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GNPDA1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP1461b

Specification

GNPDA1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P46926

GNPDA1 Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP1461b was selected from the C-term region of human GNPDA1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

GNPDA1 Antibody (C-term) Blocking Peptide - 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.

GNPDA1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

GNPDA1 Antibody (C-term) Blocking Peptide - Images

GNPDA1 Antibody (C-term) Blocking Peptide - Background

Glucosamine-6-phosphate deaminase (GNPDA) catalyzes the conversion of glucosamine-6-phosphate to fructose-6-phosphate, a reaction that under physiological conditions proceeds to the formation of fructose-6-phosphate. GNPDA is the sole enzyme linking hexosamine systems with glycolytic pathways, and has been proposed to provide a source of energy in the form of phosphosugar derived from the catabolism of hexosamines found in glycoproteins, glycolipids, and sialic acid-containing macromolecules. GNPDA localizes close to the developing acrosome vesicle and in spermatozoa close to the acrosomal region, and may play a role in the acrosome reaction.

GNPDA1 Antibody (C-term) Blocking Peptide - References

Arreola,R., FEBS Lett. 551 (1-3), 63-70 (2003)Zhang,J., J. Cell. Biochem. 88 (5), 932-940 (2003)