



Grik Detection Set

Cat. No.: PSI-1824



Ψ Specifications

SPECIES REACTIVITY:	Human
IMMUNOGEN:	Rabbit polyclonal antibodies were raised against peptides corresponding to amino acid sequences from each of the corresponding proteins.
TESTED APPLICATIONS:	IF, IHC, WB
APPLICATIONS:	These polyclonal antibodies can be used for detection of Grik1 - 5 by immunoblot at 1 - 2 µg/mL, and for detection of Grik1, 4 or 5 by immunohistochemistry at 2.5 µg/mL, and Immunofluorescence.
POSITIVE CONTROL:	1) Grik1 Antibody: Rat Brain Lysate, Catalog No. 1463 Grik2 Antibody: Human Brain Lysate, Catalog No. 1303 Grik3 Antibody: Human Brain Tissue Lysate, Catalog No. 1303 Grik4 Antibody: Rat Brain Lysate, Catalog No. 1463

Ψ Properties

PURIFICATION:	Antibodies are supplied as affinity chromatography purified IgG.
PHYSICAL STATE:	Liquid
BUFFER:	PBS containing 0.02% sodium azide.

CONCENTRATION:	Antibody 1 mg/mL
STORAGE CONDITIONS:	Stable at 4 °C for three months, store at -20 °C for up to one year.

Ψ Additional Info

USER NOTE:	Optimal dilutions for each application to be determined by the researcher.
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Ψ Background and References

BACKGROUND:	<p>Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain and are activated in a variety of normal neurophysiologic processes. Grik1, also known as glutamate receptor 5, belongs to the kainate family of glutamate receptors, which are composed of four subunits and function as ligand-activated ion channels. Grik1 is expressed in GABAergic interneurons of the hippocampus and are thought to participate in the formation of various subtypes of kainate receptors with Grik2 and Grik5/KA2. Stimulation of Grik1 leads to intracellular calcium release and activation of protein kinase C. Excessive activation has been associated with psychiatric, neurological and neurodegenerative diseases. Grik2, also known as glutamate receptor 6, may be associated with autosomal recessive mental retardation and possibly other neurological disorders such as schizophrenia. Numerous isoforms of Grik2 are known to exist and may be subject to RNA editing within the second transmembrane domain, which is thought to alter the properties of ion flow. Grik3, also known as glutamate receptor 7, has recently been shown to be an essential subunit of presynaptic kainate autoreceptors at hippocampal mossy fiber synapses as grik3-null mice show significantly reduced short- and long-term synaptic potentiation. Grik4 codes for the KA1 subunit of kainate-type ionotropic glutamate receptors; mutations in this gene show significant association with both schizophrenia and bipolar disorder. Grik5, also known as kainate-preferring glutamate receptor subunit KA2, does not form homomeric channels, but instead forms heteromers with Grik2. In Grik2- but not Grik1-null mice, Grik5 surface expression is greatly reduced in neurons, indicating that Grik2/Grik5 heteromers are required for exit from the endoplasmic reticulum to the cell surface.</p> <p>For images please see PDF data sheet</p>
REFERENCES:	<p>1) Tanaka K. Functions of glutamate transports in the brain. <i>Neurosci. Res.</i> 2000; 37:15-9.</p> <p>2) Pinheiro P and Mulle C. Kainate receptors. <i>Cell Tissue Res.</i> 2006; 326:457-82.</p> <p>3) Bureau I, Dieudonne S, Coussen F, et al. Kainate receptor-mediated responses in the CA1 field of wild-type and GluR6-deficient mice. <i>J. Neurosci.</i> 1999; 19:653-63.</p> <p>4) Christensen JK, Paternain AV, Selak S, et al. A mosaic of functional kainate receptors in hippocampal interneurons. <i>J. Neurosci.</i> 2004; 24:8986-93.</p>

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