

URINARY TRACT AND WOMEN'S HEALTH

D-Mannose

Description

D-Mannose is a simple sugar that occurs naturally in some plants, including cranberries. Because the body metabolizes only small amounts of D-mannose and excretes the rest in the urine, it does not significantly interfere with blood-sugar regulation. In the bladder, D-Mannose can adhere to undesirable foreign particles, thus preventing them from sticking to the epithelial cell lining. These complexes can then be flushed away during urination, thus promoting urinary tract health. New research indicates that D-Mannose may also be beneficial for oral health when used as a rinse.

Features & Benefits

- Interferes with the adhesion of foreign particles to the epithelial cell lining
- Supports urinary tract health
- May promote oral health
- Does not interfere with blood sugar regulation
- Does not affect glycogen stores

Suggested Usage

As a dietary supplement, take 3 capsules 2-3 times daily, or as directed by your healthcare practitioner. When used as an oral rinse, empty 3 capsules into a glass of water, cranberry juice (pure, no-sugar-added), rosemary or sage tea.

Allergen Checklist

Contains no salt, yeast, wheat, gluten, soy, milk, egg, shellfish or preservatives.

Cautions / Interactions

While there are no known drug interactions, researchers observed that a small proportion of patients receiving oral mannose showed slight increases in glycosylated hemoglobin (A1c) values, which could lead to diabetic complications.



Technical Summary

D-mannose is a naturally occurring simple sugar which is similar in structure to – but metabolized differently from – glucose. Although D-Mannose is readily absorbed by the human body, only small amounts are utilized for glycoprotein synthesis,¹⁹⁻²⁰ while the majority is rapidly excreted in the urine.^{4-7,19} Research has shown that some foreign matter that can at times be associated with the urinary tract can attach itself to the urinary tract lining by binding to naturally occurring mannose derivatives (lectins).² Preclinical studies suggest that free D-mannose can bind to these foreign particles, thus preventing their adherence to the urinary tract,^{1,21} as well as the oral mucosa cell lining.^{13,14}

Clinical research found that ingesting D-mannose leads to a significant elevation of blood mannose levels, which in turn is a prerequisite if urinary levels are to rise.¹⁵ Because oral D-mannose elicits only insignificant, temporary insulin rises, it does not interfere with blood-sugar regulation.⁵⁻⁸ Additionally, it does not contribute to increased blood sugar values nor to added glycogen stores.^{4,7,12}

Mechanisms of Action

Bioavailability studies have shown that the oral administration of D-Mannose leads to a short term rise in blood mannose concentration, which return to normal levels within 2-3 hours due to its quick excretion in the urine.^{12,20} Certain foreign particles possess adhesion molecules (lectins) that bind it to mannose molecules naturally found in the bladder wall.^{2,3,9,11,13} However, free D-mannose molecules easily bind to these lectins, rendering them unavailable for anchoring to the bladder's epithelial cell lining, and facilitating the excretion of the foreign matter/Mannose complex with the urine.^{2,3,9,11} Preclinical research studies suggest that the beneficial effect of oral D-Mannose on the urinary tract can be observed within a very short period of time.¹

Clinical Applications

The primary application for oral D-Mannose is supporting healthy epithelial cell lining, such as found in the urinary tract,^{1-3,9-11} or the oral cavity.^{13,14} Administration for the latter would be in oral rinse form, which may be swallowed. Emerging science also suggests that its ingestion might be of value for the support of metabolic health¹⁵⁻¹⁸

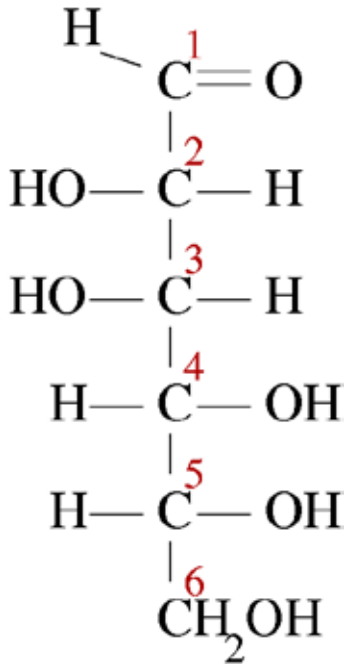


FIGURE 1 Common D-mannose structure.

<http://commons.wikimedia.org/wiki/File:D-mannose.png>

Complementary Products

Formulations containing anthocyanins, such as cranberry.

ProtoDophilus (Product Code P2928), **Ortho Dophilus™ (Product Code P2912)**, **A-Biotic™ (Product Code P1811)**, **Protosorb™ C (Product Code P0716, P0726)**.

Supplement Facts		P2811
Serving Size 3 Capsules		
Servings Per Container 30		
		Amount Per Serving
Calories		6
Total Carbohydrate		1.5 g
Sugars		1.5 g
D-Mannose		1.5 g (1,500 mg)

Other ingredients: Gelatin (capsule), Stearic Acid (vegetable source), Magnesium Stearate (vegetable source), Silica and Rice Flour.

Contains no salt, yeast, wheat, gluten, soy, milk, egg, shellfish or preservatives.

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