

Argizyme™

Nutritional Support for the Urinary System

Kidney and Renal Function

The primary function of the urinary system is to help the body control the composition and volume of blood. It removes and restores selected amounts of solutes and water. The system consists of the kidneys, the ureter, the urinary bladder and the urethra. The kidneys regulate key ingredients in blood: water, electrolytes and blood pH. They also excrete waste products and toxic materials processed by the liver. By regulating water excretion in the urine, they help regulate blood pressure as well. Each kidney contains approximately 1 million filtration units called nephrons, which filter about 180L (47.55 gal) of fluid daily.⁽¹⁾ Only a small fraction of the filtered fluid, about 2 liters, leaves as urine.

The filtrate from the glomerulus contains small molecules like water, dissolved minerals — sodium, potassium, chloride — urea, glucose and creatinine. Most electrolytes, glucose and water are resorbed and recycled. Therefore, urine represents concentrated wastes. The filtrate passes through tubules of the nephron. They help regulate the sodium content and the pH of the blood by exchanging electrolytes like ammonia, hydrogen ions, potassium, chloride and bicarbonate.

Hormones regulate kidney function. Antidiuretic hormone increases water loss from cells, allowing more water to pass back into the blood. Aldosterone levels increase in response to decreased blood sodium, leading to sodium resorption and water retention. The kidneys also produce hormones: calcitriol (from vitamin D), erythropoietin and renin.

Nutritional Support

Antioxidants

Natural, mixed carotenoids. Carotenoids including alpha and beta carotene, lutein and zeaxanthin, function as scavengers of singlet oxygen, especially at low oxygen tension as exists within cells. A possible synergy between carotenoids and tocopherols has been suggested based on in vitro studies.⁽²⁾ Carotenoids are implicated

in maintaining a healthy immune response.⁽³⁾ Natural, mixed carotenoids were better absorbed and functioned as more effective antioxidants in human than synthetic beta carotene.⁽⁴⁾

Vitamin C. Multiple functions of vitamin C are noted for this essential nutrient. It is able to scavenge free radicals and protect cells independently of alpha tocopherol.⁽⁵⁾ Vitamin C, by interacting with vitamin E and Coenzyme Q₁₀, is believed to protect cell membranes from peroxidation.⁽⁶⁾

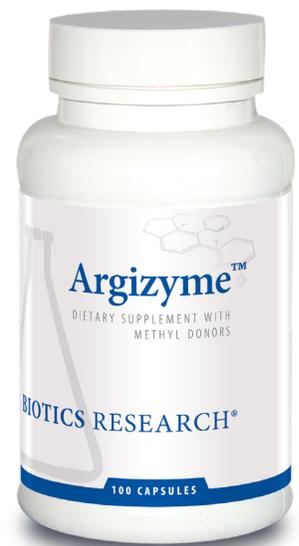
Amino Acids

L-Leucine and L-Valine. These two amino acids represent essential, branched chain amino acids. As such, they are preferentially used by skeletal muscle as energy sources. Supplemental sources can increase blood levels of these amino acids. Metabolic acidosis can induce negative nitrogen balance, including increased oxidation of branched chain amino acids by muscle.⁽⁷⁾ Correction of metabolic acidosis normalized intracellular concentrations of branched chain amino acids in an animal model. Valine, in particular, supports salt transport and facilitates glucose oxidation.⁽⁸⁾

L-Alanine. This amino acid is formed by the transamination of glutamate with pyruvate in the liver, kidney and intestine. Therefore, carbohydrate metabolism is linked to amino acid metabolism in these tissues. Blood alanine is transported to these organs, where it can be transaminated back to pyruvate, which yields glucose via the gluconeogenic enzyme pathway.

Fiber and flavonoids

Rice Bran. Dietary fiber is fermented by intestinal bacteria to produce short chain fatty acids, an essential fuel and trophic factor for colonocytes.⁽⁹⁾ By helping to maintain gut integrity, short chain



BIOTICS
RESEARCH
CORPORATION
*Utilizing "The Best of Science and Nature"
to Create Superior Nutritional Supplements*



(905)476-3554

BioticsResearchCanada
Box283KeswickOnL4P3E2
orders@bioticscan.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

fatty acids can decrease the aspects of leaky gut.⁽¹⁰⁾ Bran-enriched diets for animals were shown to increase gastrointestinal transit time and thus decrease retention of a food carcinogen by liver and kidney.⁽¹¹⁾ Rice bran supplemented diets were reported to decrease urinary calcium excretion and to increase urinary oxalate and urinary phosphate in people with idiopathic hypercalciuria.⁽¹²⁾

Beet Powder. Powdered beets added to the diet of lab animals apparently inhibited the activity of hepatic ethoxycoumarin O-deethylase activity.⁽¹³⁾ Beets provide betaine and trimethylglycine which serves as a universal methyl donor for methyl transfer reactions. In addition, red beet pigments represent anthocyanidins. This class of flavonoids possesses marked antioxidant properties.⁽¹⁴⁾

Other Nutritional Support

Tillandsia. Tillandsia contains coumarin, a resin with antiviral properties, in addition to minerals such as iron and magnesium, fiber, beta carotene, chlorophyll and B complex vitamins. An antibacterial component was isolated in 1952 and a component with weak estrogenic activity in 1953.⁽¹⁵⁾ Folk traditions have employed Tillandsia as a tonic. Neonatal bovine liver. Biotics neonatal glandulars are obtained from newborn animals. The glands characteristically possess high anabolic activity. The glands are processed to maintain polypeptides and other nutritionally important factors to support specific organ function: kidney, thymus and liver. It is worth pointing out that Biotics Research Corporation's neonatal glandulars have been minimally exposed to environmental factors to which adult animals have been subjected. For example, independent lab testing indicated that levels of pesticides if present at all, are below the limits of detection.

