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GNPDA1 Antibody (ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM1910a

Product Information

Application	WB, E
Primary Accession	P46926
Other Accession	NP_005462.1, GNPDA1
Reactivity	Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,k
Clone Names	237CT2.5.2
Calculated MW	32669

Additional Information

Gene ID	10007
Other Names	Glucosamine-6-phosphate isomerase 1, Glucosamine-6-phosphate deaminase 1, GNPDA 1, GlcN6P deaminase 1, Oscillin, GNPDA1, GNPI, HLN, KIAA0060
Target/Specificity	This GNPDA1 monoclonal antibody is generated from mouse immunized with GNPDA1 recombinant protein.
Dilution	WB~~1:1000~8000 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GNPDA1 Antibody (ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GNPDA1 {ECO:0000303|PubMed:26887390, ECO:0000312|HGNC:HGNC:4417}
Function	Catalyzes the reversible conversion of alpha-D-glucosamine 6- phosphate (GlcN-6P) into beta-D-fructose 6-phosphate (Fru-6P) and ammonium ion, a regulatory reaction step in de novo uridine diphosphate-N-acetyl-alpha-D-glucosamine (UDP-GlcNAc) biosynthesis via hexosamine pathway. Deamination is coupled to aldo-keto isomerization

mediating the metabolic flux from UDP-GlcNAc toward Fru-6P. At high ammonium level can drive amination and isomerization of Fru-6P toward hexosamines and UDP-GlcNAc synthesis (PubMed:21807125, PubMed:26887390). Has a role in fine tuning the metabolic fluctuations of cytosolic UDP-GlcNAc and their effects on hyaluronan synthesis that occur during tissue remodeling (PubMed:26887390). Seems to trigger calcium oscillations in mammalian eggs. These oscillations serve as the essential trigger for egg activation and early development of the embryo (By similarity).

Cellular Location Cytoplasm {ECO:0000250|UniProtKB:O88958}.

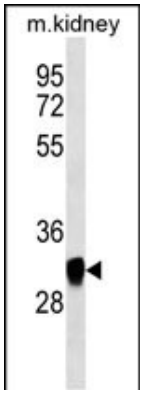
Background

Glucosamine-6-phosphate deaminase (EC 3.5.99.6) is an allosteric enzyme that catalyzes the reversible conversion of D-glucosamine-6-phosphate into D-fructose-6-phosphate and ammonium (Arreola et al., 2003 [PubMed 12965206]).

References

Lamesch, P., et al. Genomics 89(3):307-315(2007) Arreola, R., et al. FEBS Lett. 551 (1-3), 63-70 (2003) : Zhang, J., et al. J. Cell. Biochem. 88(5):932-940(2003) Nakamura, Y., et al. Genomics 68(2):179-186(2000) Shevchenko, V., et al. Gene 216(1):31-38(1998)

Images



GNPDA1 (Cat. #AM1910a) western blot analysis in mouse kidney tissue lysates (35µg/lane).This demonstrates the GNPDA1 antibody detected the GNPDA1 protein (arrow).