

## GluA4

Cat.No. 182-3P; control protein, 100 µg protein (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µg protein, lyophilized. For reconstitution add 100 µl H <sub>2</sub> O to get a 1mg/ml solution in TBS. Then aliquot and store at -20°C until use.
Immunogen	Recombinant protein corresponding to AA 850 to 902 from rat GluA4 (UniProt Id: P19493)
Recommended dilution	Optimal concentrations should be determined by the end-user.
matching antibodies	182 303
Remarks	This control protein consists of the recombinant protein of rat GluA 4 (aa 850 - 902) that has been used for immunization. It has been tested in preadsorption experiments and blocks efficiently and specifically the corresponding signal in Western blots. The amount of protein needed for efficient blocking depends on the titer and on the affinity of the antibody to the antigen.

#### TO BE USED IN VITRO / FOR RESEARCH ONLY

#### NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Ionotropic **glutamate receptors (iGluRs)** 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 General References

- A nomenclature for ligand-gated ion channels.  
Collingridge GL, Olsen RW, Peters J, Spedding M  
Neuropharmacology (2009) 56(1): 2-5.
- Differential regulation of dendrite complexity by AMPA receptor subunits GluR1 and GluR2 in motor neurons.  
Prithviraj R, Kelly KM, Espinoza-Lewis R, Hexom T, Clark AB, Inglis FM  
Developmental neurobiology (2008) 68(2): 247-64.
- Differential localization of the GluR1 and GluR2 subunits of the AMPA-type glutamate receptor among striatal neuron types in rats.  
Deng YP, Xie JP, Wang HB, Lei WL, Chen Q, Reiner A  
Journal of chemical neuroanatomy (2007) 33(4): 167-92.
- Interactions between NEEP21, GRIP1 and GluR2 regulate sorting and recycling of the glutamate receptor subunit GluR2.  
Steiner P, Alberi S, Kulangara K, Yersin A, Sarria JC, Regulier E, Kasas S, Dietler G, Muller D, Catsicas S, Hirling H, et al.  
The EMBO journal (2005) 24(16): 2873-84.
- Widespread expression of the AMPA receptor GluR2 subunit at glutamatergic synapses in the rat spinal cord and phosphorylation of GluR1 in response to noxious stimulation revealed with an antigen-unmasking method.  
Nagy GG, Al-Ayyan M, Andrew D, Fukaya M, Watanabe M, Todd AJ  
The Journal of neuroscience : the official journal of the Society for Neuroscience (2004) 24(25): 5766-77.
- Induction of dendritic spines by an extracellular domain of AMPA receptor subunit GluR2.  
Passafaro M, Nakagawa T, Sala C, Sheng M  
Nature (2003) 424(6949): 677-81.
- The influence of glutamate receptor 2 expression on excitotoxicity in GluR2 null mutant mice.  
Iihara K, Joo DT, Henderson J, Sattler R, Taverna FA, Lourensen S, Orser BA, Roder JC, Tymianski M  
The Journal of neuroscience : the official journal of the Society for Neuroscience (2001) 21(7): 2224-39.
- PDZ proteins interacting with C-terminal GluR2/3 are involved in a PKC-dependent regulation of AMPA receptors at hippocampal synapses.  
Daw MI, Chittajallu R, Bortolotto ZA, Dev KK, Duprat F, Henley JM, Collingridge GL, Isaac JT  
Neuron (2000) 28(3): 873-86.
- The AMPA receptor GluR2 C terminus can mediate a reversible, ATP-dependent interaction with NSF and alpha- and beta-SNAPs.  
Osten P, Srivastava S, Inman GJ, Vilim FS, Khatri L, Lee LM, States BA, Einheber S, Milner TA, Hanson PI, Ziff EB, et al.  
Neuron (1998) 21(1): 99-110.
- Synaptic distribution of GluR2 in hippocampal GABAergic interneurons and pyramidal cells: a double-label immunogold analysis.  
He Y, Janssen WG, Vissavajhala P, Morrison JH  
Experimental neurology (1998) 150(1): 1-13.
- RNA editing of the glutamate receptor subunits GluR2 and GluR6 in human brain tissue.  
Paschen W, Hedreen JC, Ross CA  
Journal of neurochemistry (1994) 63(5): 1596-602.
- Differential expression of glutamate receptor genes (GluR1-5) in the rat retina.  
Hughes TE, Hermans-Borgmeyer I, Heinemann S  
Visual neuroscience (1992) 8(1): 49-55.