

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human KA2/GRIK5 in direct ELISA.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 1060109
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Synthetic peptide sequence Accession # Q16478
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

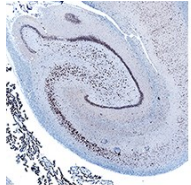
**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the [Technical Information](#) section on our website.

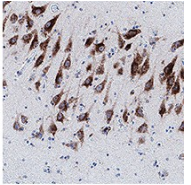
	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunohistochemistry</b>	5-25 µg/mL	Immersion fixed paraffin-embedded sections of Human Hippocampus

**DATA**

**Immunohistochemistry**



Low magnification



High magnification

**Detection of KA2/GRIK5 in Human Hippocampus.**  
KA2/GRIK5 was detected in immersion fixed paraffin-embedded sections of Human Hippocampus using Mouse Anti-Human KA2/GRIK5 Monoclonal Antibody (Catalog # MAB11334) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Rat IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC005). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in neurons. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

GRIK5 (Glutamate receptor, ionotropic kainate 5) is a receptor for glutamate and is one of the 5 types of kainate receptor subunits. L-Glutamate acts as an excitatory neurotransmitter at many synapses in the CNS. The GRIK5 protein forms functional heteromeric kainate-preferring ionic channels with the subunits encoded by related gene family members. Kainate receptors have both presynaptic and postsynaptic actions and a limited distribution in the brain. Kainate receptors have been shown to have connections with several neurological diseases and conditions. There is linkage to schizophrenia, depression, autism, Huntington's, bipolar disorder, and epilepsy among others. KA2 is relatively abundant in all areas of the brain, most notably in dentate gyrus, pyramidal neurons of CA3, cerebellar granule cells, as well as being present in superficial and deep laminae of the neocortex.

## References:

1. Entrez Gene: GRIK5 glutamate receptor, ionotropic, kainate 5.
2. Szpirer C, Molne M, Antonacci R, Jenkins NA, Finelli P, Szpirer J, Riviere M, Gilbert DJ, Copeland NG, *et al.* "The Genes Encoding the Glutamate Receptor Subunits Ka1 and KA2 (GRIK4 and GRIK5) are located on separate chromosomes in Human, Mouse and Rat". *Proc Natl Acad Sci U.S.A.* 1995 Jan; **91(25)**:11849.
3. Contractor A, Mulle C, Swanson GT. "Kainate Receptors Coming of Age: Milestones of Two Decades of Research". *Trends in Neurosciences.* 2011 Mar; **34(3)**:154.
4. Matute C. "Therapeutic Potential of Kainate Receptors". *CNS Neuroscience & Therapeutics.* 2011 Dec; **17(6)**:661.