## **Biost**®

# A Special Combination Formula That Supports Cellular and Skeletal Health

Bone serves a myriad of functions beyond providing shape and support for the body. Bone stores essential mineral salts, while bone marrow provides a manufacturing plant for the formation of blood cells. Manganese is necessary for bone growth, development, and replacement. Manganese is involved with the health and maintenance of ligaments and tendons, as demonstrated in numerous animal studies. Manganese helps to form cartilage and synovial fluid and is required to synthesize bone. Manganese is also necessary (in small quantities) for protein and fat metabolism. Manganese supports healthy nerves and strengthens immunity while also playing a role in blood-sugar regulation and energy production. †

## How Biost Keeps You Healthy

### Maintains cellular health

Protomorphogen™ extract is the brand name of Standard Process' extracts derived from nucleoprotein-mineral molecules. The foundation for the function of these uniquely formulated, nucleoprotein-mineral extracts comes from the antigen-antibody reaction that takes place during normal cell maintenance. The antigenic properties promote healthy cellular division, function, and growth. When a tissue needs support, at least a dozen different compounds are formed that can cause white blood cells to travel together toward the compromised area. These compounds include degenerative products of the tissues themselves. They strongly activate the macrophage system, and within a few hours, the macrophages begin to devour the destroyed tissue byproducts. At times, the macrophages can also affect the structure of the remaining healthy cells. The veal bone PMG™ extract in Biost appears to neutralize the circulating antibodies, thereby contributing to the maintenance of cellular health. †

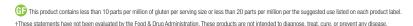
### Supports skeletal health

Manganese acts as a catalyst and a cofactor in many enzymatic processes important in skeletal and connective-tissue development. Manganese is necessary for appropriate bone growth and development. Manganese plays a prominent role among the enzymes necessary for mucopolysaccharide synthesis. Mucopolysaccharide is an important constituent of the bone and cartilage structural matrix, as well as in the health and maintenance of ligaments and tendons.

### Improves calcium absorption

While many people fail to take in adequate amounts of calcium from their diets, their calcium intake is further compromised by consuming food or drinks that inhibit calcium absorption or that contain calcium in a complex state. Calcium lactate is a very soluble and highly bioavailable calcium salt, changing to calcium bicarbonate (the type used by the body) in one chemical step. Unlike other forms of calcium that are largely insoluble in water and need acid conditions in order to be absorbed, Standard Process' calcium lactate is highly soluble in water (a neutral pH) and does not depend on acidic conditions to function.

Please copy for your patients.





### Introduced in 1954



### Content:

90 tablets 360 tablets

**Suggested Use:** One tablet per meal, or as directed.

### **Supplement Facts:**

Serving Size: 1 tablet

Servings per Container: 90 or 360

Amount per Serving

er Serving %DV

| Calories  | 1     |      |
|-----------|-------|------|
| Manganese | 6 mg  | 300% |
| Sodium    | 10 mg | <1%  |

\*Percent Daily Values (DV) are based on a 2,000-calorie diet.

### Proprietary Blend: 250 mg

Veal bone PMG<sup>™</sup> extract, calcium lactate, and magnesium citrate.

Other Ingredients: Manganese lactate, honey, cellulose, and calcium stearate.

Each tablet supplies approximately: 170 mg veal bone PMG™ extract.

Sold through health care professionals.



## **Biost®**

## What Makes Biost Unique

#### **Product Attributes**

## Contains a unique blend of ingredients for a variety of nutritional benefits

> Veal bone PMG™ extract contains bone tissue and bone marrow, providing natural support for the healthy formation of red blood cells<sup>†</sup>

## Contains Protomorphogen<sup>™</sup> extracts

- > Standard Process uses a unique manufacturing method of deriving tissue cell determinants from animal glands and organs
- Help provide cellular support and rehabilitation to the corresponding human tissues
- > Important antigenic properties of nucleoprotein-mineral determinants are the foundation of the product<sup>†</sup>

### The calcium lactate in Biost is a pure-vegetable source of calcium

Not derived from a dairy source

## Manufacturing and Quality-Control Processes Low-temperature, high-vacuum drying technique

> Preserves the enzymatic vitality and nutritional potential of ingredients

## Not disassociated into isolated components

> The nutrients in Biost are processed to remain intact, complete nutritional compounds

Degreed microbiologists and chemists in our on-site laboratories continually conduct bacterial and analytical tests on raw materials, product batches, and finished products

> Ensures consistent quality and safety

### Vitamin and mineral analyses validate product content and specifications

> Assures high-quality essential nutrients are delivered

#### Whole Food Philosophy

Our founder, Dr. Royal Lee, challenged common scientific beliefs by choosing a holistic approach of providing nutrients through whole foods. His goal was to provide nutrients as they are found in nature—in a whole food state where he believed their natural potency and efficacy would be realized. Dr. Lee believed that when nutrients remain intact and are not split from their natural associated synergists-known and unknown—bioactivity is markedly enhanced over isolated nutrients. Following this philosophy, even a small amount of a whole food concentrate will offer enhanced nutritional support, compared to an isolated or fractionated vitamin. Therefore, one should examine the source of nutrients rather than looking at the quantities of individual nutrients on product labels.

