

# Mannitol Dehydrogenase

[View the current Mannitol Dehydrogenase InDepth page on BioPortfolio.com](#) (PDF)

([http://www.bioportfolio.com/indepth/Mannitol\\_Dehydrogenase.html](http://www.bioportfolio.com/indepth/Mannitol_Dehydrogenase.html)) - Regularly Updated.

## Recent Publications on Mannitol Dehydrogenase:



- [Is there leaderless protein secretion in plants?](#)  
*The sugar alcohol mannitol and it's catabolic enzyme mannitol...*20th November, 2009  
Department of Horticultural Science, North Carolina State University,- *Plant Signal Behav.* 2010 Feb 11;5(2).
- [Quantitative proteomic analysis of G-protein signalling in Stagonospora nodorum using Isobaric Tags for Relative and absolute quantification \(iTRAQ\).](#)  
*The G protein alpha-subunit (Gna1) in the wheat pathogen Stagonospora...*3rd November, 2009  
Proteomics International, Perth, WA, Australia.- *Proteomics.* 2009 Oct 30. ([DOI Direct Link](#))
- [Salicylic acid stimulates secretion of the normally symplastic enzyme mannitol dehydrogenase: a possible defense against mannitol-secreting fungal pathogens.](#)  
*The sugar alcohol mannitol is an important carbohydrate with...*4th September, 2009  
Department of Horticultural Science, North Carolina State University,- *Planta.* 2009 Sep 1. ([DOI Direct Link](#))
- [The Hypocrea jecorina \(syn. Trichoderma reesei\) lxr1 gene encodes a D-mannitol dehydrogenase and is not involved in L-arabinose catabolism.](#)  
*The Hypocrea jecorina LXR1 was described as the first fungal L-xylulose...*5th May, 2009  
Research Area Gene Technology and Applied Biochemistry, Institute of- *FEBS Lett.* 2009 Apr 17;583(8):1309-13. Epub 2009 Mar 21. ([DOI Direct Link](#))
- [Proteomic analysis of fungal host factors differentially expressed by Fusarium graminearum infected with Fusarium graminearum virus-DK21.](#)  
*Fusarium graminearum virus-DK21 (FgV-DK21), which infects the plant...*21st April, 2009  
Research Institute for Agriculture and Life Sciences, Seoul National- *Virus Res.* 2009 Sep;144(1-2):96-106. Epub 2009 Apr 15. ([DOI Direct Link](#))
- [Isomalt production by cloning, purifying and expressing of the MDH gene from Pseudomonas fluorescens DSM 50106 in different strains of E. coli.](#)  
*A NADH-dependent mannitol dehydrogenase gene (mtlD) was cloned from...*21st March, 2009  
Science and Research Branch, Islamic Azad University, Iran.- *Pak J Biol Sci.* 2008 Aug 15;11(16):2001-6.
- [Metabolic engineering for bioproduction of sugar alcohols.](#)  
*Sugar alcohols find applications in pharmaceuticals, oral and personal...*9th January, 2009  
Department of Chemical Engineering, Pennsylvania State University,- *Curr Opin Biotechnol.* 2008 Oct;19(5):461-7. Epub 2008 Sep 16. ([DOI Direct Link](#))
- [Physiological implication of intracellular trehalose and mannitol changes in response of](#)

[entomopathogenic fungus \*Beauveria bassiana\* to thermal stress.](#)

*To explore possible role of intracellular trehalose accumulation in fungal...* 17th December, 2008  
Institute of Microbiology, College of Life Sciences, Zhejiang University,- Antonie Van Leeuwenhoek.  
2009 Jan;95(1):65-75. Epub 2008 Oct 12. ([DOI Direct Link](#))

- [Thermotoga maritima TM0298 is a highly thermostable mannitol dehydrogenase.](#)

