

# GNPDA1 (N-12): sc-162886

## BACKGROUND

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 testes, ovary and heart. Three isoforms of GNPDA2 are expressed due to alternative splicing events.

## REFERENCES

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- Zhang, J., Zhang, W., Zou, D., Chen, G., Wan, T., Li, N. and Cao, X. 2003. Cloning and functional characterization of GNPI2, a novel human homolog of glucosamine-6-phosphate isomerase/oscillin. *J. Cell. Biochem.* 88: 932-940.

## CHROMOSOMAL LOCATION

Genetic locus: GNPDA1 (human) mapping to 5q31.3; *Gnpda1* (mouse) mapping to 18 B3.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## SOURCE

GNPDA1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GNPDA1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162886 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GNPDA1 (N-12) is recommended for detection of GNPDA1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with GNPDA2.

GNPDA1 (N-12) is also recommended for detection of GNPDA1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GNPDA1 siRNA (h): sc-91867, GNPDA1 siRNA (m): sc-145656, GNPDA1 shRNA Plasmid (h): sc-91867-SH, GNPDA1 shRNA Plasmid (m): sc-145656-SH, GNPDA1 shRNA (h) Lentiviral Particles: sc-91867-V and GNPDA1 shRNA (m) Lentiviral Particles: sc-145656-V.

Molecular Weight of GNPDA1: 33 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226 or MIA PaCa-2 cell lysate: sc-2285.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.