

# allantoicase (A-12): sc-137282

## BACKGROUND

Allantoicase is an enzyme involved in the uric acid degradation pathway of invertebrates, fish and amphibians. In mammals, since the uric degradation pathway ends in the formation of allantoin, it is likely that the enzymatic activity of allantoicase was lost during the colonization of terrestrial environment by vertebrates. Though mRNA of allantoicase has been identified in mice and humans, the protein is either untranslated or non-functional. Human allantoicase, also known as Allantoate amidinohydrolase, is a 410 amino acid protein that has only been identified in testis. The function of this enzyme is unclear, as allantoicase activity is not known to exist in mammals. There are four isoforms of Allantoicase that are produced as a result of alternative splicing events.

## REFERENCES

1. Noguchi, T., Takada, Y. and Fujiwara, S. 1979. Degradation of uric acid to urea and glyoxylate in peroxisomes. *J. Biol. Chem.* 254: 5272-5275.
2. Vigetti, D., Monetti, C., Pollegioni, L., Taramelli, R. and Bernardini, G. 2000. *Xenopus* allantoicase: molecular cloning, enzymatic activity and developmental expression. *Arch. Biochem. Biophys.* 379: 90-96.
3. Vigetti, D., Monetti, C., Acquati, F., Taramelli, R. and Bernardini, G. 2000. Human allantoicase gene: cDNA cloning, genomic organization and chromosome localization. *Gene* 256: 253-260.
4. Vigetti, D., Monetti, C. and Bernardini, G. 2001. Molecular cloning of mouse allantoicase cDNA. *Biochim. Biophys. Acta* 1519: 117-121.
5. Vigetti, D., Monetti, C., Prati, M., Gornati, R. and Bernardini, G. 2002. Genomic organization and chromosome localization of the murine and human allantoicase gene. *Gene* 289: 13-17.
6. Vigetti, D., Binelli, G., Monetti, C., Prati, M., Bernardini, G. and Gornati, R. 2003. Selective pressure on the allantoicase gene during vertebrate evolution. *J. Mol. Evol.* 57: 650-658.
7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612396. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: ALLC (human) mapping to 2p25.3; Allc (mouse) mapping to 12 A2.

## SOURCE

allantoicase (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of allantoicase 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-137282 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

allantoicase (A-12) is recommended for detection of allantoicase isoforms 1-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for allantoicase siRNA (h): sc-94931, allantoicase siRNA (m): sc-141026, allantoicase shRNA Plasmid (h): sc-94931-SH, allantoicase shRNA Plasmid (m): sc-141026-SH, allantoicase shRNA (h) Lentiviral Particles: sc-94931-V and allantoicase shRNA (m) Lentiviral Particles: sc-141026-V.

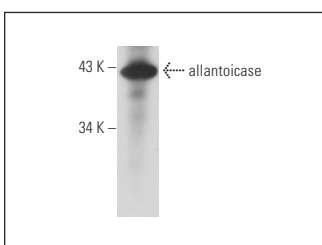
Molecular Weight of allantoicase: 46 kDa.

Positive Controls: rat liver extract: sc-2395 or mouse liver extract: sc-2256.

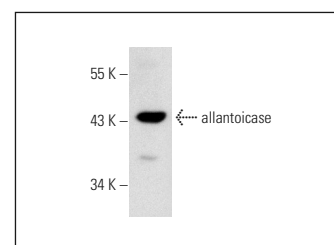
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



allantoicase (A-12): sc-137282. Western blot analysis of allantoicase expression in rat liver tissue extract.



allantoicase (A-12): sc-137282. Western blot analysis of allantoicase expression in mouse liver tissue extract.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

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