Studies on nutrients generally use large doses and these studies, some of which are cited below, are the basis for much of the information we provide you in this publication about whole food ingredients. See the supplement facts for Biosts

Anderson L.E. 1998. Mosby's Medical, Nursing, & Allied Health Dictionary, 5th ed. Mosby; St. Louis, 213, 985

Aschner M., et al. Manganese uptake and distribution in the central nervous system. Neurotoxicology. Apr.-Jun 1999; 20(2-3): 173-180.Balch J.F., Balch P.A. 1997. Prescription for Nutritional Healing. 2nd ed.

Avery Publishing Group: Garden City Park, 26-27. Carter S.D., et al. Effects of porcine somatotropin on calcium and phosphorus balance and markers of bone metabolism in finishing pigs Journal of Animal Science. Aug 1999; 77(8): 2163-2171.

Dale L., Jones C.M. BMP signaling in early Xenopus development. Bioessays. Sep 1999; 21(9): 751-760. Fechter L.D. Distribution of manganese in development. Neurotoxicology. Apr-Jun 1999: 20(2-3): 197-201.

Finites J.W. Manganese absorption and retention by young women is associated with serum ferritin concentration. *American Journal of Clinical Nutrition*. Jul 1999; 70(1): 37-43.

Geesink R.G., et al. Osteogenic activity of OP-1 bone morphogenetic protein (BMP-7) in a human fibular defect. *British Journal of Bone and Joint Surgery*. Jul 1999; 81(4): 710-718.

Gong H., Amemiya T. Corneal changes in manganese-deficient rats Cornea, Jul 1999: 18(4): 472-482.

Goud S.N. Effects of sublethal radiation on bone marrow cells: induction of apoptosis and inhibition of antibody formation. *Toxicology*. Jul 15 1999; 135(2-3): 69-76.

Greger J.L. Nutrition versus toxicology of manganese in humans: evaluation of potential biomarkers. *Neurotoxicology*. Apr-Jun 1999; 20(2-3):

Guyton A.C., Hall J.E. Genetic Control of Protein Synthesis, Cell Function, and Cell Reproduction. Textbook of Medical Physiology. 37 Guyton A.C., Hall J.E. Inflammation and function of macrophages. Textbook of Medical Physiology. 9th ed. 439.

Guyton A.C., Hall J.E. White blood cells and chemotactic attraction.

Textbook of Medical Physiology. 9th ed. 434.

Keen C.L., et al. Nutritional aspects of manganese from experimental studies. Neurotoxicology. Apr.-Jun 1999; 20(2-3): 213-223.

Kiningham K.K., et al. Overexpression of manganese superovide dismutase protects against mitochondrial-initiated poly (ADP-ribose) polymerase-mediated cell death. FASEB J. Sep 1999; 13(12): 1601-1610. Lai J.C., et al. Manganese mineral interactions in brain, Neurotoxicology

Apr-Jun 1999; 20(2-3): 433-444.
Leibovitz B. 1991. Nutrition Update. 5(2).
Mori T., et al. Substance P Regulates the Function of Rabbit Cultured Osteoclast: Increase of Intracellular Free Calcium Concentration and Enhancement of Bone Resorption. *Biochemical Biophysical Research Communication*. Aug 27 1999; 262(2): 418-422.

Pfeiffer C.C. 1978. Zinc and Other Micronutrients. 66. Frailine Co. 1910. The arthor unannountainens. Scripting and the properties of manganese in iron-induced brain lipid peroxidation and copper-deficient low density lipoprotein conjugation. *Neurotoxicology*. Apr.-Jun 1999; 20(2-3):

455-66. Taal M.W., et al. Risk factors for reduced bone density in haemodialysis patients. Nephrol Dial Transplant. Aug 1999; 14(8): 1922-1928. Taber's Cyclopedic Medical Dictionary. 18th ed. 1997. 248. van Mossevelde B. Culinary Cures: Calcium Fortification, Food Product Design. Sept 1997, 69-70.



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