

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human GluR2/GRIA2 in direct ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 1059613
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human GluR2/GRIA2 containing peptide Accession # P42262
Formulation	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.

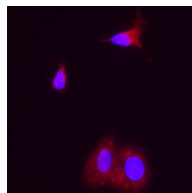
APPLICATIONS

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.

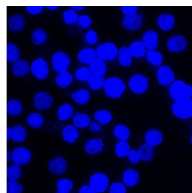
	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	Immersion fixed TT Human Medullary Thyroid Cancer Cell Line (Positive) and THP-1 Human Acute Monocytic leukemia Cell Line (Negative)
Immunohistochemistry	5-25 µg/mL	Immersion fixed paraffin-embedded sections of Human Hippocampus

DATA

Immunocytochemistry



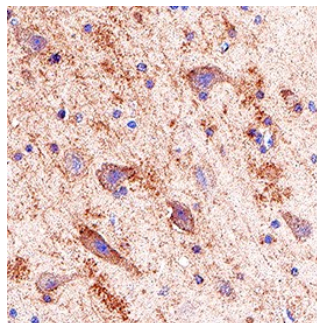
TT (Positive) cells



THP-1 (Negative) cells

Detection of GluR2 in TT (Positive) and THP-1 (Negative) cells. GluR2 was detected in immersion fixed TT Human Medullary Thyroid Cancer Cells (Positive) and absent in THP-1 Human Acute Monocytic Leukemia Cells (Negative) using Mouse Anti-Human GluR2 Monoclonal Antibody (Catalog # MAB11333) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Immunohistochemistry



Detection of GluR2 in Human Hippocampus. GluR2 was detected in immersion fixed paraffin-embedded sections of Human Hippocampus using Mouse Anti-Human GluR2 Monoclonal Antibody (Catalog # MAB11333) at 5 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). 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 plasma membrane and cytoplasm in neurons. View our protocol for [IHC Staining with VisUCyte HRP Polymer Detection Reagents](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

GluR2 is a receptor for glutamate. Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain. The subunit encoded by this gene (GRIA2) is subject to RNA editing which renders the receptor it becomes part of impermeable to calcium ions. This editing occurs at the Q/R site at a frequency of 100% of GluR2 transcripts in the brain. The main function of this editing is regulation of electrophysiology of the receptor channel. Defective editing of this channel has been linked to several conditions such as ALS, Epilepsy and some human brain tumors. GRIA2 is a diagnostic immunochemical marker for solitary fibrous tumor which distinguishes it from most mimics.

References:

1. Entrez Gene: GRIA glutamate receptor, ionotropic, AMPA 2.
2. Seeburg PH, Single F, Kuner T, Higuchi M, Sprengel R. "Genetic Manipulation of Key Determinants of Ion Flow in Glutamate Receptor Channels in the Mouse". *Brain Res.* 2001 Jul; **907(1-2)**:233.
3. Cleveland DW, Rothstein JD. "From Charcot to Lou Gehrig: Deciphering Selective Motor Neuron Death in ALS". *Nat. Rev. Neurosci.* 2001 Nov; **2(11)**:806.
4. Maas S, Patt S, Schrey M, Rich A. "Underediting of Glutamate Receptor GluR-B mRNA in Malignant Gliomas". *Proc. Natl. Acad. Sci. U.S.A.* 2001 Dec; **98(25)**:14687.
5. Vivero M, Doyle L.A, Fletcher C.D., Mertens F, Hornick J.L. "GRIA2 is a Novel Diagnostic Marker for Solitary Fibrous Tumour Identified through Gene Expression Profiling". *Histopathology.* 2014. **65(1)**:71.