Datasheet for ABIN7043222

anti-Glutamate Receptor 3 antibody (Extracellular)

3 Images

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Overview

Quantity:	25 µL
Target:	Glutamate Receptor 3 (GRIA3)
Binding Specificity:	AA 60-73, Extracellular
Reactivity:	Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Glutamate Receptor 3 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunoprecipitation (IP), Immunochromatography (IC), Live Cell Imaging (LCI)

Product Details

Purpose:	A Rabbit Polyclonal Antibody to AMPA-Selective Glutamate Receptor 3 (GluR3)
Immunogen:	Immunogen: Synthetic peptide Immunogen Sequence: (C)EKPFHLNYHVDHLD, corresponding to amino acid residues 60-73 of rat GluR3
Isotype:	IgG
Specificity:	Extracellular, N-terminus
Cross-Reactivity:	Human, Mouse, Rat
Predicted Reactivity:	Mouse,human,dog - identical
Characteristics:	Anti-GluR3 (GluA3) (extracellular) Antibody (ABIN7043222, ABIN7044338 and ABIN7044339)) is

Product Details

	a highly specific antibody directed against an epitope of the rat ionotropic glutamate receptor 3. The antibody can be used in western blot, immunohistochemistry, immunocytochemistry, live cell imaging, and immunoprecipitation applications. It has been designed to recognize GluR3 from rat, mouse, and human samples.
Purification:	Affinity purified on immobilized antigen.

Target Details

Target:	Glutamate Receptor 3 (GRIA3)
Alternative Name:	GRIA3 (GRIA3 Products)
Background:	AMPA receptor 3, Glutamate receptor 3, Ionotropic glutamate receptor 3, AMPA-selective glutamate receptor 3, GRIA3, GluR-C, GluR-K3,L-Glutamate, the major excitatory neurotransmitter in the central nervous system, operates through several receptors that are categorized as ionotropic (ligand-gated cation channels) or metabotropic (G-protein coupled receptors).The ligand-gated ion channel family consists of 15 members that have been subdivided into three families based on their pharmacological profile: the a-amino-3-hydroxy-5-methyl-4-isoazolepropionic acid (AMPA) preferring receptors, the N-methyl-D-aspartate (NMDA) preferring and the kainate preferring receptors.The AMPA receptor subfamily includes four members AMPA1 to AMPA4, also known as GluR1 to GluR4 respectively.The functional AMPA channel is believed to be a tetramer, with most neuronal AMPA receptors being heterotetramers composed of AMPA1 plus AMPA2 or AMPA2 plus AMPA3 channels, although homotetramers can also been found.AMPA receptors are permeable to cations Na+, K+ and Ca2+. The Ca2+ permeability is dependent on the presence of AMPA2: whenever this subunit is present, the channel will be impermeable to Ca2+.1Gating of AMPA receptors by glutamate is extremely fast and therefore the AMPA receptors mediate most excitatory (depolarizing) currents in the brain during basal neuronal activity. The depolarization caused by the activation of post-synaptic AMPA receptors is necessary for the activation of NMDA receptors that will open only in the presence of both glutamate and a depolarized membrane potential.Synaptic strength that is defined as the level of post-synaptic depolarization can be long term (hence the term long term potentiation, LTP) and therefore induce changes in signaling and protein synthesis in the activated neuron. These changes are associated with memory formation and learning. Changes in synaptic strength are thought to involve rapid movement of the AMPA receptors in and out of the synapses and a great deal of effort has focused in understanding the mechanisms that govern AMPA receptor trafficking.2The exact physiological role of the AMPA3 receptor is not clear but a role in the modulation of oscillatory networks affecting sleep

Target Details

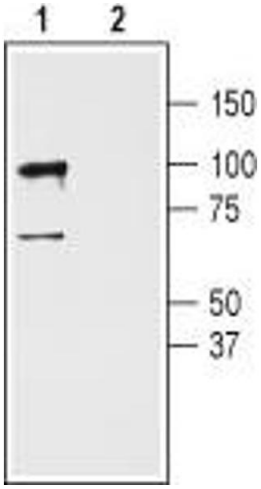
	and breathing has been suggested.3 Alternative names: GluR3 (GluA3), AMPA Receptor 3, Glutamate receptor 3, Ionotropic glutamate receptor 3, AMPA-selective glutamate receptor 3, GRIA3, GluR-C, GluR-K3
Gene ID:	29628
NCBI Accession:	NM_000828
UniProt:	P19492
Pathways:	PI3K-Akt Signaling, cAMP Metabolic Process, Synaptic Membrane

