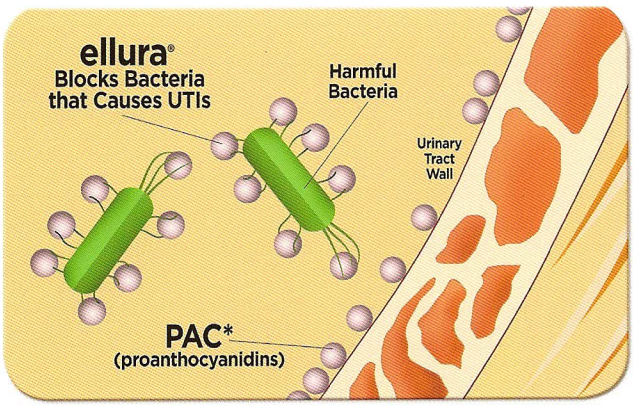
Non-antibiotic *intervention,* *proven* UTI prevention.

ellura is a medical-grade supplement that contains **36 mg PAC** (proanthocyanidins) – the clinically proven amount to promote bacterial anti-adhesion[1] – without the side effects or resistance associated with antibiotics



MECHANISM OF ACTION

The PAC in **ellura** helps to inhibit the adhesion of E. coli and other bacteria to the urinary tract wall. The bacteria are effectively neutralized and flushed out in the urine stream.

Reduce UTIs and related symptoms in long-term care residents

"I have a 78-year old patient in an assisted living facility with a history of diabetes, chronic kidney disease, peripheral neuropathy, urinary incontinence and loose stool with fecal incontinence. She presented to me with a decade long history of recurrent UTIs and was on multiple medications, including a daily antibiotic for UTI prophylaxis. I started her on ***ellura*** *and a probiotic, and was subsequently able to discontinue the antibiotic and other medications. She has been UTI-free since."*

— Sophie Fletcher, MD
Urologist

ellura is a medical-grade formulation.

- The bioactive ingredient PAC is extracted from **only** pure cranberry juice concentrate, not from the whole berry or presscake (i.e. skins, seeds and stems) which lacks the necessary amount of PAC
- 36 mg PAC is in every ellura capsule and is listed on the label. Other supplements list only mgs of extract as they do **not** contain the PAC needed for bacterial anti-adhesion
- **ellura** is supported by clinical studies

Compared to other supplements only ellura passes the test:

- 36 mg PAC in one daily capsule
- Maximum bacterial anti-adhesion
- Other products offer virtually none of the active ingredient necessary for bacterial anti-adhesion and to help prevent UTIs
  (i.e. UTI-Stat®; methenamine; D-mannose; Vitamin C; OTC supplements like AZO Cranberry®)

For less than $1 a day, ellura can:

> Reduce UTI incidence - avoid costly hospital readmissions and penalties

> Lessen cloudy and odorous urine, thus decreasing family requests for antibiotics

> Support your Antimicrobial Stewardship program

ellura®
36 mg PAC (proanthocyanidins)^{DMAC}

myellura.com

Email **info@trophikos.com** for additional information or call **1.877.421.7160**

1 J. P. Lavigne, G. Bourg, et al. In-vitro and in-vivo evidence of dose-dependent decrease of uropathogenic E. coli virulence after consumption of commercial Vaccinium macrocarpon (cranberry) capsules. Clin Microbiol Infect 2008; 14:350-355.

TRŌPHIKŌS, LLC

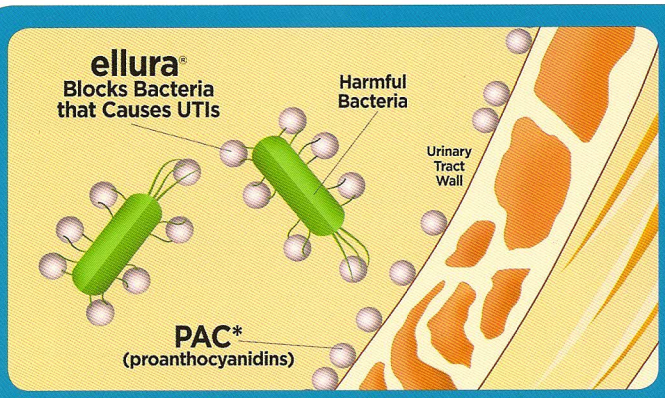
Break the cycle of recurrent UTIs

ellura®
36 mg PAC (proanthocyanidins)$^{DMAC/A2}$

Only ellura contains 36 mg PAC (proanthocyanidins) in one daily capsule and is proven effective as a non-antibiotic alternative for patients with recurrent urinary tract infections (UTIs).