*Thermotoga maritima TM0298 is annotated as an alcohol dehydrogenase, yet...* 17th December, 2008  
Department of Biochemistry and Molecular Biology, Michigan State- Appl Microbiol Biotechnol. 2008  
Dec;81(3):485-95. Epub 2008 Aug 22. ([DOI Direct Link](#))

- [Mannitol biosynthesis is required for plant pathogenicity by \*Alternaria alternata\*.](#)

*Mannitol has been hypothesized to play a role in antioxidant defense. In...* 17th October, 2008  
Department of Plant Pathology, NC State University, Raleigh, NC 27695,- FEMS Microbiol Lett. 2008  
Aug;285(1):122-9. Epub 2008 Jun 28. ([DOI Direct Link](#))

- [D-mannitol production by resting state whole cell biotrans-formation of D-fructose by heterologous mannitol and formate dehydrogenase gene expression in \*Bacillus megaterium\*.](#)

*An in vivo system was developed for the biotransformation of D-fructose...* 8th January, 2008  
Institute of Biotechnology 1, Research Centre Julich GmbH, Julich,- Biotechnol J. 2007  
Nov;2(11):1408-16. ([DOI Direct Link](#))

- [Identification and characterization of the \*Tuber borchii\* D-mannitol dehydrogenase which defines a new subfamily within the polyol-specific medium chain dehydrogenases.](#)

*A novel NADP(+)-dependent D-mannitol dehydrogenase and the corresponding...* 21st December, 2007  
Istituto di Chimica Biologica Giorgio Fornaini, Universita degli Studi di- Fungal Genet Biol. 2007  
Oct;44(10):965-78. Epub 2007 Jan 10. ([DOI Direct Link](#))

- [Expression of \*glf Z.m.\* increases D-mannitol formation in whole cell biotransformation with resting cells of \*Corynebacterium glutamicum\*.](#)

*A recombinant oxidation/reduction cycle for the conversion of D-fructose...* 7th December, 2007  
Institut fur Biotechnologie 1, Forschungszentrum Julich GmbH, 52425,- Appl Microbiol Biotechnol. 2007  
Sep;76(3):545-52. Epub 2007 May 15. ([DOI Direct Link](#))

- [Accumulated mannitol and aggravated cerebral edema in a rat model of middle cerebral artery infarction.](#)

*OBJECTIVE: Repeated administration of mannitol in the setting of large...* 1st October, 2007  
Department of Neurosurgery, Kyungpook National University Hospital, Daegu,- J Korean Neurosurg  
Soc. 2007 Oct;42(4):337-41. Epub 2007 Oct 20. ([DOI Direct Link](#))

- [Crystallization, preliminary X-ray diffraction and structure analysis of \*Thermotoga maritima\* mannitol dehydrogenase.](#)

*Diffraction data have been collected from a crystal of *Thermotoga maritima*...* 1st June, 2007  
Department of Biochemistry, University of Saskatchewan, Saskatoon,- Acta Crystallogr Sect F Struct  
Biol Cryst Commun. 2007 Apr 1;63(Pt ([DOI Direct Link](#)))

## Mannitol Dehydrogenase Patents:



- 5780239- [Method for the determination of cast in urine](#)
- 6495317- [DNA encoding mannose 6-phosphate reductase and recombinants produced therefrom](#)
- 6583275- [Nucleic acid sequences and expression system relating to \*Enterococcus faecium\* for diagnostics and therapeutics](#)

