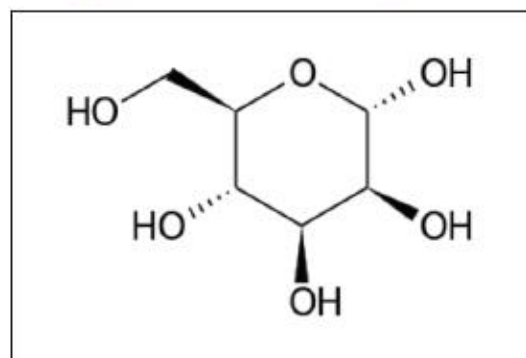


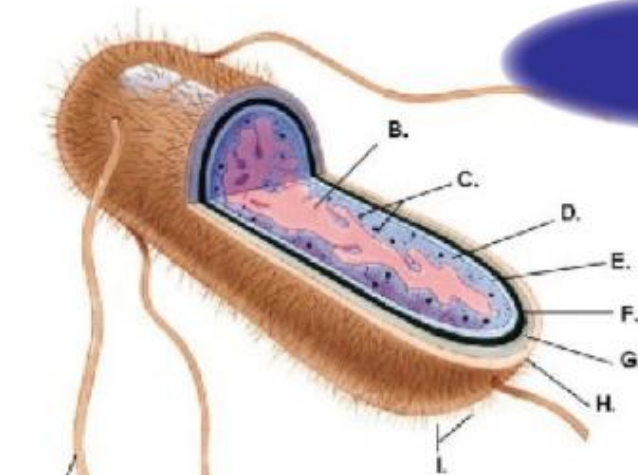
procistin

Birch Dry Extract
99% D-mannose tited



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procistin



100%
NATURAL

PREVENTS
E-COLI COHESION

PRESERVES PH
PHYSIOLOGICAL LEVELS
IN THE BLADDERS

- | | |
|--------------------|----------------------|
| A. Flagella | F. Periplasmic space |
| B. Nucleoid region | G. Cell wall |
| C. Ribosomes | H. Outer membrane |
| D. Cytosol | I. Pili |
| E. Plasma membrane | |

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Effectiveness of an association of a cranberry dry extract, D-mannose, and the two microorganisms *Lactobacillus plantarum* LP01 and *Lactobacillus paracasei* LPC09 in women affected by cystitis: a pilot study.

Vicariotto E¹.

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Prospective study to compare antibiosis versus the association of N-acetylcysteine, D-mannose and *Morinda citrifolia* fruit extract in preventing urinary tract infections in patients submitted to urodynamic investigation.

Palleschi G¹, Carbone A, Zanella PP, Mele R, Leto A, Fuschi A, Al Salhi Y, Velotti G, Al Rawashdah S, Coppola G, Maurizi A, Maruccia S, Pastore AL.

Analytical Chem. 2017 Apr 12. doi: 10.1021/acs.analchem.7b00062. [Epub ahead of print]

Comprehensive Analytical Approach toward Glycomic Characterization and Profiling in Urinary Exosomes.

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Effectiveness of an association of a cranberry dry extract, D-mannose, and the two microorganisms *Lactobacillus plantarum* LP01 and *Lactobacillus paracasei* LPC09 in women affected by cystitis: a pilot study.

[Vicariotto F¹](#).

Abstract

BACKGROUND: Urinary tract infections (UTIs) are the most common bacterial infection in women. Most UTIs are acute uncomplicated cystitis caused by *Escherichia coli* (86%). This study was undertaken to assess the effectiveness of an association of a cranberry dry extract, D-mannose, a gelling complex composed of the exopolysaccharides produced by *Streptococcus thermophilus* ST10 (DSM 25248) and tara gum, as well as the 2 microorganisms *Lactobacillus plantarum* LP01 (LMG P-21021) and *Lactobacillus paracasei* LPC09 (DSM 24243) in women affected by acute uncomplicated cystitis.

MATERIALS AND METHODS: Thirty-three premenopausal, nonpregnant women diagnosed with acute uncomplicated cystitis were enrolled in a pilot prospective study and completed the treatment protocol. Subjects were instructed to take 2 doses per day during the first month, and then to continue with 1 sachet per day until the sixtieth day. Nitrites and leukocyte esterase on urine dipstick testing were used as indicators of cystitis, with analysis performed at enrollment, after 30 and 60 days, and after 1 month of follow-up. Typical UTI symptoms, namely dysuria, frequent voiding of small volumes, urinary urgency, suprapubic pain, and gross hematuria were scored 0 to 3 and evaluated at each visit.

