## PRODUCT INFORMATION

## Expression system

E.coli

## Domain

1-289aa
UniProt No.
P46926
NCBI Accession No.
NP_005462

## Alternative Names

Glucosamine-6-phosphate isomerase 1, GNP1, GNPDA, GNPI, GPI, HLN, Oscillin

## PRODUCT SPECIFICATION

## Molecular Weight

34.8 kDa (309aa) confirmed by MALDI-TOF

## Concentration

$1 \mathrm{mg} / \mathrm{ml}$ (determined by Bradford assay)

## Formulation

Liquid in. 20 mM Tris-HCl buffer (pH 8.0) containing $1 \mathrm{mM} \mathrm{DTT} 20 \$,$% glycerol, 50 \mathrm{mM} \mathrm{NaCl}$

## Purity

> $90 \%$ by SDS-PAGE

## Tag

His-Tag

## Application

SDS-PAGE

## Storage Condition

Can be stored at +2 C to +8 C for 1 week. For long term storage, aliquot and store at -20 C to -80 C . Avoid repeated freezing and thawing cycles.

## BACKGROUND

## Description

Glucosamine-6-phosphate isomerase 1, also known as GNPDA1, catalyzes the conversion of glucosamine-6phosphate to fructose-6-phosphate, a reaction that under physiological conditions proceeds to the formation of fructose-6-phosphate. It exist is ubiquitously expressed with highest expression in testes, ovary and heart. In addition, GNPDA1 triggers calcium oscillations in mammalian eggs. These oscillations serve as the essential trigger for egg activation and early development of the embryo. Recombinant human GNPDA1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

## Amino acid Sequence

<MGSSHHHHHH SSGLVPRGSH> MKLIILEHYS QASEWAAKYI RNRIIQFNPG PEKYFTLGLP TGSTPLGCYK KLIEYYKNGD LSFKYVKTFN MDEYVGLPRD HPESYHSFMW NNFFKHIDIH PENTHILDGN AVDLQAECDA FEEKIKAAGG IELFVGGIGP DGHIAFNEPG SSLVSRTRVK TLAMDTILAN ARFFDGELTK VPTMALTVGV GTVMDAREVM ILITGAHKAF ALYKAIEEGV NHMWTVSAFQ QHPRTVFVCD EDATLELKVK TVKYFKGLML VHNKLVDPLY SIKEKETEKS QSSKKPYSD

## General References

Wolosker H., et al. (1998) FASEB J. 12(1):91-9.
Montag M., et al. (1999) FEBS Lett.458:141-144.

## DATA

## SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

