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Research Reveals New Health Benefits of Cranberries and Confirms Role in Urinary Tract Health

NEW ORLEANS, April 22 /PRNewswire/ -- Cranberries may be tiny and tart, but their health benefits appear to be huge and sweet. Several studies presented at the Experimental Biology 2002 meeting this week and at the 223rd national meeting of the American Chemical Society earlier this month show that the ruby red berries were the most potent antioxidants among common fruits studied, possess anticancer properties, inhibit the growth of common foodborne pathogens and contain antibacterial properties to aid in the prevention of urinary tract infections (UTIs).

Potent Antioxidant and Potential Anti-Cancer Properties

In one study, biochemist Yuegang Zuo, Ph.D. from the University of Massachusetts-Dartmouth showed cranberry juice cocktail had the highest total phenol content compared of the 20 fruit juices tested. Phenolic compounds are natural antioxidants that help neutralize harmful free radicals in the body that are thought to be linked to most chronic diseases including cancer, heart disease and diabetes. The researchers state that "cranberry has the highest radical scavenging capacity among these different fruits studied." In a second study, Catherine Neto, Ph.D., assistant professor at the University of Massachusetts-Dartmouth, isolated several bioactive compounds from whole cranberries and found that flavonoids showed strong antioxidant activity, and newly discovered compounds in the berries were toxic to a variety of cancer tumor cells. "The tumor cell lines that these compounds inhibited most in our assays included lung, cervical, prostate, breast and leukemia," according to Neto.

Fights "Bad" Bacteria; Enables "Good" Ones to Thrive

Cranberries may also act as natural "probiotics" by enabling the good bacteria in the GI tract to thrive, while killing off the bad bacteria that promote infections and foodborne illnesses. A study by Leslie Plhak, Ph.D., at the University of Wisconsin-Madison found that whole frozen cranberries contained compounds that inhibited the growth of common foodborne pathogens, including *Listeria monocytogenes* and *E. coli* 0157:H7, but enhanced the growth of a beneficial bacterium *Lactobacillus fermentum* by as much as 25 times. According to the Centers for Disease Control, 76 million Americans contract foodborne illnesses annually, causing major intestinal distress, and, in rare cases, serious life-threatening conditions. "Components in cranberries are specifically inhibiting the growth of certain food-borne pathogens and may enable, or even promote, the survival of "good" bacteria, notes Plhak.

Confirmation on Urinary Tract Health

Previous research has shown that cranberries contain compounds called proanthocyanidins that may help prevent urinary tract infections (UTIs). A new study presented this week adds further support to the berry's urinary tract benefits, and begins to explain why cranberry may provide this unique health benefit.

According to a study presented at the Experimental Biology conference by Amy Howell, Ph.D. research scientist at the Marucci Center for Blueberry Cranberry Research at Rutgers University and Jess Reed, Ph.D., professor of nutrition at the University of Wisconsin-Madison, an eight-

ounce serving of cranberry juice cocktail -- but not the equivalent single servings of grape juice, apple juice, green tea or chocolate-prevented E. coli (the bacteria responsible for the majority of UTIs) from adhering to bladder cells in the urine of six volunteers. (UTIs occur when bacteria in the urine bind to cells of the urinary tract wall.) In addition, they analyzed the chemical composition of the proanthocyanidins in these foods, and according to Howell, "The cranberry's proanthocyanidins are structurally different than the proanthocyanidins found in the other plant foods tested, which may explain why cranberry has unique bacterial antiadhesion activity and helps to maintain urinary tract health."

The Federation of American Societies for Experimental Biology manages Experimental Biology 2002. The conference, which is being held in New Orleans, LA, from April 21-24, is attended by more than 15,000 scientists. Conference participants include the American Physiological Society, the American Society for Biochemistry and Molecular Biology and the American Society for Nutritional Sciences. The Federation of American Societies of Experimental Biology is the largest coalition of biomedical associations in the United States.

American Chemical Society (ACS) is a not-for-profit membership organization, founded in 1876 and chartered by a 1937 Act of the U.S. Congress. With a membership of nearly 159,000 chemists, chemical engineers, and other practitioners of the chemical sciences, it is the world's largest scientific society. ACS is recognized as a world leader in fostering scientific education and research, and promoting the public's understanding of science.

The Cranberry Institute is a not-for-profit organization founded in 1951 to further the success of U.S. and Canadian cranberry growers through education and research. The CI's research budget is focused on health and medical benefits of cranberry as well as topics related to pest control and environmental stewardship. For more information, go to <http://www.cranberryinstitute.org>.

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