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### Antibodies to Glutamate receptor 1 (GluR-1)

Glutamate receptor 1 antibodies. Catalog # GluR1-101AP, P-GluR1 and PC-GluR1.

*Accession # P42262 and Alternate Nomenclature: GluR-K1; Glutamate receptor ionotropic, AMPA 1; AMPA-selective glutamate receptor 1*

Glutamate receptor 1 (GluR-1) is a predominant excitatory neurotransmitter receptor in the mammalian brain. It belongs to a family of alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA) receptors (1). Glutamate receptors are heteromeric protein complexes with multiple subunits, each possessing transmembrane regions, and all arranged to form a ligand-gated ion channel. These receptors are classified on the basis of their activation by different pharmacologic agonists (2). GluR-1 is known to bind a kainate subtype of agonist. The gene encoding GluR1 is located at human chromosome 5q33 (3). GluR1 is of medical interest because it plays an important role in many biological functions.

GluR1 controls dendrite growth and is both necessary and sufficient to control motor neuron dendrite geometry (4). It is postulated to be implicated in susceptibility to schizophrenia (5). It may play an important role in tumor invasion, in the mediation of excitation-induced neuronal cell death in stroke and inherited neurodegenerative-disorders and in the pathophysiology and treatment of manic-like behaviors (6). GluR1 is widely expressed in brain. In the spinal cord, GluR1 is expressed in motor neurons exclusively during the early postnatal life when their dendrites undergo large-scale growth (4). GluR1 is approximately a 109kDa protein (906 amino acids).

The GluR1-selective antibodies were generated against purified Glutamate receptor 1 (GluR1) protein. GluR1-antibodies are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc. will also provide limited quantities of antigenic blocking protein for GluR1 -101AP antibody. Antibodies to GluR1 (GluR1 -101AP) will label ~109kDa protein in Western blot positive control samples for GluR1 and several other tissues. FabGennix Inc. will also conjugate antibodies with secondary enzymes (alk-Pase or HRP) or fluorescent probes upon request at nominal cost.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume
GluR1-101 AP	Rabbit	Affinity purified GluR1 antibodies	H, others n.d	100 ug	200ul
FITC- GluR1	Rabbit	FITC-conjugated GluR1 antibody	H. others n.d	100ug	200ul
P- GluR1	n/a	Antigenic blocking peptide for GluR1 -101AP	n/a	250 ug	100ul
PC- GluR1	n/a	Western blotting positive control for GluR1	n/a	For 5 appl	Inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey; \* not all variants are labeled equally

**Immunogen:**

Synthetic peptides corresponding to unique epitope on GluR1. The peptide sequence was selected from C-terminal, amino acids 850-906. The GluR1 peptide was covalently modified post-synthetically to achieve desired antigenicity.

**Concentration:**

GluR1 -101AP: IgG concentration 0.64-0.72 mg/ml in antibody stabilization buffer.

**Applications:**

Antibody GluR1 -101AP is ideal for WB and ELISA applications, other applications have not been tested. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures.

**Reactivity:**

This antibody detects a single band of approximately 109kDa in PC- GluR1 samples.

**Protocols:**

Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc. strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.

**Form/Storage:**

The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.



Western Blot of GluR1. The GluR1 antibody (Cat # GluR1-101AP) at 1:500 in diluOBuffer was probed with PC-GluR1 sample. MW of GluR1 is approximately 109kDa.

**Notes:** Briefly centrifuge to collect liquid, heat or boil PC-GluR1 tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

**New Reagents:** Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluOBuffer and you are ready for blotting with a new antibody

**References:**

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\* For users who may require large amounts of GluR1-101AP, please enquire about bulk material discounts.  
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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