): 9774-9786. **WB**

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How to Make an Active Zone: Unexpected Universal Functional Redundancy between RIMs and RIM-BPs.
Acuna C, Liu X, Südhof TC
Neuron (2016) 91(4): 792-807. **WB**

STIM2 regulates PKA-dependent phosphorylation and trafficking of AMPARs.
Garcia-Alvarez G, Lu B, Yap KA, Wong LC, Thevathasan JV, Lim L, Ji F, Tan KW, Mancuso JJ, Tang W, Poon SY, et al.
Molecular biology of the cell (2015) 26(6): 1141-59. **WB**

The intellectual disability protein RAB39B selectively regulates GluA2 trafficking to determine synaptic AMPAR composition.
Mignogna ML, Giannandrea M, Gurgone A, Fanelli F, Raimondi F, Mapelli L, Bassani S, Fang H, Van Anken E, Alessio M, Passafaro M, et al.
Nature communications (2015) 6: 6504. **WB; tested species: mouse**

Ongoing intrinsic synchronous activity is required for the functional maturation of CA3-CA1 glutamatergic synapses.
Huupponen J, Molchanova SM, Lauri SE, Taira T
Cerebral cortex (New York, N.Y. : 1991) (2013) 23(11): 2754-64. **WB; tested species: rat**

Homodimerization and isoform-specific heterodimerization of neuroligins.
Poulopoulos A, Soykan T, Tuffy LP, Hammer M, Varoqueaux F, Brose N
The Biochemical journal (2012) 446(2): 321-30. **WB**