

GluK 5

Cat.No. 180-1P; control protein, 100 µg protein (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg protein, lyophilized. For reconstitution add 100 µl H ₂ O to get a 1mg/ml solution in TBS. Then aliquot and store at -20°C until use.
Immunogen	Recombinant protein corresponding to AA 828 to 979 from rat GluK5 (UniProt Id: Q63273)
Recommended dilution	Optimal concentrations should be determined by the end-user.
matching antibodies	180 103
Remarks	This control protein consists of the recombinant protein (aa 828 - 979 of rat GluK 5) 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. KARs can be found at pre- and postsynaptic sites and are composed of five different subunits: GluK1, **GluK2** and **GluK3** can form homomeric receptors whereas GluK4 and **GluK5** form heteromeric receptors with GluK1-3.

Selected General References

- A nomenclature for ligand-gated ion channels.
Collingridge GL, Olsen RW, Peters J, Spedding M
Neuropharmacology (2009) 56(1): 2-5.
- GluR7 is an essential subunit of presynaptic kainate autoreceptors at hippocampal mossy fiber synapses.
Pinheiro PS, Perrais D, Coussen F, Barhanin J, Bettler B, Mann JR, Malva JO, Heinemann SF, Mulle C
Proceedings of the National Academy of Sciences of the United States of America (2007) 104(29): 12181-6.
- Functional significance of the kainate receptor GluR6(M836I) mutation that is linked to autism.
Strutz-Seeböhm N, Korniyuchuk G, Schwarz R, Baltaev R, Ureche ON, Mack AF, Ma ZL, Hollmann M, Lang F, Seeböhm G
Cellular physiology and biochemistry : international journal of experimental cellular physiology, biochemistry, and pharmacology (2006) 18(4-5): 287-94.
- Differential trafficking of GluR7 kainate receptor subunit splice variants.
Jaskolski F, Normand E, Mulle C, Coussen F
The Journal of biological chemistry (2005) 280(24): 22968-76.
- Co-assembly of two GluR6 kainate receptor splice variants within a functional protein complex.
Coussen F, Perrais D, Jaskolski F, Sachidanandam S, Normand E, Bockaert J, Marin P, Mulle C
Neuron (2005) 47(4): 555-66.
- Time-dependent effect of kainate-induced seizures on glutamate receptor GluR5, GluR6, and GluR7 mRNA and Protein Expression in rat hippocampus.
Ullal G, Fahnestock M, Racine R
Epilepsia (2005) 46(5): 616-23.
- The kainate receptor subunit GluR6 mediates metabotropic regulation of the slow and medium AHP currents in mouse hippocampal neurones.
Fisahn A, Heinemann SF, McBain CJ
The Journal of physiology (2005) 562(Pt 1): 199-203.
- Channel-opening kinetics of GluR6 kainate receptor.
Li G, Oswald RE, Niu L
Biochemistry (2003) 42(42): 12367-75.
- Glutamate receptor RNA editing: a molecular analysis of GluR2, GluR5 and GluR6 in human brain tissues and in NT2 cells following in vitro neural differentiation.
Barbon A, Vallini I, La Via L, Marchina E, Barlati S
Brain research. Molecular brain research (2003) 117(2): 168-78.
- Functional GluR6 kainate receptors in the striatum: indirect downregulation of synaptic transmission.
Chergui K, Bouron A, Normand E, Mulle C
The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 20(6): 2175-82.
- Homomeric and heteromeric ion channels formed from the kainate-type subunits GluR6 and KA2 have very small, but different, unitary conductances.
Howe JR
Journal of neurophysiology (1996) 76(1): 510-9.
- Transmembrane topology of the glutamate receptor subunit GluR6.
Roche KW, Raymond LA, Blackstone C, Huganir RL
The Journal of biological chemistry (1994) 269(16): 11679-82.
- Biochemical and assembly properties of GluR6 and KA2, two members of the kainate receptor family, determined with subunit-specific antibodies.
Wentholt RJ, Trumpy VA, Zhu WS, Petralia RS
The Journal of biological chemistry (1994) 269(2): 1332-9.
- Expression of glutamate receptor genes in the mammalian retina: the localization of GluR1 through GluR7 mRNAs.
Hamassaki-Brito DE, Hermans-Borgmeyer I, Heinemann S, Hughes TE
The Journal of neuroscience : the official journal of the Society for Neuroscience (1993) 13(5): 1888-98.
- Ca²⁺ permeability of unedited and edited versions of the kainate selective glutamate receptor GluR6.
Egebjerg J, Heinemann SF
Proceedings of the National Academy of Sciences of the United States of America (1993) 90(2): 755-9.