Powerful bioactive ingredient (PAC) promotes bacterial anti-adhesion

The power behind **ellura** to protect against UTIs is 36 mg of PAC, the clinically proven amount necessary to promote bacterial anti-adhesion[1] and encourage healthy urinary flushing of UTI-causing bacteria.



MECHANISM OF ACTION

The PAC in **ellura** caps P. fimbriae of e.coli and other bacteria to inhibit adhesion to the epithelial cell lining of the urinary tract wall, the first step in development of a UTI. The bacteria are effectively neutralized and are then washed out with the urine stream.

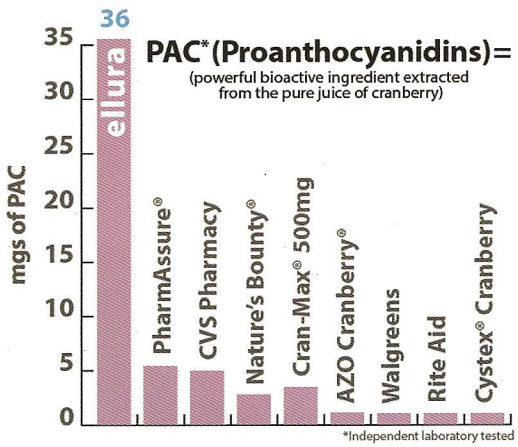
**Always measured using the standardized and industry-preferred DMAC/A2 method [4-(dimethylamino) cinnamaldehyde] to ensure efficacy*

Non-antibiotic alternative for recurrent UTI management

- ✔ **Fast-Acting: ellura** demonstrates activity in the urinary system in the first hour with peak onset in 6 hours.[2]
- ✔ **Maximum bioactivity offers ongoing protection:** Safe, once daily alternative to low-dose antibiotics which pose additional risk and side effects, especially in older patients and pediatrics (i.e. resistance, allergic reactions, stomach upset).
- ✔ **Stay ahead of recurrence: ellura** is ideal for patients presenting with recurrent UTIs or asymptomatic bacteriuria.

Medical-grade formulation that is unmatched

- ✔ **Complex, proprietary manufacturing process extracts high levels of Type-A PAC** from pure concentrate cranberry juice extract to ensure ellura efficacy. (Type-A PAC found only in the vaccinium macrocarpon species of the American cranberry)
- ✔ **Other products derive PAC from skins, stems and seeds of cranberries**, so anti-adhesion activity is relatively minor. (No other product has 36 mg PAC$^{DMAC/A2}$ in a once daily capsule.)



When comparing ellura with other cranberry products, **the active ingredient in ellura demonstrates exceptionally high bacterial anti-adhesion activity (AAA), PAC content and product stability.**[3]

(Amy Howell, Ph.D. - Rutgers University)

Other products claim high milligrams of cranberry extract – but do NOT mention PAC as amounts are too small to be effective. These have not been studied for use as viable prophylactic therapies.

ellura®
36 mg PAC (proanthocyanidins)DMAC

ellura® Studies and Clinical Paper Highlights

Following is a summary of published studies referencing ellura and validating its efficacy in promoting bacterial anti-adhesion. Measured by DMAC, a globally standardized method, ellura maintains 36 mg of PAC per capsule, considered to be the accepted amount for proven protection against UTIs. *Note: urell is the European brand name for ellura.*

In-vitro and in-vivo evidence of dose-dependent decrease of uropathogenic E. coli virulence after consumption of commercial Vaccinium macrocarpon (cranberry) capsules. J. P. Lavigne, G. Bourg, et al. Clin Microbiol Infect 2008; 14:350-355.

