

# Ostarplex®

## Contributes to Skeletal System Health

More than 100 years ago, French physiologist Claude Bernard called the fluid in which all cells live, grow, and perform their various functions the “internal environment” or the “milieu interieur.” The chloride ions found in betaine hydrochloride and ammonium chloride are important and substantial components of this internal environment as they work to provide just the right amount of nutrients and electrolytes to all living cells. Chloride ions also play a predominant role in sustaining water balance among cells. Veal bone PMG™ extract serves a myriad of functions beyond providing shape and support for the body. Together, these ingredients contribute to the overall functioning and well-being of the skeletal system through a number of physiological processes.†

## How Ostarplex 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 Ostarplex appears to neutralize the circulating antibodies, thereby contributing to the maintenance of cellular health.†

More than half the human body is made up of fluid. Almost one third of that fluid lies outside each cell and contains substantial amounts of chloride ions. This fluid is continually moving throughout the body to reach and feed all living cells with essential nutrients required to keep cells alive and performing properly. The chloride ions also help maintain a proper acid-base or pH balance at the cellular level.†

### Promotes healthy joints

The Arabs, who first discovered alfalfa, deemed it the “father of all foods” for its many nutritional benefits. Alfalfa contains vitamin complexes A, B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>6</sub>, C, and K. Mineral complexes calcium, copper, iron, manganese, magnesium, phosphorus, potassium, zinc, chlorine, sulfur, sodium, silicon, and some trace minerals are also found in alfalfa. Alfalfa proteins also supply enzymes and such essential amino acids as arginine, lysine, threonine, and tryptophan. Both pantothenic and folic acids are also found in alfalfa. Numerous studies point to the importance of these vital nutrients in maintaining strong skeletal tissue.†

*Please copy for your patients.*



Introduced in 1958

**Content:**  
40 capsules

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

**Supplement Facts:**

Serving Size: 1 capsule  
Servings per Container: 40

	Amount per Serving	%DV
Calories	2	
Riboflavin	0.1 mg	6%
Niacin	1.3 mg	6%
Vitamin B <sub>6</sub>	0.2 mg	15%

**Proprietary Blend:** 430 mg

Alfalfa flour, nutritional yeast, veal bone PMG™ extract, betaine hydrochloride, arrowroot flour, ammonium chloride, potassium citrate, soy (bean), choline bitartrate, bovine liver, phosphoric acid, porcine stomach, calcium lactate, manganese glycerophosphate, bovine adrenal, magnesium citrate, bovine spleen, ovine spleen, licorice (root), defatted wheat (germ), para-aminobenzoate, inositol, allantoin, porcine brain, and ascorbic acid.

Other Ingredients: Gelatin, water, calcium stearate, colors, niacinamide, pyridoxine hydrochloride, and riboflavin 5'-phosphate.

Each capsule supplies approximately:  
40 mg veal bone PMG™ extract, 35 mg betaine hydrochloride, and 30 mg ammonium chloride.

**Sold through health care professionals.**



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# Ostarplex<sup>®</sup>

## How Ostarplex Keeps You Healthy (continued)

### Supports joint health

Joint discomfort is sometimes accompanied by reduced serotonin levels. Vitamins and amino acids capable of stimulating serotonin production, such as vitamin B<sub>6</sub>, can improve joint comfort.<sup>†</sup>

## What Makes Ostarplex Unique

### Product Attributes

#### 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>

### Certified Organic Farming

A healthy ecosystem is created by using organic farming techniques, such as rotating crops, fertilizing the soil with nutrient-rich cover crops and byproducts from our processing, practicing strict weed-control standards, and continually monitoring the health of our plants

- › Assures the soil is laden with minerals and nutrients
- › Ensures plants are nutritionally complete and free from synthetic pesticides

### Manufacturing and Quality-Control Processes

Upon harvesting, nutrient-rich plants are immediately washed and promptly processed

- › Preserves nutritional integrity

### Low-temperature, high-vacuum drying technique

- › Preserves the enzymatic vitality and nutritional potential of ingredients

### Not disassociated into isolated components

- › The nutrients in Ostarplex 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 Ostarplex<sup>®</sup>.

