

# Human ARG1 / Arginase 1 Protein (His Tag)

Catalog Number: 11558-H08H



**Sino Biological Inc.**

Biological Solution Specialist

## General Information

### Gene Name Synonym:

ARG1

### Protein Construction:

A DNA sequence encoding the human ARG1 isoform 1 (P05089-1) (Met 1-Lys 322) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** Human Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio-Activity

**Measured by the production of urea during the hydrolysis of arginine.**  
**The specific activity is >35,000 pmoles/min/μg.**

### Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met 1

### Molecular Mass:

The secreted recombinant human ARG1 consists of 333 amino acids and has a calculated molecular mass of 36.2 kDa. The apparent molecular mass of the protein is approximately 40 kDa in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile 20mM Tris, 150mM NaCl, 20% Glycerol, 1mM DTT, pH 7.4

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

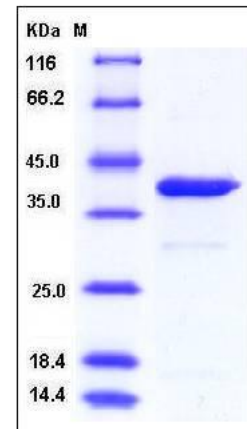
## Usage Guide

### Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

## SDS-PAGE:



## Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

Arginase-1, also known as Liver-type arginase, Type I arginase and ARG1 is a cytoplasm protein which belongs to the arginase family. Arginase-1 / ARG1 is a manganese-containing enzyme. The reaction catalyzed by this enzyme is: arginine + H<sub>2</sub>O → ornithine + urea. It is the final enzyme of the urea cycle. Arginase-1 / ARG1 is the fifth and final step in the urea cycle, a series of biophysical reactions in mammals during which the body disposes of harmful ammonia. Specifically, Arginase-1 / ARG1 converts L-arginine into L-ornithine and urea. In most mammals, two isozymes of this enzyme exist; the first, Arginase-1 / ARG1, functions in the urea cycle, and is located primarily in the cytoplasm of the liver. The second isozyme, Arginase-2 / ARG2, has been implicated in the regulation of the arginine/ornithine concentrations in the cell. It is located in mitochondria of several tissues in the body, with most abundance in the kidney and prostate. Defects in Arginase-1 / ARG1 are the cause of argininemia (ARGIN), also known as hyperargininemia. Argininemia is a rare autosomal recessive disorder of the urea cycle. Arginine is elevated in the blood and cerebrospinal fluid, and periodic hyperammonemia occurs.

## References

1. Morris SM et al., 2002, Annual review of nutrition 22 (1): 87-105.
2. Cama E, et al., 2003, Biochemistry 42 (28): 8445-51.
3. Di Costanzo L, et al., 2007, Archives of biochemistry and biophysics 465 (1): 82-9.
4. van de Poll, M.C. et al., 2008, Clin Sci. 114 (3): 231-41.
5. Haffner, I. et al., 2008, J Cell Biochem. 103 (2): 520-7.

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