- 6602691- [Process for the production of mannitol by immobilized micro-organisms](#)
- 6617123- [Method for detection of 4-hydroxybutyric acid and its precursor\(s\) in fluids](#)
- 6664082- [Genetically engineered L-sorbose reductase-deficient mutants](#)
- 6700038- [Plant expression vectors based on the flock house virus genome](#)
- 6720164- [Method of determining substrate, and biosensor](#)
- 6777589- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 6803499- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 6825018- [Sorbitol dehydrogenase, gene encoding the same and use thereof](#)
- 6416985- [DNA encoding mannose 6-phosphate reductase and recombinants produced therefrom](#)
- 6399861- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 6395299- [Matrices for drug delivery and methods for making and using the same](#)
- 5780709- [Transgenic maize with increased mannitol content](#)
- 5783382- [Method for storing liquid diagnostic reagents](#)
- 5990390- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 6025545- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 6133504- [DNA encoding mannose 6-phosphate reductase and recombinants produced therefrom](#)
- 6281411- [Transgenic monocots plants with increased glycine-betaine content](#)
- 6306445- [Methods for using dehydrogenases in baking](#)
- 6329574- [High lysine fertile transgenic corn plants](#)
- 6340582- [Process for preparing xylitol](#)
- 6340597- [Electrochemical biosensors and process for their preparation](#)
- 6855526- [Method for making mannitol with Lactobacillus intermedius](#)
- 6960705- [Nucleic acid encoding a hypersensitive response elicitor from Xanthomonas campestris](#)
- 7345216- [Expression cassettes for meristem-preferential expression in plants](#)
- 7358072- [Fermentative production of mannitol](#)
- 7365178- [Acyl-nucleotide probes and methods of their synthesis and use in proteomic analysis](#)
- 7371927- [Methods for modulating plant growth and biomass](#)
- 7375209- [Expression cassettes for seed-preferential expression in plants](#)
- 7378572- [Constitutive expression cassettes for regulation of plant expression](#)
- 7390937- [Plants with enhanced levels of nitrogen utilization proteins in their root epidermis and uses thereof](#)
- 7524948- [Expression cassettes for vascular tissue-preferential expression in plants](#)
- 7550578- [Rice promoters for regulation of plant expression](#)
- 7615624- [Arabidopsis derived promoters for regulation of plant expression](#)
- 7342147- [Expression cassettes for root-preferential expression in plants](#)
- 7335813- [Expression cassettes for guard cell-preferential expression in plants](#)
- 7332310- [Mutant of homoserine dehydrogenase from Corynebacterium and DNA encoding thereof](#)
- 6962989- [Corynebacterium glutamicum genes encoding novel proteins](#)
- 7052913- [Matrices for drug delivery and methods for making and using the same](#)
- 7098313- [DNA sequences coding for a polyol carrier and their use, in particular for the preparation of transgenic plants](#)
- 7186887- [Nucleic acids encoding oryza sativa nuclear cap binding protein 80 and methods of use](#)
- 7211713- [Methods and compositions for the production of stably transformed, fertile monocot plants and cells thereof](#)
- 7217865- [Transgenic high tryptophan plants](#)
- 7247441- [Nucleic acid sequence and protein in addition to polypeptides coding for mannitol dehydrogenases or parts thereof and the production and use thereof in diagnosis and therapy](#)
- 7270984- [Polynucleotides encoding a 6-phosphogluconolactonase polypeptide from corynebacterium](#)

[glutamicum](#)

- 7317136- [Methods for modifying plant cell walls and modified plants produced thereby](#)
- 7326557- [Increasing intracellular NADPH availability in E. coli](#)
- 7615685- [Methods of producing human or animal food from stably transformed, fertile maize plants](#)

\*\*\*

Resources from the [NCBI](#) used in this document, [NCBI's standard disclaimer applies](#).

Nothing in this document should be used in place of personal medical advice from your own qualified medical practitioner. See BioPortfolio.com [User Agreement](#)

Send comments and feedback to:

Peter Barfoot Managing Director, BioPortfolio Ltd.

UK Tel: (+44) 1300 321501

USA Voicemail and Fax: (+1) 415 680 2472

[Peter Barfoot peter.barfoot@bioportfolio.com](mailto:peter.barfoot@bioportfolio.com)

All rights reserved. All other trademarks recognized.

BioPortfolio Limited is registered in England & Wales at Stafford House, 10 Prince of Wales Road, Dorchester, Dorset, DT1 1PW, UK. No.3312883 VAT No. GB 744 6483 10

Copyright 1997-2009 - BioPortfolio Limited.

