

GNPDA2 Rabbit pAb

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Catalog # AP55172

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8TDQ7
Reactivity	Rat, Mouse
Predicted	Pig, Dog, Human, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31085
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GNPDA2
Epitope Specificity	101-200/276
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	During fertilization in mammals, the sperm activates the egg by causing an increase in the level of free cytoplasmic calcium concentration. This increased calcium concentration induces a characteristic series of oscillations that trigger egg activation and early embryo development. A hamster protein named oscillin is thought to be involved in this pathway. The enzyme glucosamine-6-phosphate isomerase (GNPI) or deaminase (GNPDA1) and the related protein GNPDA2 are the human homologs of hamster oscillin. GNPDA1 and GNPDA2 catalyze the conversion of GNP to fructose-6-phosphate and ammonia. Both proteins exist as homohexamers and are ubiquitously expressed with highest expression in testis, ovary and heart. Three isoforms of GNPDA2 are expressed due to alternative splicing events.

Additional Information

Gene ID	132789
Other Names	Glucosamine-6-phosphate deaminase 2 {ECO:0000312 HGNC:HGNC:21526}, GlcN6P deaminase 2, 3.5.99.6, Glucosamine-6-phosphate isomerase 2 {ECO:0000312 HGNC:HGNC:21526}, Glucosamine-6-phosphate isomerase SB52, GNPDA2 {ECO:0000303 PubMed:26887390, ECO:0000312 HGNC:HGNC:21526}
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

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

GNPDA2 {ECO:0000303 | PubMed:26887390, ECO:0000312 | HGNC:HGNC:21526}

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. Has a role in fine tuning the metabolic fluctuations of cytosolic UDP-GlcNAc and their effects on hyaluronan synthesis that occur during tissue remodeling.

Cellular Location

Cytoplasm.

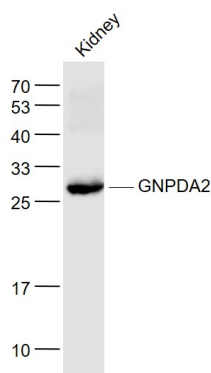
Tissue Location

Ubiquitous, with highest expression detected in testis, ovary, placenta, and heart.

Background

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Images



Sample:

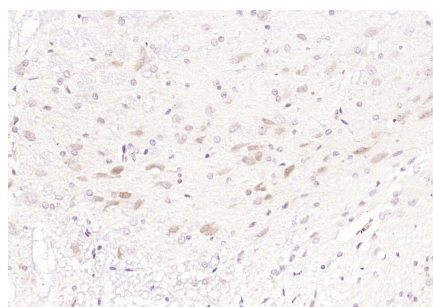
Kidney (Mouse) Lysate at 40 ug

Primary: Anti- GNPDA2 (AP55172) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 31 kD

Observed band size: 30 kD



Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (GNPDA2) Polyclonal Antibody, Unconjugated (AP55172) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

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