- Aberghina L., et al. Control of nutrients of growth and cell cycle progression in budding yeast, analyzed by double-tag flow cytometry. *Journal of Bacteriology*, Aug 1998; 180(15): 3864-3872.
- Annam J.C. 1963. Pantothenic Acid and Osteoarthritis. *Lancet*: 2:1168.
- Annam J.C. 1962. Osteoarthritis and Pantothenic Acid. *Lancet*: *J Coll Gen Pract* 5:136-137.
- Augustine P.C., et al. Effect of betaine on the growth performance of chicks inoculated with mixed cultures of avian *Eimeria* species and on invasion and development of *Eimeria tenella* and *Eimeria acervulina* in vitro and in vivo. *Poultry Science*, Nov 1997; 76(11): 1623.
- Bernstein A.L. 1990. Vitamin B<sub>6</sub> in neurology. *Am N Y Acad Sci* 585:250-260.
- Bathena S., et al. 1986. Decreased plasma enkephalins in copper deficiency in man. *American Journal of Clinical Nutrition*, 43:42-46.
- Bisnick T., et al. Non-detergent sulphobetaines enhance the recovery of membrane and/or cytoskeleton-associated proteins and active proteases from erythrocytes infected by *Plasmodium falciparum*. *European Journal of Biochemistry*, Mar 15 1998; 252(3): 37-41.
- Bode W., et al. 1991. Influence of age and sex on Vitamin B<sub>6</sub> vitamin distribution and on Vitamin B<sub>6</sub> metabolizing enzymes in Wistar rats. *American Institute of Nutrition*, 318-324.
- Bruce A., et al. 1981. The Proceedings of the Nutritional Society of New Zealand. Dunedin: University of Otago. 92.
- Cerrato P.L. Pasta: the perfect pick-me-up? *RN*, May 1992, 79-82.
- D'Amico F., et al. Relationship of Vitamin B<sub>6</sub> Deficiency with Incontinence in Older People. *JAGS*, July 1998; 46(7): 931.
- Fu Q.G., et al. 1998. B vitamins suppress spinal dorsal horn nociceptive neurons in the cat. *Neurosci Lett*, 95(1-3): 192-197.
- Goff J.P., Horst R.L. Use of hydrochloric acid as a source of anions for prevention of milk fever. *Journal of Dairy Science*, Nov 1998; 81(11): 2874-2880.
- Guyton A.C., Hall J.E. 1997. *Human Physiology and Mechanisms of Disease*. 6th ed. W.B. Saunders Company. 6, 7.
- Hanck A., Weiser H. 1985. Analgesic and Anti-Inflammatory Properties of Vitamins. *Int J Vitam Nutr Res* 27:189-206.
- Kaufman W. 1955. The Use of Vitamin Therapy to Reverse Certain Concomitants of Aging. *Journal of the American Geriatric Society*, 3:927.
- Liberman H.R., et al. 1983. Mood, Performance, and Pain Sensitivity: Changes Induced by Food Constituents. *J Psychiatry Res*, 17:135-145.
- Lombardi A. The enzymatic mechanisms involved in the pathogenesis of rheumatoid arthritis and arthritis. The role of metalloproteases and serine proteases in the breakdown of articular cartilage. *Journal of Progressive Medicine*, Sep 1993; 84(9): 634-641.
- Murakami T., et al. The recovering effect of betaine on carbon tetrachloride-induced liver injury. *Journal of Nutrition Science Vitaminology and Toxicology*, Apr 1998; 44(2): 249-255.
- Schaeffer M.C., et al. Dietary excess of Vitamin B<sub>6</sub> binds the concentrations of amino acids in the caudate nucleus and serum and the binding properties of serotonin receptors in the brain cortex of rats. *J Nutr*, Oct 1998; 128(10): 1829-1835.
- Schwartz E.R. 1984. The Modulation of Osteoarthritic Development by Vitamins C and E. *Int J Vitamin Nutr Res Suppl*, 26:141-146.
- Shils M.E., Young V.R. 1988. *Modern Nutrition in Health and Disease*. 7th ed. Lea & Febiger.
- Soderling E., et al. Betaine-containing toothpaste relieves subjective symptoms of dry mouth. *Acta Odontol Scand*, Apr 1998; 56(2): 65-69.
- Travers R.L., et al. 1990. Boron and Arthritis: The Results of a Double-Blind Pilot Study. *J Nutr Med* 1, 127-332.
- Tver D.F., Percy R. 1989. *The Nutrition and Health Encyclopedia*, 2nd ed. Van Nostrand Reinhold: New York. 54, 117.
- Uauy R., et al. Essentiality of copper in humans. *American Journal of Clinical Nutrition*, May 1998; 67(5 Suppl): 952S-959S.
- Van Wynsberghe D. 1995. *Human Anatomy and Physiology*, McGraw-Hill, Inc. 927.
- Wang T., et al. Effect of metabolic acidosis on NaCl transport in the proximal tubule. *American Journal of Physiology*, June 1998; 274(6 pt 2): F 1015-1019.
- Wilhelmi G. Potential effects of nutrition including additives on healthy and arthritic joints. *Zeitschrift Rheumatol*, May-June 1993; 52(3): 174-179.
- Wilson E., et al. 1965. *Principles of Nutrition*, 2nd ed. John Wiley & Sons, Inc.

