abcam

ab233702

Anti-ABAT/GABA-T antibody [EPR20842] - 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	EPR20842
Purification technique	Affinity purification Protein A
Concentration	1.017 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse

Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ABAT

Function	Catalyzes the conversion of gamma-aminobutyrate and L-beta-aminoisobutyrate to succinate semialdehyde and methylmalonate semialdehyde, respectively (PubMed:10407778, PubMed:15528998). Can also convert delta-aminovalerate and beta-alanine (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

ab233702 is the carrier-free version of ab216465.

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	ABAT also known as GABA transaminase (GABA-T) is an enzyme involved in the catabolism of the neurotransmitter gamma-aminobutyric acid (GABA). This enzyme catalyzes the conversion of GABA to succinic semialdehyde an important step in the GABA degradation pathway. GABA-T has a molecular mass of approximately 56 kDa. Its expression primarily occurs in the brain kidney and liver where it regulates GABA levels influencing neurological functions.
Biological function summary	ABAT plays a critical role in maintaining GABA homeostasis in the central nervous system. The protein functions as a homodimer forming a complex that effectively binds to its substrate. It modulates the inhibitory effects mediated by GABA in neuronal signaling. This regulation is essential for processes such as synaptic transmission and plasticity impacting a range of neurological activities.
Pathways	ABAT is integral to the GABAergic neurotransmission pathway which balances excitatory and inhibitory signals in the brain. It operates in conjunction with glutamate decarboxylase another enzyme playing an important role in GABA synthesis. Together they maintain the dynamic equilibrium between GABA

	production and breakdown. Additionally the enzyme interacts with proteins that contribute to the tricarboxylic acid cycle linking neurotransmitter metabolism to energy production.
Associated diseases and disorders	ABAT is associated with several neurological conditions including epilepsy and schizophrenia. Impaired function or expression of ABAT can lead to altered GABA levels contributing to the pathophysiology of these disorders. The enzyme also connects with GABA receptor subtypes which are targets for therapeutic interventions aimed at modulating GABAergic activity to address 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

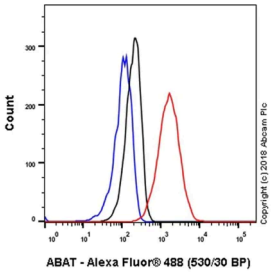
We do not recommend this combination. It is not covered by our product promise.

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.

13 product images

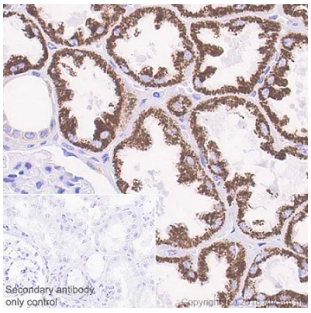


Flow Cytometry (Intracellular) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Flow Cytometry (Intracellular) staining using rabbit Anti-ABAT/GABA-T antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HepG2 (Human hepatocellular carcinoma epithelial cell) cell line labeling ABAT/GABA-T with ab216465 at 1/60 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabelled control (cellsincubated with secondary antibody only) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



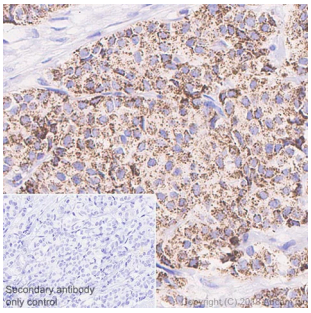
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Granular cytoplasmic staining in human kidney (PMID: 25771305; PMID: 25738457) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



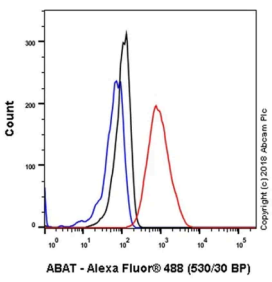
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Granular cytoplasmic staining in human breast cancer (PMID: 25771305; PMID: 25738457) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).

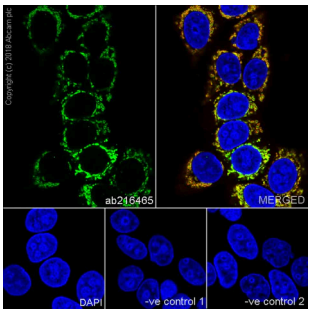


Flow Cytometry (Intracellular) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Flow Cytometry (Intracellular) staining using rabbit Anti-ABAT/GABA-T antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling ABAT/GABA-T with ab216465 at 1/600 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabelled control (cellsincubated with secondary antibody only) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



Immunocytochemistry/ Immunofluorescence - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

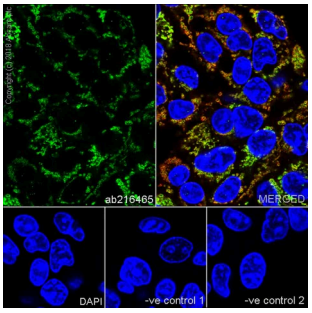
ABAT/GABA-T Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ABAT/GABA-T antibody

Immunofluorescent analysis of 100% methanol-fixed MCF7 (human breast adenocarcinoma epithelial cell) cells labeling ABAT/GABA-T with ab216465 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 (green). Confocal image showing mitochondrial staining in MCF7 cell line. The nuclear counter stain is DAPI (blue). Mitochondria are stained with ab33985 Anti-COX IV (mouse mAb) - Mitochondrial Marker followed by ab150120 AlexaFluor®594 Goat anti-Mouse secondary both at 1/1000 dilution (red).

-ve control 1: ab216465 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.

