ELK VELVET ANTLER OVERVIEW

What is the composition of velvet antler?
Active ingredients found in velvet antler include a variety of minerals, trace elements, proteins, fatty acids, aminos acids, glycosaminoglycans, growth hormones, and growth factors. These ingredients and their use in the body are outlined in the following tables.

Minerals/Trace Elements

- **Calcium (Ca): provides structure for bones and teeth, and is essential for nerve impulse conduction, muscle contraction and blood clotting.**
- **Copper (Cu): necessary for red blood cell development, bones, and nerves.**
- **Iron (Fe): essential for blood cells transporting oxygen throughout the body.**
- **Manganese (Mn): needed for development of bones and connective tissue, and for normal functioning of the nervous system.**
- **Magnesium (Mg): needed in metabolic reactions and storing and releasing energy in cells.**
- **Phosphorus(P): provides structure for bones and teeth, and is a component of nearly all metabolic reactions.**
- **Potassium (K): needed for nerve and muscle function.**
- **Selenium (Se):. powerful antioxidant.**
- **Sulfur (S): is a component of various amino acids and insulin.**
- **Zinc (Zn): part of the enzymes involved in digestion and respiration, and is necessary for normal wound healing and skin health.**

Proteins/ Collagen/Lipids
Proteins (including all essential amino acids): are the structural materials in cells, and aid in growth and repair of tissues.
Collagen: a major structural component of bones, tendons, ligaments, and cartilage.
Lipids (all essential fatty acids including omega 3 and 6): build cell parts and boost energy for cellular activities

Growth Hormones and Growth Factors
Insulin-like Growth Factor (IGF-I) and Epidermal Growth Factor (EGF) Growth hormones and factors have an effect on growth and maintenance of bones and promoting protein and fat metabolism, stimulating cartilage growth, and thickening' and lengthening bones in children. They also have growth promoting actions on the skin.

Glycosaminoglycans (GAGs)
Hyaluronic acid: is the cement material of connective tissue and a component of synovial fluid that cushions the joint.
Chondroitin sulfate: extremely potent anti-inflammatory agent.
Glucosamine sulfate: an amino sugar that occurs naturally in the body. Its glue-like qualities help to hold tissues together. It is also a major component of synovial fluid, which lubricates and serves as a shock absorber for the joints.
Erythropoeitin: a hormone produced in the kidneys and released into the bloodstream in response to low oxygen levels, thus helping to increase oxygen-carrying capacity of the blood.
Prostaglandins: chemical messenger produced in ~ all tissues, causing a broad range of positive effects on many of the body's defense systems.
Phospholipids: effective structural materials in cell membranes. They help to facilitate the passage of fat in and out of cells and blood.
Glycosphingolipids involved in cell metabolism and growth

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What benefits can be expected?

The list of benefits demonstrated by research and noted through anecdotal evidence on velvet antler is lengthy. Though investigation has only just begun in North America, research findings and medical accounts from Asia and New Zealand are already convincing. The reports suggest that velvet antler stimulates the body's metabolism and protects and restores damaged organ tissue by accelerating healing. Velvet antler is also thought to help the body battle invaders that produce inflammation by increasing phagocytic functions. Phagocytic cells, such as white blood cells, surround, eat, and digest cell waste and microorganisms. There is also some suggestion that blood pressure is lowered with velvet antler consumption and enhanced thyroid function.
Velvet antler has gonadotrophis functions, which means it enhances the hormone that causes the testes and ovaries to do their work. Historical accounts from Korea refer to velvet antler being used for infertility, miscarriage prevention, and helping pregnant women have an easier delivery.
Research findings, clinical trials, and anecdotal evidence certainly demonstrate the value of velvet antler for health issues. Four key areas of investigation as to the effects of velvet antler are: immune system, energy and stamina, arthritis and inflammation, and the aging process.

