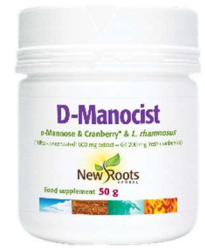


D-Manocist

50 g / Code FE1788



A food supplement consisting of D-Mannose, a natural sugar which has no effect on glucose metabolism, 600 mg of ultra-concentrated cranberry extract (107:1) equivalent to 64,2 g of cranberries per use, and *Lactobacillus rhamnosus*.



FORMAT: 50 g

FORMULA

Ingredients: D-Mannose, cranberry fruit extract (*Vaccinium macrocarpon*), *Lactobacillus rhamnosus* UB5115.

Nutritional information:	2 spoons
D-Mannose	4.800 mg
Cranberry (<i>Vaccinium macrocarpon</i>) (107:1)	600 mg
<i>Lactobacillus rhamnosus</i> UB5115	500 million CFU

CFU: Colony-Forming Unit Cells

Cautions:

It is recommended to consult a health-care practitioner prior to use in case of pregnancy, breast-feeding, treatment with medication, especially anticoagulants, or a special medical condition.

The use of cranberry when taking anticoagulants of the type of warfarin should be avoided. Concerning the use of cranberry during pregnancy studies have not described adverse effects. Even though cranberry is well tolerated, there are no save data known for breast-feeding women. Cranberry could have a possible impact on kidney stones. Interrupt use if symptoms of digestive upset occur, worsen or persist beyond 3 days. Avoid this product if the patient is experiencing nausea, fewer, vomiting, bloody diarrhoea or severe abdominal pain, or if he has an immune-compromised condition.

Recommended daily dose:

Mix 2 scoops (approx. 5,4 g) in water or juice twice daily for two days, then 2 scoops (approx. 5,4 g) in water or juice once daily. Do not exceed the stated recommended daily dose. Store preferably refrigerated.

Indications and uses:

Different studies have shown that the ingredients in D-MANOCIST Probiotic can be helpful for the following conditions:

- The prevention and treatment of lower urinary tract infections
- Recurring cystitis.

DETAILS:

This formula is based on D-Mannose, an ultra-concentrated cranberry extract and *Lactobacillus rhamnosus*, which act effectively in synergy against urinary tract infections, especially in cases of recurring infection.

INGREDIENTS:

D-MANNOSE: A natural sugar that prevents *Escherichia Coli* (*E.Coli*), the main bacteria involved in urinary tract infections, from adhering to the epithelium of the urinary tract. Bacterial adherence is the first step in the development of an infection, so if adherence is prevented, contact between the microorganisms and the epithelium of the urinary tract is prevented, and the pathogen cannot develop. *E. Coli* has adherent structures on its surface called fimbriae, which are protein ligands that bind to specific receptors located in the membranes of epithelial cells in the bladder. More specifically, studies show that type-1 fimbriae bind to mannose residue present in these cell receptors, and begin colonization and invasion of the urinary tract. After the invasion process, uropathogenic strains of *E. Coli* can elude the defence mechanisms of the host, invading deep tissue and replicating inside its cells. They then form biofilms, which are simply bacteria bathed in a rich polysaccharide matrix, forming massive focal

points of *E. Coli* which make up an authentic reservoir in the bladder, and are possible future sources of urinary tract infection. Orally administered, D-mannose passes to the bloodstream and is then filtered by the kidneys into the urine, where it binds to the type-1 fimbriae, preventing them from adhering to epithelial cells in the bladder, and they are quickly eliminated in the urine. Studies indicate that D-mannose not only blocks the adhesion of *E. Coli*, but also prevents biofilm formation.

One study has shown that a mannose derivative administered for urinary tract infection reduced biofilm formation in 4 orders of magnitude compared to standard antibiotic treatment^(1,2).

The clinical experience of some experts using D-mannose for treating urinary infections has shown that it's a sugar that can safely be used by diabetics as it does not interfere with glucose metabolism since it passes directly to the blood without being converted into glycogen by the liver, and is rapidly filtered by the kidneys into the urine, taking effect in the bladder. It can also be used by pregnant women and even children. D-mannose is fast-acting, with symptoms improving within 24 hours of ingestion, although treatment should be continued until its completion. If symptoms don't improve within 24 hours, the possibility that the infection was caused by another bacteria other than *E. Coli* should be considered⁽²⁾.

CRANBERRY: Our cranberry extract has a high strength of 107:1, that is, one dose is the equivalent of 107 times a fresh berry, in order to be effective as both prophylaxis and treatment for urinary tract infection.

Different publications identify the type A proanthocyanidins in cranberry as the main compounds responsible for its efficacy in treating urinary tract infections, by impeding the adherence of type P fimbriae in *E. Coli* to uroepithelial cells. The anti-adherent activity of cranberry has a fast onset and can be registered in human urine around 2 hours after ingestion^(3,4,5).

Type P fimbriae are resistant to D-mannose and are related to the development of upper urinary tract infection, specifically infections of the renal parenchyma⁽⁶⁾.

In addition to type A PACs, cranberry also has other components such as anthocyanidins, flavonoids, phenolic acid, quinic, malic and citric acids, iridoids, ursolic acid, fructose and other sugars. The detection of greater hippuric acid excretion after cranberry consumption led to the idea that this acid could be responsible for urine acidification, postulated as a mechanism of action for impeding urinary infection.

Nevertheless, it's been shown that this amount of hippuric acid isn't enough to sufficiently acidify urine and have a bacteriostatic effect. It's also been shown recently that both phenols and anthocyanin compounds, and sugars and organic acids have an antibacterial effect. The first are related with the disintegration of the bacterial external membrane and the sugars and organic acids seem to be associated with an osmotic shock effect.

In a study revision to assess the use of cranberry for the prevention of urinary tract infection, the authors concluded that it significantly reduces the incidence of urinary infection in a period of 12 months, especially in women with recurring infections. In another study, the administration of cranberry was proven to reduce the risk of urinary tract infection by approximately 40%, being especially effective in cases of recurrence and in children⁽⁷⁾.

***Lactobacillus rhamnosus* UB5115:** Lactobacilli are predominant in the vagina of fertile women and impede mucosa colonization by uropathogenic microorganisms. This process is carried out by two mechanisms, the first related to the production of antimicrobial compounds such as organic acids, hydrogen peroxide and bacteriocins, and the second to pathogen co-aggregation^(8,9). In a study where *L. rhamnosus* and *L. fermentum* capsules were administered orally to 64 women, a reduction in vaginal colonization by pathogenic bacteria was observed⁽¹⁰⁾. In a recent study revision, it was concluded that lactobacilli are safe and effective for the prevention of urinary tract infection⁽¹¹⁾.

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