-ve control 2: ab33985 Anti-COX IV (mouse mAb) - Mitochondrial Marker at 1/1000 dilution followed by ab150077 (AlexaFluor®488 Goat anti-Rabbit secondary) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



Immunocytochemistry/ Immunofluorescence - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

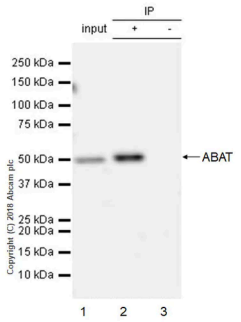
ABAT/GABA-T Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ABAT/GABA-T antibody

Immunofluorescent analysis of 100% methanol-fixed HepG2 (human hepatocellular carcinoma epithelial cell) cells labeling ABAT/GABA-T with ab216465 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 (green). Confocal image showing mitochondrial staining in HepG2 cell line is observed. The nuclear counter stain is DAPI (blue).
Mitochondria are stained with ab33985 Anti-COX IV (mouse mAb) - Mitochondrial Marker followed by ab150120 AlexaFluor®594 Goat anti-Mouse secondary both at 1/1000 dilution (red).

-ve control 1: ab216465 at 1/100 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/1000 dilution.

-ve control 2: ab33985 Anti-COX IV (mouse mAb) - Mitochondrial Marker at 1/1000 dilution followed by ab150077 (AlexaFluor®488 Goat anti-Rabbit secondary) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



Immunoprecipitation - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

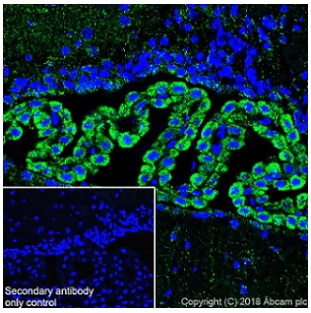
ABAT/GABA-T was immunoprecipitated from 0.35 mg MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate with ab216465 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab216465 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/5000 dilution.
Lane 1: MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate 10 µg (Input).
Lane 2: ab216465 IP in MCF7 whole cell lysate (+).
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab216465 in MCF7 whole cell lysate (-).

Blocking/Dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 3 minutes.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).

All lanes:
Immunoprecipitation - Anti-ABAT/GABA-T antibody [EPR20842] (ab216465)

Predicted band size: 56 kDa

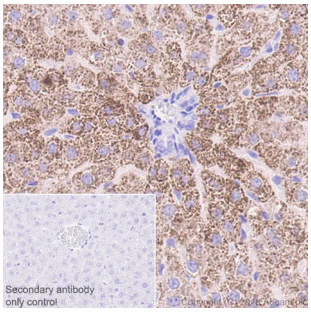


Immunohistochemistry (Frozen sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Frozen sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse choroid plexus tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution (green), followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Cytoplasmic staining in mouse choroid plexus (PMID:25239459, PMID: 11459221) is observed. Counter stained with DAPI (blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit used at a 1/1000 dilution.
Perform heat-mediated antigen retrieval by using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



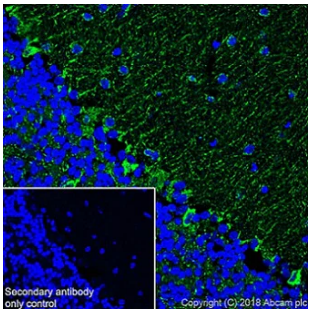
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of paraffin-embedded rat liver tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Granular cytoplasmic staining in rat liver (PMID: 25771305; PMID: 25738457) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).

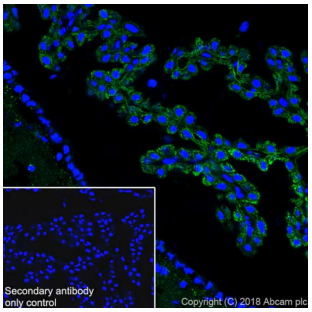


Immunohistochemistry (Frozen sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Frozen sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse cerebellum tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution (green), followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Cytoplasmic staining in mouse cerebellum (PMID:25239459, PMID: 11459221) is observed. Counter stained with DAPI (blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit used at a 1/1000 dilution.
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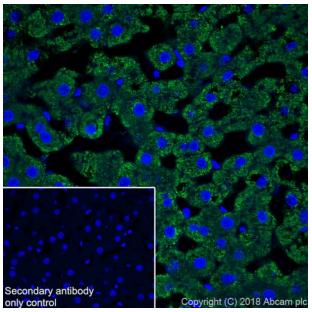


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ABAT/GABA-T Immunohistochemistry (Frozen sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen rat choroid plexus tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution (green), followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Cytoplasmic staining in rat choroid plexus (PMID:25239459, PMID: 11459221) is observed. Counter stained with DAPI (blue).
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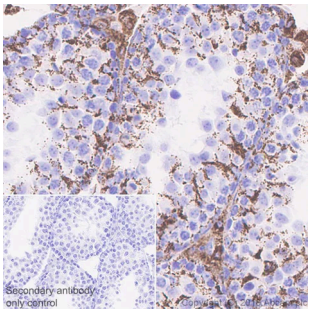
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ABAT/GABA-T Immunohistochemistry (Frozen sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse liver tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution (green), followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at a 1/1000 dilution. Cytoplasmic staining in rat liver is observed. Counter stained with DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit used at a 1/1000 dilution.
Perform heat-mediated antigen retrieval by using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ABAT/GABA-T antibody [EPR20842] - BSA and Azide free (ab233702)

ABAT/GABA-T Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ABAT/GABA-T antibody

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling ABAT/GABA-T with ab216465 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Granular cytoplasmic staining in mouse testis (PMID: 25771305; PMID: 25738457) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab216465).

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