Help for the Immune System
The human body has its won internal healing and protection mechanism called the immune system. It fights off invaders caused by disease, stress, poor nutrition, meager living habits, and drugs. Some common signs of a weakened immune system are fatigue, listessness, continuous infections, and slow healing.
Having and maintaining a strong immune system is essential to good health. Eating sensibly, getting proper rest, and exercising are all very important factors in staying healthy. Think of your immune system as your own little internal army. Tiny soldiers are fighting off any invaders that dare to enter their territory. The stronger the soldiers are in that army, the better the chances are of stopping invaders before they can cause any damage. This is why constantly nurturing and supporting the immune system is so important in staying healthy.
Researchers in New Zealand investigated velvet antler's effect on human white blood cells because of its long history of being taken for immune system support. Studies demonstrated that aqueous extracts of velvet antler were highly potent in causing an increase in human white blood cell count. 8 This, of course, is a good thing as white blood cells are one of the immune system's first lines of defense when invaders come attacking.

Increasing Energy and Stamina
Athletes, who are in strength training programs, often seek effective nutritional supplementation programs. One such supplement may be velvet antler because of its excellent amino acid composition and mineral content.9 Fourteen different essential and nonessential amino acids are available in velvet antler.Velvet antler has been shown to have performance enhancing effects in both humans and animals based on the results of numerous studies. For example, research was done in Russia in which anabolic agents known to improve performance and muscular strength in athletes were analyzed. When studies using velvet antler were done, it showed that kayakers, weightlifters, bodybuilders and power lifters all increased both muscular and nerve strength.

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Easing the Symptoms of Arthritis and Other Inflammatory Disorders

Rheumatoid arthritis is a disorder resulting in chronic inflammation of the joints, tissue around the joints, and other organs in the body. The cause of this painful disease is unknown, though there are several theories. These include: *The immune system not working properly. Genetic makeup passed down from parents. An unexplained immune system response to a virus, bacteria, or mycoplasma (microscopic organisms without rigid cell walls). The body's response to environmental factors.*

Some of the symptoms of rheumatoid arthritis include joint pain, heat, and swelling, particularly in the morning and after long periods of inactivity. As the disease progresses, the cartilage, joints, ligaments and tendons begin to breakdown, causing further loss of joint function. Further advancement can affect one's daily activities such as work, social functioning, and eventually even person independence.While rheumatoid arthritis is an inflammatory type of disease, osteoarthritis is a degenerative joint disease. Actual breakdown of the cartilage that covers the ends of bones occurs. Ostearthritis also causes bones to become brittle which, of course, increases the risk of the bones cracking or breaking. It can be a hereditary disease and affects three times as many women over the age of 60 as men.Some common causes of osteoarthritis are:
Bone injury. A defect in the portein that makes up cartilage. Wear and tear of aging.

Many of the nutrients found in velvet antler are important for arthritis sufferers. Glucosamine, chondroitin sulfate, essential fatty acids, calcium, phosphorus, magnesium, copper, zinc, selenium, growth hormones, and growth factors are all vital for growth and maintenance of joints, tissues and synovial fluids.Compliance has been met with U.S. Food and Drug Administration regulations to allow a claim to be made about velvet antler products. The specific claim substantiated by scientific evidence, states that velvet antler "provides nutritional support for joint structure and function."Modern research studies continue as people suffering with rheumatoid arthritis and osteoarthritis claim relief from painful and swollen joints.

Inhibiting the Aging Process
A number of changes continually occur in the body as part of the aging process. The skin, ligaments, and tendons begin to loose elasticity. Even larger arteries lose elasticity, causing increased blood pressure, decreased heart rate, and decreased blood flow through the heart. The body may also become less able to adapt to environmental changes such as cold weather. The immune system weakens with age, leaving the body less able to heal and repair itself. Some people experience memory loss and decreased ability to solve problems. As one grows older, a decrease in the body's ability to digest food properly often leads to nutritional deficiencies and diseases related to these deficiencies. Available research suggests that components, such as growth hormones and growth factors (and possibly some yet to be discovered components) available in velvet antler, may be key in slowing the aging process.One of the growth hormones in velvet antler is IGF-1 (insulin-like growth factor). A study conducted at Oxford University in England lead researchers to believe that the IGF-1 contained in velvet antler has medicinal value for humans. IGF-1 was shown to promote muscular development, prevent muscular atrophy (breakdown), and slow the deteriorating effects of aging. Further research on the anti-aging effects of velvet antler needs to be done.4. Sunwoo, H. (1998). Chemical characterization of growing antlers While rheumatoid arthritis is an inflammatory type of disease, from wapiti.