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GATM Rabbit pAb

Catalog # AP98839

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P50440
Other Accession	P50440
Predicted	Rat, Pig, Cat, Human, Mouse, Zebrafish, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	48455
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GATM
Epitope Specificity	141-240/423
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the amidinotransferase family.
SUBUNIT	Homodimer. There is an equilibrium between the monomeric and dimeric forms, shifted towards the side of the monomer.
DISEASE	Defects in GATM are the cause of arginine:glycine amidinotransferase deficiency (AGAT deficiency) [MIM:612718]. AGAT deficiency is an autosomal recessive disorder characterized by developmental delay/regression, mental retardation, severe disturbance of expressive and cognitive speech, and severe depletion of creatine/phosphocreatine in the brain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Catalyzes the biosynthesis of guanidinoacetate, the immediate precursor of creatine. Creatine plays a vital role in energy metabolism in muscle tissues. May play a role in embryonic and central nervous system development. May be involved in the response to heart failure by elevating local creatine synthesis.

Additional Information

Gene ID	2628
Other Names	GATM_HUMAN; GATM; L-arginine:glycine amidinotransferase; Transamidinase; 2.1.4.1; AGAT; GATM_MOUSE; GATM_RAT; GATM_DANRE; glycine amidinotransferase
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GATM
Synonyms	AGAT
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).
Cellular Location	[Isoform 1]: Mitochondrion inner membrane; Peripheral membrane protein; Intermembrane side. Note=Probably attached to the outer side of the inner membrane
Tissue Location	Expressed in brain, heart, kidney, liver, lung, salivary gland and skeletal muscle tissue, with the highest expression in kidney. Biallelically expressed in placenta and fetal tissues

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