Product Adjuncts: **Renal Plus™**, **Cytozyme-KD™**.

References

- Hole JW. Human Anatomy and Physiology. 3rd Edition p.761.
- Di Mascio P, Murphy ME, and Sies H. Antioxidant defense systems: the role of carotenoids, tocopherols, and thiols. *Am J Clin Nutr* 1991; 53: 194S-200S.
- Jyonouchi H, Zhang L, Gross M and Tomita Y. Immuno-modulating Actions of Carotenoids: Enhancement of *In Vivo* and *In Vitro* Antibody Production of T-Dependent Antigens. *Nutr Cancer* 1994; 21: 47-58.
- Ben-Amotz A and Levy Y. Bioavailability of a natural isomer mixture compared with synthetic all-trans- carotene in human serum. *Am J Clin Nutr* 1996; 63: 729-734.
- Glascott PA, Jr., Tsyganskaya M, Gilfor E, Zern MA and Farber JL. The Antioxidant Function of the Physiological Content of Vitamin C. *Molecular Pharmacology* 1996; 50: 994-999.
- Myer RE. The role of ascorbate in antioxidant protection of biomembranes: interaction with Vitamin E and Coenzyme Q. *Bioenerg Biomembr* 1994; 26 (4): 349-358.
- Bergstrom J. Metabolic acidosis and nutrition in dialysis patients. *Blood Purif* 1995; 13 (6): 361-367.

- Levillain O. Valine oxidation in the rat medullary thick ascending limb. *Pflugers Arch* 1993; 424 (5-6): 398-402.
- Smith JG and German JB. Molecular and Genetic Effects of Dietary Derived Butyric Acid. *Food Technology* 1995; 87.
- Koruda MJ, Rolandelli RH, Bliss DZ, Hastings J, Rombeau JL and Settle RG. Parenteral nutrition supplemented with short-chain fatty acids: effect on the small-bowel mucosa in normal rats. *Am J Clin Nutr* 1990; 51: 685-689.
- Sjodin P, Nyman M, Nielsen LL, Wallin H and Jagerstad M. Effect of dietary fiber on the disposition and excretion of a food carcinogen (2-14C-labeled MeIQx) in rats. *Nutr Cancer* 1992; 17 (2): 139-151.
- Ebisuno S, Morimoto S, Yoshida T, Fukatani T, Yasukawa S and Ohkawa T. Rice-bran treatment for calcium stone formers with idiopathic hypercalciuria. *Br J Urol* 1986; 58 (6): 592-595.
- Bradfield CA, Chang Y and Bjeldanes LF. Effects of commonly consumed vegetables on hepatic xenobiotics- metabolizing enzymes in the mouse. *Food Chem Toxicol* 1985; 23 (10): 899-904.
- Satu,-Gracia M. Teresa, Heinonen Marina, Frankel Edwin N. Anthocyanins as Antioxidants on Human Low-Density Lipoprotein and Lecithin-Liposome Systems. *J. Agric. Food Chem*, 1997; 45: 3362-3367.
- Witherup KM, McLaughlin JL. Identification of 3-Hydroxy-3-Methylglutaric Acid (HMG) as a Hypoglycemic Principle of Spanish Moss (*Tillandsia usneoides*). *Journal of Natural Products* 1995; 58 (8): 1285-1290.

Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving	% Daily Value
Vitamin A (as natural mixed carotenoids)	285 mcg RAE	32%
Vitamin C (as calcium ascorbate)	15 mg	17%
Proprietary Blend	630 mg	
Organic Beet Concentrate (Beta vulgaris) (whole)		*
Rice Bran Powder		*
Organic Vegetable Culture † (including 20 mcg each of SOD and Catalase)		*
Rice Syrup Solids		*
Organic Beet Culture (Beta vulgaris) (whole)		*
Neonatal Liver Concentrate (bovine)		*
Spanish Moss (Tillandsia usneoides) (whole)		*
L-Leucine		*
L-Cysteine hydrochloride		*
L-Valine		*
L-Alanine		*

* Daily Value not established

Other ingredients: Capsule shell (gelatin and water).

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

Substance with hair-like appearance is actually Spanish moss fibers.

This product is gluten and dairy free.

RECOMMENDATION: One (1) capsule three (3) times each day as a dietary supplement or as otherwise directed by a healthcare professional.

CAUTION: Not recommended for pregnant or lactating women.

KEEP OUT OF REACH OF CHILDREN

Store in a cool, dry area.

Sealed with an imprinted safety seal for your protection.

Product # 7050 Rev. 04/18

To place your order for **Argizyme™** or for additional information please contact us below.



BIOTICS
RESEARCH
CORPORATION
Utilizing "The Best of Science and Nature"
to Create Superior Nutritional Supplements



(905)476-3554

Biotics Research Canada
Box 283 Keswick On L4P 3E2
orders@bioticscan.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.