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Life Extension Update Exclusive

**Forskolin reduces urinary tract infections**

In a letter published online on April 8, 2007 in the journal *Nature Medicine*, Soman Abraham and his associates at Duke University Medical Center described their finding that an over the counter extract of the Indian coleus plant known as forskolin can significantly reduce urinary tract infections and could enhance the ability of antibiotics to destroy *E. coli*, the bacteria that cause most bladder infections. The herb is currently an ingredient in some body-building products, and is used to enhance lean body mass.

"This herb has been used in Asia for centuries for a wide variety of ailments," Dr Abraham said. "However, one of its constant uses has been for treating painful urination."

In several experiments using mice, the Duke team found that some bacteria retreat to cells lining the bladder where antibiotics cannot reach them. "After customary antibiotic treatment, the vast majority of the bacteria are either killed by the antibiotics or eliminated during urination," Dr Abraham explained. "However, there are small numbers of bacteria that survive antibiotic treatment because they sneak into the lining of the bladder, waiting for the opportunity, after antibiotic treatment, to come out and start multiplying again."

Although the lining of the bladder is resistant to penetration, pouchlike structures that enable the organ to stretch create niches in which *E. coli* can reside. By enhancing specific cellular activity, forskolin causes these pouches to flush their *E. coli* colonies into the urine, rendering the bacteria destructible by antibiotics.

Because the current research used injectable and intravenous forskolin, Dr Abraham is planning to test the compound's efficacy when administered orally. "This type of treatment strategy may prove to be beneficial for patients with recurrent urinary tract infections," Dr Abraham predicted. "Ideally, use of this herb would expel the bacteria, where it would then be hit with antibiotics. With the reservoir of hiding bacteria cleared out, the infection should not recur."

Health Concern

**Urinary tract infection (UTI)**

In a study in *JAMA*, researchers at Rutgers University and the University of Michigan assessed whether the consumption of cranberry juice cocktail prevented adhesion of antibiotic-resistant pathogenic *E. coli* to the uroepithelium in 39 women aged 18-39 years with confirmed UTIs (Howell et al. 2002). According to the researchers, after cranberry juice cocktail consumption, the urine prevented adhesion of 31 (80%) of the 39 isolates and 19 (79%) of the 24 antibiotic-resistant isolates in all bioassays, while preconsumption urine failed to prevent adhesion in any of the samples.

According to the study, the anti-adhesion activity was evident in the urine within 2 hours and persisted for up to 10 hours following ingestion of cranberry juice cocktail. In addition, the extracted cranberry juice pro-anthocyanidins inhibited adhesion of all isolates at concentrations ranging from 6-375 mcg/mL, demonstrating potent *in vitro* anti-adhesion activity against antibiotic-resistant strains. According to the researchers, these data suggest that consumption of cranberry juice cocktail may offer protection against both sensitive and resistant strains of P-fimbriated E. coli (the initial step in development of UTIs) and support previous findings which have found cranberry juice to be an effective alternative option in the treatment of UTIs (Howell et al. 2002).

Most people will find it difficult to drink sixteen 8-ounce glasses of cranberry juice a day. Fortunately, there are dietary supplements that will provide the equivalent of eight to sixteen 8-ounce glasses of cranberry juice in just one capsule. A major advantage of using cranberry juice concentrate supplements is that cranberry juice is high in sugar. If a person were to consume 8-16 glasses of cranberry juice each day, the high fructose intake would induce weight gain and possibly create other serious health problems.

<http://www.lef.org/protocols/prtcl-107.shtml>

## Featured Products

### Forskolin

The ancient medicinal plant *Coleus forskohlii* is the source of the compound forskolin which possesses unique biological activity. The basic mechanism of action of forskolin is the activation of an enzyme, adenylyl cyclase, which increases cyclic adenosine monophosphate (cAMP) in cells. Cyclic AMP is perhaps the most important cell-regulating compound. Once formed it activates many other enzymes involved in diverse cellular functions.

<http://www.lef.org/newshop/items/item00300.html>



### CranMax®

Cranberries have been known for decades to promote a healthy urinary tract. Each Life Extension Cran-Max® capsule contains 500 mg of cranberry concentrate to promote urinary tract health. Each Cran-Max® capsule also contains:

- The synergistic, complete spectrum activity of the entire cranberry plant
- A unique delivery system that protects its cranberry constituents from degradation
- Antioxidants

<http://www.lef.org/newshop/items/item00490.html>



## Events

### Food & Health Expo – Philadelphia, PA Sunday, April 15

Life Extension is a sponsor of the 15th annual **Food & Health Expo** hosted by the **Center for Advancement in Cancer Education** on Sunday, April 15 from 9-6 at the Loews Hotel, 12th and Market Streets. This annual event honoring National Nutrition Month includes expert speakers, food prep demos, free food and beverage samples, a health book store, a live auction and over 50 exhibitors emphasizing the value of whole foods, whole food supplements and other healthy lifestyle tools.

Presented in cooperation with the Mayor's Office of Health and Fitness, the Expo features **keynote speaker Dr. T. Colin Campbell**, world famous nutrition researcher and author of *The China Study*. Special guest Christina Pirello, host and chef of Christina Cooks TV, will be among those providing food preparation demonstrations. Regular admission is \$20 or \$10 for students and seniors 65+. For tickets call 888-551-2223 or go to [www.beatcancer.org/events.html](http://www.beatcancer.org/events.html)

**Prevention is the Cure Event – Miami, FL**  
**Thursday, April 19**

Life Extension also is a sponsor of the event to launch the South Florida Friends of the Center for Advancement in Cancer Education on Thursday, April 19, from 7:00 to 10:00 PM at 591 NW 27 Street.

Held at the stunning Margulies Collection at the Warehouse, it will be an evening of amazing art, music, food and friends. Participating sponsors include the Margulies Warehouse, International Artist Alexkey Sabido, Bacardi, Gourmet Station, We Take the Cake, Always Flowers, Ferllen Productions, Chocolate Restaurant South Beach, Members of the Galatea Camerata, *Life Extension*, *Natural Awakenings* and *Ultimate Health Living*.

Special guest include Sean Kenniff, MD - Health Specialist, CBS 4 and Susan Silberstein, PhD - Founder and Executive Director, Center for Advancement in Cancer Education.

The intention of the South Florida Friends of the Center, which will reach from Palm Beach to Coral Gables and from Miami to Naples, is to provide educational programs for the South Florida community, let people know where to turn if they have cancer, and, because the Center never turns away anyone in need, raise money to help the Center serve more individuals. The first cancer prevention educational programs we will be held in May in Miami, Coral Springs and Lantana. To RSVP for the event or to find out about the educational programs, call 305 807 3506 or go to [www.beatcancer.org/flyers/SouthFloridaEvent.html](http://www.beatcancer.org/flyers/SouthFloridaEvent.html)

If you have questions or comments concerning this issue or past issues of *Life Extension Update*, send them to [ddye@lifeextension.com](mailto:ddye@lifeextension.com) or call 954 202 7716.

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