abcam

ab232015

Anti-GluA4 antibody [EPR2512(2)] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR2512(2)
Purification technique	Affinity purification Protein A
Concentration	1.052 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Expected

Species	Mouse, Rat, Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GRIA4

Function

Ionotropic glutamate receptor that functions as a ligand-gated cation channel, gated by L-glutamate and glutamatergic agonists such as alpha-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid (AMPA), quisqualic acid, and kainic acid (By similarity). L-glutamate acts as an excitatory neurotransmitter at many synapses in the central nervous system and plays an important role in fast excitatory synaptic transmission (By similarity). Binding of the excitatory neurotransmitter L-glutamate induces a conformation change, leading to the opening of the cation channel, and thereby converts the chemical signal to an electrical impulse upon entry of monovalent and divalent cations such as sodium and calcium. The receptor then desensitizes rapidly and enters a transient inactive state, characterized by the presence of bound agonist (By similarity). In the presence of CACNG8, shows resensitization which is characterized by a delayed accumulation of current flux upon continued application of L-glutamate (PubMed:21172611).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab232015 is the carrier-free version of ab109431.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The protein GluA4 also known as GluR4 or AMPA receptor subunit 4 plays a critical role in synaptic transmission. This receptor belongs to the family of ionotropic glutamate receptors which are activated by the neurotransmitter glutamate. As part of the AMPA receptor complex GluA4 contributes to the fast synaptic responses in the central nervous system. The GluA4 protein has a molecular mass of approximately 100 kDa and is prominently expressed in the brain particularly in the cerebellum and cortex although expression can vary by specific neuronal populations.
Biological function summary	GluA4 functions as an integral component of the AMPA receptor complex which mediates synaptic plasticity and strength. AMPA receptors like GluA4 facilitate the influx of sodium and calcium ions upon glutamate binding essential for long-term

	potentiation a cellular process playing an important role in learning and memory. GluA4 forms tetrameric complexes that co-assemble with other AMPA receptor subunits such as GluA1 GluA2 and GluA3 providing diversity in the receptor properties.
Pathways	GluA4 is embedded within the glutamatergic signaling pathways important for synaptic transmission and plasticity. It plays a part in the long-term potentiation (LTP) and long-term depression (LTD) pathways both of which involve calcium-dependent signaling cascades. These pathways often overlap with the functions of other proteins such as NMDA receptors which also bind glutamate and help regulate the same synaptic responses.
Associated diseases and disorders	GluA4 has associations with neurological conditions like epilepsy and schizophrenia. Its dysregulation in AMPA receptor-mediated pathways may contribute to aberrant synaptic transmission observed in these disorders. GluA4 works in conjunction with other receptor subunits and related proteins like PSD-95 which further connects it to the synaptic architecture and signaling alterations seen in these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

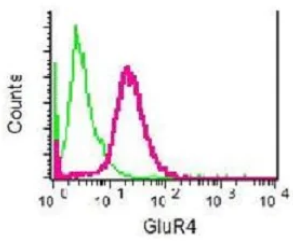
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Flow Cytometry (Intracellular) - Anti-GluA4 antibody [EPR2512(2)] - BSA and Azide free (ab232015)

GluA4 Flow Cytometry (Intracellular) staining using rabbit Anti-GluA4 antibody

Intracellular flow cytometric analysis of permeabilized SH-SY5Y (Human neuroblastoma cell line from bone marrow) cells using ab109431 at 1/10 dilution (red) or a rabbit IgG (negative) (green). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109431).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.