Highlights:

- o A significant dose-dependent decrease in bacterial adherence in vitro was noted after consumption of 36 mg of urell/ellura cranberry (proanthocyanidins) capsules ($p < 0.001$).
- o The in-vivo model confirmed that E. coli strains had reduced ability to kill C. elegans after growth in the urine of patients who consumed urell/ellura.
- o ellura capsules represent a new strategy in preventing urinary tract infections.

Dosage effect on uropathogenic E. coli anti-adhesion activity in urine following consumption of cranberry powder standardized for proanthocyanidins content: a multicenter randomized double blind study. Amy B. Howell, Henry Botto et al. BMC Infectious Diseases 2010, 10:94.

Highlights:

- o 36 mg of PAC (proanthocyanidins Type A) a day is necessary to inhibit bacterial adhesion to the epithelial cell lining of the urinary tract and is efficacious for UTI prevention.
- o 36 mg demonstrated anti-adhesion activity between hours 1 to 6, with peak onset at 6 hours. (evident by low anti-adhesion scores following urine sample analysis of both doses)
- o 72 mg of PAC (double-dose) may be taken for 2 days for maximum efficacy in protection against bacterial adhesion. Anti-adhesion benefits remained significant at 24 hours.

Cranberry (Vaccinium macrocarpon) and urinary tract infections: study model and review of literature. Dose response and T24 cell adhesion. JP Lavigne, G. Bourg, H. Botto, A. Sotto. Pathol Biol (Paris). 2007 Nov;55(8-9):460-4.

Highlights:

- o urell/ellura significantly decreased the adhesion of E.coli with a dose-dependent effect regardless of antibiotic resistance to bacteria.

TRŌPHIKŌS nutritive health

 Visit the Medical Professionals section of **myellura.com** for additonal information and to access studies.

Effectiveness of a cranberry (Vaccinium macrocarpon) preparation in reducing asymptomatic bacteriuria in patients with an ileal enterocystoplasty. Henry Botto & Yann Neuzillet. Scand J Urol Nephrol 2010, Vol. 44, No. 3, Pages 165-168.

Highlights:

- Treatment with a cranberry compound (urell/ellura) high in proanthocyanidins is effective in reducing asymptomatic bacteriuria in patients with an ileal enterocystoplasty (bladder reconstruction/augmentation).

Cranberries for preventing urinary tract infections (Review). Jepson et al. The Cochrane Library 2012, Issue 10.

Highlights:

- An updated review of studies: cranberry juice cannot currently be recommended for the prevention of UTIs.
- Other preparations need to be quantified using standardized methods to ensure the potency, and confirm they contain enough of the 'active ingredient' (36 mg PAC) for use in patients with recurrent UTIs. *Note: ellura contains 36 mg PAC.*

Pilot randomized controlled dosing study of cranberry capsules for the reduction of bacteriuria plus pyuria in female nursing home residents. Manisha Juthani-Mehta, MD, et al. Yale University. JAGS June 2012–Vol. 60, No. 6.

Highlights:

- Study shows dose-dependent trend toward decrease in e. coli bacteriuria plus pyuria, particularly with E. coli, in female nursing home residents ingesting 2 ellura capsules (72 mg) over 1 month.

Cranberry (ellura/urell) syrup vs. trimethoprim in the prophylaxis of recurrent urinary tract infections among children: a controlled trial. Jose Uberos, et al. University Clinical Hospital Granada, Spain, Open Access Journal of Clinical Trials 2012:4, p.31-38. *Note: syrup not yet available in the U.S.*

Highlights:

- Syrup derived from cranberry (with 36 mg PAC in every 5mL dose) was compared to trimethoprim
- Study confirms that proanthocyanidins syrup is safe for pediatrics and is equivalent to trimethoprim in respect to recurrent UTIs.
- Recurrent UTI patients, as well as those with vesicoureteral reflux went without an infection for more than 200 days when taking cranberry syrup (229 and 240 days, respectively).

Ongoing Studies

USA: Bilal Chughtai, MD et al. Weill Cornell Medical College; ellura for Preventing UTIs in Patients with Indwelling Catheters. Recruiting, Apr. 2014

