



DECAS BOTANICAL SYNERGIES' NUTRICRAN[®] AO is a cost-effective high potency antioxidant powder scientifically-derived and made from cranberry and oregano extract. The synergistic blend contains high phenolic and rosmarinic acid, and delivers antioxidant activity exceeding 90% inhibition of free radical oxidation (DPPH). DPPH is a well-recognized and popular *in vitro* antioxidant measure. It measures the free radical scavenging effectiveness of a compound and not just the total antioxidant capacity as with other antioxidant methods. NutriCran[®] AO contains DBS' cranberry powder and RAD Natural Technologies, Ltd. Origanox[™] oregano extract and delivers superior antioxidant capabilities at a fraction of the cost.

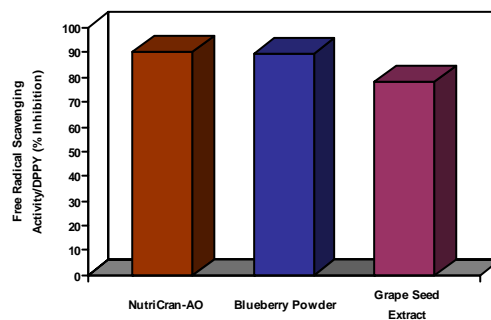
A BRAND YOU CAN TRUST

NutriCran[®] AO is a quality GRAS approved standardized product with uniform color, content, and flow. The NutriCran[®] logo is available via a royalty-free licensing agreement. Use of the NutriCran[®] trademark differentiates the product from other brand supplements or end products, and assures consumers that the product is supported by scientific research, is processed in a GMP manufacturing facility, and has received Kosher certification.

BENEFICIAL ATTRIBUTES	MARKET APPLICATIONS
<ul style="list-style-type: none"> 🌸 Superior source of antioxidants (90% radical inhibition (DPPH)) 	<ul style="list-style-type: none"> 🌸 Natural supplements
<ul style="list-style-type: none"> 🌸 Very cost-effective 	<ul style="list-style-type: none"> 🌸 Sports and health beverages
<ul style="list-style-type: none"> 🌸 Supports urinary tract health 	<ul style="list-style-type: none"> 🌸 Fortified nutrition bars
<ul style="list-style-type: none"> 🌸 Rich in flavonoids and rosmarinic acid 	<ul style="list-style-type: none"> 🌸 Dental hygiene products
<ul style="list-style-type: none"> 🌸 Low in calories, high in phytonutrients 	<ul style="list-style-type: none"> 🌸 Healthy snacks and weight management products
<ul style="list-style-type: none"> 🌸 100% water soluble 	<ul style="list-style-type: none"> 🌸 Cosmetics

OPTIMUM ANTIOXIDANT ACTIVITY

Reactive oxygen and free radicals occur through normal body metabolism, leading to damage of cell membranes, DNA, protein, and other cell functions, resulting in negative effects on aging and health. Fighting oxidation effects by inhibiting reactive oxygen and free radicals, cells can function optimally, and the body can fight infection and illness. NutriCran[®] AO is a high antioxidant powder that may provide advantages – above and beyond maintenance of urinary tract health – for supporting the prevention of oxidative damage for increased health.



EXPERIENCE THE DECAS DIFFERENCE

Decas Botanical Synergies (DBS), a division of Decas Cranberry Products, Inc., is a developer, manufacturer, and marketer of proprietary value-added fruit derived ingredients for the dietary supplement, functional foods, animal feed and nutrition, personal care and cosmetics, and oral health industries. Specializing in cranberries, DBS' Fruitaceutical™ products are rich in natural bioflavonoid complexes, which provide manufacturers with powerful antioxidant, antimicrobial, and nutritional properties, and a natural colorant for a broad variety of applications. DBS' powders, extracts, and oils offer cost-effective and natural options to enhance the taste, color, function, and nutritional content of products.

REFERENCES

- Chun, S-S., Vattem, D.A., Lin, Y-T. and Shetty, K. (2005) Phenolic antioxidants from clonal oregano (*Origanum vulgare*) with antimicrobial activity against *Helicobacter pylori*. *Process Biochemistry*, 40: 809-816.
- Strycharz, S. and Shetty, K. (2002) Response of oregano (*Origanum vulgare*) clonal lines to *Pseudomonas* sp. Z strain and polydye R-478 and implications for hyperhydricity prevention in tissue culture. *Process Biochemistry*, 38:343-350.
- Avorn, J., et al., Reduction of bacteriuria and pyuria after ingestion of cranberry juice. *JAMA*, 1994; 271(10):751-754.
- Howell AB, et al., Inhibition of adherence of P-fimbriated *Escherichia coli* to uroepithelial-cell surfaces by proanthocyanidin extracts from cranberries. *N Engl J Med*. 1998; 339:1085-1086.
- Howell AB, et al., Cranberry juice and adhesion of antibiotic-resistant uropathogens, *JAMA*, 2002; 287(23):3082-3083.
- Knekt, P., et al., Flavonoid intake and risk of chronic diseases, *Am J Clin Nutr*, 2002, Sep;76(3):560-8.
- Lee, YL, Does cranberry juice have antibacterial activity? *JAMA*, 2000; 283(4):1691.
- National Institutes of Health, *Urinary Tract Infections in Adults*, 1999.
- Reed, J., Cranberry flavonoids, atherosclerosis and cardiovascular health, *Critical Reviews in Food Science & Nutrition*, 2002; 42(Suppl.):301-316.
- Shetty, K., et al., Food-borne pathogens, health and role of dietary phytochemicals, *Asia Pacific J Clin Nutr*, 1998; 7(314):270-276.
- Stothers, L., A randomized trail to evaluate effectiveness and cost effectiveness of naturopathic cranberry products as prophylaxis against urinary tract infection in women, *The Canadian Journal of Urology*, 2002, June; 9(3): 1558 – 1562.
- Sun, J., Liu, R., et al., Antioxidant and antiproliferative activities of common fruits, *J of Agricultural and Food Chem*, Sept. 24, 2002.
- Swartz, J., et al., Properties of Cranberry Juice, *Applied Microbiology*, 1968, Oct.; 16(10):1524-1527.
- Wang, H., et al., Total antioxidant capacity of fruits, *J Agricultural & Food Chem*, 1996; 44:701-705.
- Wang, H., et al., Oxygen radical absorbing capacity of anthocyanins, *J Agricultural & Food Chem*, 1997; 45:304-309.
- Weiss, E., et al., Inhibiting interspecies coaggregation of plaque bacteria with a cranberry juice constituent. *J Am Dent Assoc.*, 1998, Dec; 129(12):1719-1723.
- Wilson, T., et al., Cranberry extract inhibits low density lipoprotein oxidation. *Life Sciences*, 1998; 62(24):381-386.
- Youdim, K., et al., Potential role of dietary flavonoids in reducing microvascular endothelium vulnerability to oxidative and inflammatory insults, *J Nutr Biochem*, 2002, May;13(5):282-288.