

**GNPDA1 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP1461b****Specification**

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**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](/product/products/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](http://www.uniprot.org/citations/21807125), PubMed: [26887390](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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)