RESULTS: Positive results for the presence of nitrites and leukocyte esterase were found in 14 and 20 subjects after 30 days and in 9 and 14 women after 60 days, respectively ($P < 0.001$). At the end of the follow-up period, positive results for nitrites and leukocyte esterase were recorded in only 4 and 3 of 24 and 19 subjects (16.7%, $P = 0.103$; 15.8%, $P = 0.325$, respectively), with negative results after 60 days. Typical symptoms of cystitis, specifically dysuria, frequent voiding, urgency, and suprapubic pain were significantly improved as well. No significant differences were recorded in the incidence and severity of hematuria at any visit.

CONCLUSION: The long-term ability of an association of cranberry, D-mannose, an innovative gelling complex, and the 2 microorganisms tested to significantly improve the uncomfortable symptoms reported by women with acute cystitis has been suggested.

[Arch Ital Urol Androl](#). 2017 Mar 31;89(1):45-50. doi: 10.4081/aiua.2017.1.45.

Prospective study to compare antibiosis versus the association of N-acetylcysteine, D-mannose and *Morinda citrifolia* fruit extract in preventing urinary tract infections in patients submitted to urodynamic investigation.

[Palleschi G¹](#), [Carbone A](#), [Zanello PP](#), [Mele R](#), [Leto A](#), [Fuschi A](#), [Al Salhi Y](#), [Velotti G](#), [Al Rawashdah S](#), [Coppola G](#), [Maurizi A](#), [Maruccia S](#), [Pastore AL](#).

Abstract

BACKGROUND: The abuse of antimicrobial drugs has increased the resistance of microorganisms to treatments, thus to make urinary tract infections (UTIs) more difficult to eradicate. Among natural substances used to prevent UTI, literature has provided preliminary data of the beneficial effects of D-mannose, N-acetylcysteine, and *Morinda citrifolia* fruit extract, due to their complementary mechanism

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of action which contributes respectively to limit bacteria adhesion to the urothelium, to destroy bacterial pathogenic biofilm, and to the anti-inflammatory and analgesic activity. The purpose of this study was to compare the administration of an association of D-mannose, N-acetylcysteine (NAC) and Morinda citrifolia extract versus antibiotic therapy in the prophylaxis of UTIs potentially associated with urological mini-invasive diagnostics procedures, in clinical model of the urodynamic investigation.

METHODS: 80 patients eligible for urodynamic examination, 42 men and 38 women, have been prospectively enrolled in the study and randomised in two groups (A and B) of 40 individuals. Patients of group A followed antibiotic therapy with Prulifloxacin, by mouth 400 mg/day for 5 days, while patients of the group B followed the association of mannose and NAC therapy, two vials/day for 7 days. Ten days after the urodynamic study, the patients were submitted to urine examination and urine culture.

RESULTS: The follow up assessment didn't show statistical significant difference between the two groups regarding the incidence of UTI.

CONCLUSIONS: The association of mannose and NAC therapy resulted similar to the antibiotic therapy in preventing UTIs in patients submitted to urodynamic examination. This result leads to consider the possible use of these nutraceutical agents as a good alternative in the prophylaxis of the UTI afterwards urological procedures in urodynamics.

Analytical Chem. 2017 Apr 12. doi: 10.1021/acs.analchem.7b00062. [Epub ahead of print]

Comprehensive Analytical Approach toward Glycomic Characterization and Profiling in Urinary Exosomes.

Zou G, Benktander JD, Gizaw ST, Gaunitz S, Novotny MV.

Abstract

Exosomes are extracellular nano-sized vesicles with lipid bilayers encapsulating nucleic acids and proteins, both with and without glycosylation. While exosomal nucleic acids and proteins have previously been explored to identify cancer biomarkers with some promising results, little information has been available concerning their glycoconjugate content. Herein, we developed analytical methods to investigate glycosylation of urinary exosomes for future diagnostic and prognostic measurements pertaining to the malignancies of genitourinary tract. Exosomes were isolated from normal urine samples through multi-step differential centrifugation. The isolated exosomes have an average size of 146 nm and a spherical shape, as determined by dynamic light scattering and transmission electron microscopy, respectively. N-Glycans were enzymatically released from the isolated vesicles. After being reduced and permethylated, N-glycans were measured by MALDI mass spectrometry. Paucimannosidic, high-mannose, and complex type glycans were identified and their relative abundances were determined. Some detailed structures of these glycans were revealed through liquid chromatography/tandem mass spectrometry (LC/MS-MS). The reduced N-glycans, without being permethylated, were also separated and analyzed by LC/MS-MS, and their structures were further detailed through isomeric separation on porous graphitized carbon (PGC) packed in long capillaries. Using micro-fractionation before LC/MS-MS, minor multi-antennary N-glycans were preconcentrated as based on hydrophobicity or charge. Preconcentration of the reduced and permethylated glycans on a C18 cartridge revealed numerous large glycans, whereas fractionation of the reduced N-glycans by ion-exchange cartridges facilitated detection of sulfated glycans. After removing N-glycans from the original sample aliquot, O-glycans were chemically released from urinary exosomes and profiled, revealing some unusual structures.