abcam

ab119269

Anti-GATM antibody [OTI1C9]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human GATM. Database link P50440
Clone number	OTI1C9
Purification technique	Affinity purification
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from cell culture supernatant by affinity chromatography.

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

Species	Transfected cell lysate - Human
Dilution info	1/500 - 1/2000
Notes	-

Not recommended

Species	Transfected cell line - Human, Transfected cell line
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/150
Notes	-

Not recommended

Species	Transfected cell lysate - Human, Transfected cell line - Human, Transfected cell line
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Human
Dilution info	1/100
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Not recommended

Species	Transfected cell lysate - Human, Transfected cell line
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line
Dilution info	1/100
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Transfected cell lysate - Human, Transfected cell line - Human
Dilution info	-
Notes	-

Target data

See full target information GATM

Function	Transamidinase that catalyzes the transfer of the amidino group of L-arginine onto the amino moiety of acceptor metabolites such as glycine, beta-alanine, gamma-aminobutyric acid (GABA) and taurine yielding the corresponding guanidine derivatives (PubMed:16820567, PubMed:27233232, PubMed:36543883, PubMed:3800397). Catalyzes the rate-limiting step of creatine biosynthesis, namely the transfer of the amidino group from L-arginine to glycine to generate

guanidinoacetate, which is then methylated by GAMT to form creatine. Provides creatine as a source for ATP generation in tissues with high energy demands, in particular skeletal muscle, heart and brain (Probable) (PubMed:27233232, PubMed:36543883, PubMed:3800397, PubMed:9266688).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	GATM also known as glycine amidinotransferase or L-arginine:glycine amidinotransferase functions as an enzyme responsible for the catalysis of the first step in creatine biosynthesis. This enzyme has a molecular mass of approximately 49 kDa. GATM is mostly expressed in the kidney pancreas and liver. In these tissues it catalyzes the transfer of an amidino group from L-arginine to glycine forming guanidinoacetate the immediate precursor for creatine.
Biological function summary	Glycine amidinotransferase participates in important metabolic processes by forming guanidinoacetate. This compound collaborates with S-adenosylmethionine to eventually form creatine an important molecule important for storing and distributing energy in cells. GATM does not function as part of a larger complex; it works independently to perform its enzymatic reaction. Its biological activity directly impacts muscle function and also affects organ systems that depend on energy homeostasis.
Pathways	GATM plays a significant role in creatine synthesis connecting to the energy metabolism pathway. The creatine biosynthesis pathway begins with GATM's production of guanidinoacetate and concludes with the formation of creatine after a conversion facilitated by the enzyme GAMT (guanidinoacetate N-methyltransferase). GATM functions as an upstream regulator impacting ATP supply in tissues where high-energy demands occur like in muscle cells.

Associated diseases and disorders	Researchers associate GATM with conditions related to energy metabolism deficiencies such as certain myopathies and guanidinoacetate methyltransferase deficiency. These conditions arise when alterations in creatine synthesis disrupt normal cellular energy dynamics. GATM mutations can affect overall energy availability leading to muscle and neurological symptoms. The enzyme GAMT interacts with GATM within these metabolic contexts illustrating a close connection in the pathology of related disorders.

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.

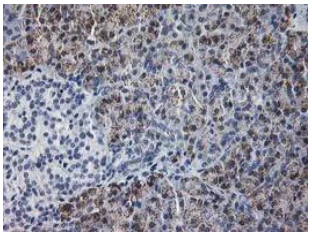
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATM antibody [OTI1C9] (ab119269)

GATM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-GATM antibody

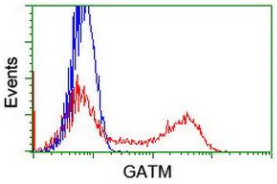
Paraffin-embedded human liver tissue stained for GATM using ab119269 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATM antibody [OTI1C9] (ab119269)

GATM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-GATM antibody

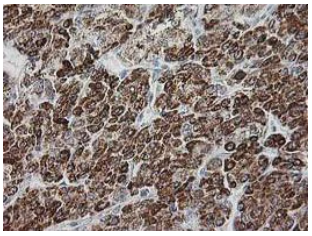
Paraffin-embedded human pancreas tissue stained for GATM using ab119269 at 1/100 dilution in immunohistochemical analysis.



Flow Cytometry (Intracellular) - Anti-GATM antibody [OTI1C9] (ab119269)

GATM Flow Cytometry (Intracellular) staining using mouse Anti-GATM antibody

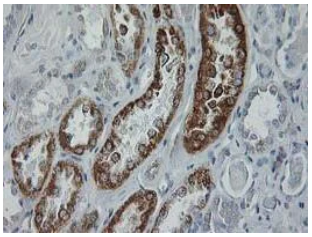
Flow cytometric analysis of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells transfected with GATM (Red), or an empty vector control plasmid (Blue), stained with ab119269 at 1/100 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATM antibody [OTI1C9] (ab119269)

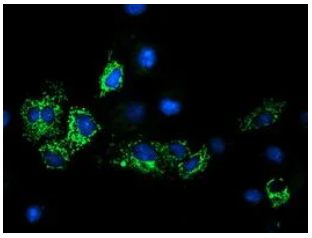
GATM Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-GATM antibody

Paraffin-embedded human liver carcinoma tissue stained for GATM using ab119269 at 1/100 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATM antibody [OTI1C9] (ab119269)

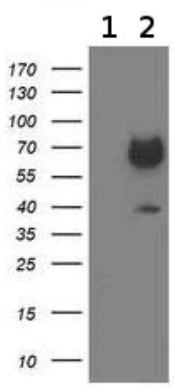
Paraffin-embedded human kidney tissue stained for GATM using ab119269 at 1/100 dilution in immunohistochemical analysis.



Immunocytochemistry/ Immunofluorescence - Anti-GATM antibody [OTI1C9] (ab119269)

GATM Immunocytochemistry/ Immunofluorescence staining using mouse Anti-GATM antibody

COS-7 (African green monkey kidney fibroblast-like cell line) cells transiently transfected with pCMV6-ENTRY GATM, stained for GATM (Green) using ab119269 at 1/100 dilution in ICC/IF.



Western blot - Anti-GATM antibody [OTI1C9] (ab119269)

All lanes:
Western blot - Anti-GATM antibody [OTI1C9] (ab119269) at 1/500 dilution

Lane 1:
HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) lysate transfected with pCMV6-ENTRY control cDNA for 48 hrs at 5 µg

Lane 2:
HEK-293T lysate transfected with pCMV6-ENTRY GATM cDNA for 48 hrs at 5 µg

Predicted band size: 48 kDa

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