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Anti-ATIC Antibody (3H12-C9-H9)

Mouse Monoclonal Antibody
Catalog # ABV12062

Product Information

Application	WB
Primary Accession	P31939
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	3H12-C9-H9
Calculated MW	64616

Additional Information

Gene ID	471
Application & Usage	WB: A549, A431, LNCaP, Jurkat, U20S, HeLa cell lysate, Rat liver tissue lysate, Mouse kidney tissue lysate, Mouse brain, Mouse colon tissue lysate
Other Names	Bifunctional purine biosynthesis protein PURH, 5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase, AICAR transformylase, IMP cyclohydrolase, IMP synthase, Inosinicase
Target/Specificity	Bifunctional purine biosynthesis protein PURH
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	In buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.2% sodium azide, 50% glycerol
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-ATIC Antibody (3H12-C9-H9) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATIC (HGNC:794)
Function	Bifunctional enzyme that catalyzes the last two steps of purine biosynthesis

	(PubMed:11948179, PubMed:14756554). Acts as a transformylase that incorporates a formyl group to the AMP analog AICAR (5-amino-1-(5-phospho-beta-D-ribosyl)imidazole-4-carboxamide) to produce the intermediate formyl-AICAR (FAICAR) (PubMed:10985775, PubMed:11948179, PubMed:9378707). Can use both 10-formyldihydrofolate and 10-formyltetrahydrofolate as the formyl donor in this reaction (PubMed:10985775). Also catalyzes the cyclization of FAICAR to inosine monophosphate (IMP) (PubMed:11948179, PubMed:14756554). Is able to convert thio-AICAR to 6-mercaptopurine ribonucleotide, an inhibitor of purine biosynthesis used in the treatment of human leukemias (PubMed:10985775). Promotes insulin receptor/INSR autophosphorylation and is involved in INSR internalization (PubMed:25687571).
Cellular Location	Cytoplasm, cytosol {ECO:0000250|UniProtKB:P54113}
Tissue Location	Present in the heart, brain, placenta, lung, liver, skeletal muscle, kidney, pancreas.

Background

This gene encodes a bifunctional protein that catalyzes the last two steps of the de novo purine biosynthetic pathway. The N-terminal domain has phosphoribosylaminoimidazolecarboxamide formyltransferase activity, and the C-terminal domain has IMP cyclohydrolase activity. A mutation in this gene results in AICA-ribosiduria.

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