abcam

ab228340

Anti-GLUD1 + GLUD2 antibody [EPR11370] - 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	EPR11370
Purification technique	Affinity purification
Concentration	1.004 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GLUD1

Function	Mitochondrial glutamate dehydrogenase that catalyzes the conversion of L-glutamate into alpha-ketoglutarate. Plays a key role in glutamine anaplerosis by producing alpha-ketoglutarate, an important intermediate in the tricarboxylic acid cycle (PubMed:11032875, PubMed:11254391, PubMed:16023112, PubMed:16959573). Plays a role in insulin homeostasis (PubMed:11297618, PubMed:9571255). May be involved in learning and memory reactions by increasing the turnover of the excitatory neurotransmitter glutamate (By similarity).

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

ab228340 is the carrier-free version of ab168352.

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	GLUD1 and GLUD2 also known as glutamate dehydrogenases are enzymes that play roles in amino acid metabolism. GLUD1 enzyme weighs approximately 56 kDa. These enzymes convert glutamate to α-ketoglutarate and ammonia thereby regulating amino acid turnover and nitrogen metabolism. GLUD1 and GLUD2 are expressed in mitochondria across numerous tissues but are highly represented in the liver and brain tissues. Mouse GLUD1 is often studied to understand these functions through model organisms.
Biological function summary	These enzymes participate in critical processes like neurotransmitter regulation and energy production. GLUD1 and GLUD2 provide ammonia and α-ketoglutarate necessary for the Krebs cycle connecting amino acid catabolism to energy

	production. Although not typically part of a larger complex their activity modulates key metabolic pathways essential for cellular energy.
Pathways	GLUD1 and GLUD2 play central roles in nitrogen and tricarboxylic acid (TCA) cycles. Within these cycles they facilitate interactions with proteins like AMPK linking amino acid metabolism to cellular energy sensing. They influence energy homeostasis by modulating NADH and NADPH production further integrating with metabolic control pathways like gluconeogenesis.
Associated diseases and disorders	GLUD1 and GLUD2 have associations with hyperinsulinism/hyperammonemia syndrome and neurodegenerative disorders such as Alzheimer's disease. In the context of hyperinsulinism faulty regulation of GLUD1 can lead to excessive insulin production. In neurodegenerative conditions these proteins by altering neurotransmitter levels possibly interact with proteins such as amyloid-β contributing to disease pathology.

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

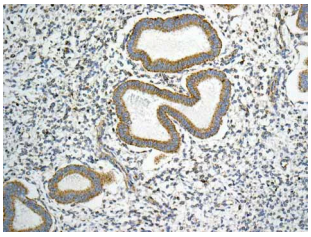
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images

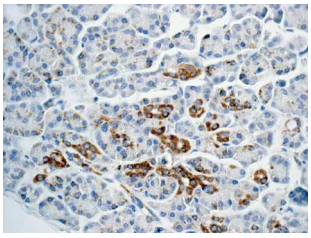


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
ab168352 showing +ve staining in Human normal uterus.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

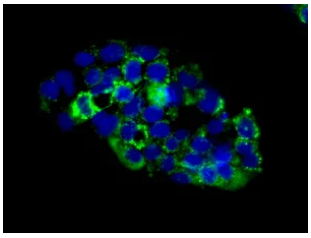


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
ab168352 showing +ve staining in Human normal pancreas.

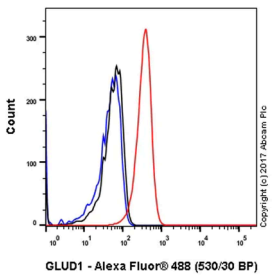
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GLUD1 + GLUD2 antibody

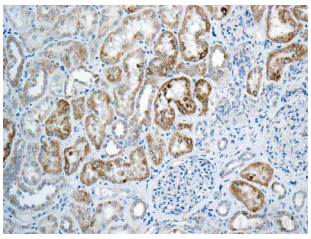
This data was developed using ab168352, the same antibody clone in a different buffer formulation.Immunofluorescent analysis of HepG2 cells labeling Glutamate Dehydrogenase with ab168352 at 1/50 dilution.



Flow Cytometry (Intracellular) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Flow Cytometry (Intracellular) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling GLUD1 (red) with ab168352 at a 1/2000 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.

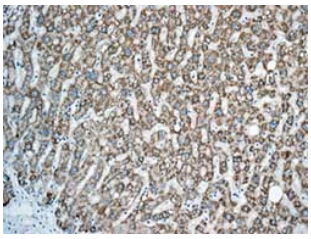


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
ab168352 showing +ve staining in Human normal kidney.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

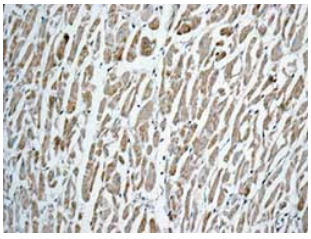


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Glutamate Dehydrogenase with ab168352 at 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

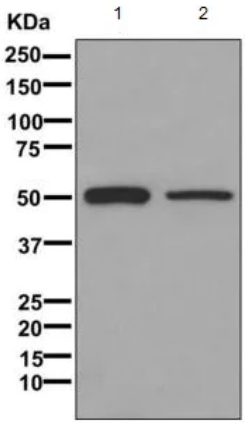


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human heart tissue labeling Glutamate Dehydrogenase with ab168352 at 1/100 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-GLUD1 + GLUD2 antibody [EPR11370] - BSA and Azide free (ab228340)

GLUD1 + GLUD2 Western blot staining using rabbit Anti-GLUD1 + GLUD2 antibody

This data was developed using ab168352, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-GLUD1 + GLUD2 antibody [EPR11370] (ab168352) at 1/1000 dilution

Lane 1:
Human fetal liver lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
HRP labeled goat anti-rabbit at 1/2000 dilution

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