Application Details

Application Notes:	Antigen preadsorption control: 1 µg peptide per 1 µg antibody Application Dilutions Immunohistochemistry paraffin embedded sections ihc: N/A Application Dilutions Western blot wb: 1:400
Comment:	Negative Control: BLP-GC010 Blocking Peptide: BLP-GC010
Restrictions:	For Research Use only

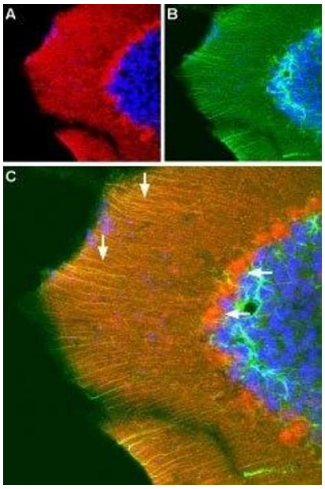
Handling

Format:	Lyophilized
Reconstitution:	Recosntitute with double distilled water (DDW) to a concentration of 1.0 mg/mL.
Concentration:	1 mg/mL
Buffer:	PBS pH 7.4
Storage:	4 °C,-20 °C
Storage Comment:	Storage before reconstitution: The antibody ships as a lyophilized powder at room temperature. Upon arrival, it should be stored at -20°C. Storage after reconstitution: The reconstituted solution can be stored at 4°C for up to 1 week. For longer periods, small aliquots should be stored at -20°C. Avoid multiple freezing and thawing. Centrifuge all antibody preparations before use (10000 x g 5 min).



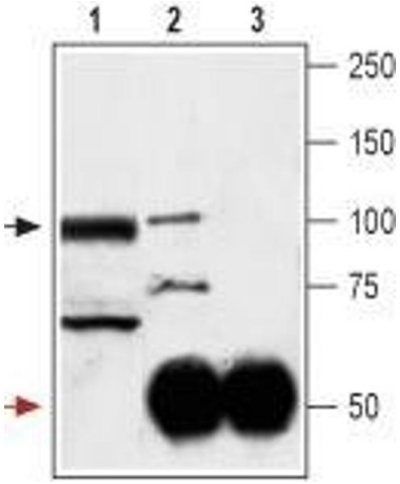
Western Blotting

Image 1. Western blot analysis of rat cerebellum lysates: - 1. Anti-GluR3 (GluA3) (extracellular) Antibody (ABIN7043222, ABIN7044338 and ABIN7044339), (1:400).2. Anti-GluR3 (GluA3) (extracellular) Antibody, preincubated with GluR3/GluA3 (extracellular) Blocking Peptide (#BLP-GC010).



Immunohistochemistry

Image 2. Expression of GRIA3 (GluR3) in mouse cerebellum - Immunohistochemical staining of frozen perfusion-fixed free floating sections of mouse cerebellum using Anti-GluR3 (GluA3) (extracellular) Antibody (ABIN7043222, ABIN7044338 and ABIN7044339). A. Distribution of GRIA3 (red). B. Distribution of glial fibrillary acidic protein (green). C. Merge of the two images indicates that GRIA3 is localized to Bergmann glia (vertical arrow) and to Purkinje cell soma (horizontal arrow). DAPI is used as the counterstain (blue).



Immunoprecipitation

Image 3. Immunoprecipitation of rat cerebellum lysates: - 1. Cerebellum lysates.2. Cerebellum lysates + Anti-GluR3 (GluA3) (extracellular) Antibody (ABIN7043222, ABIN7044338 and ABIN7044339) + protein A beads.3. Cerebellum lysates + pre-immune rabbit serum + protein A beads.Black arrow indicates GluR3 while the red arrow shows the IgG heavy chain. Immunoblot was performed with Anti-GluR3 (GluA3) (extracellular) Antibody (ABIN7043222, ABIN7044338 and ABIN7044339).