DEER ANTLER VELVET & IGF-1

The Secret Of Prolonged Strength And Youth

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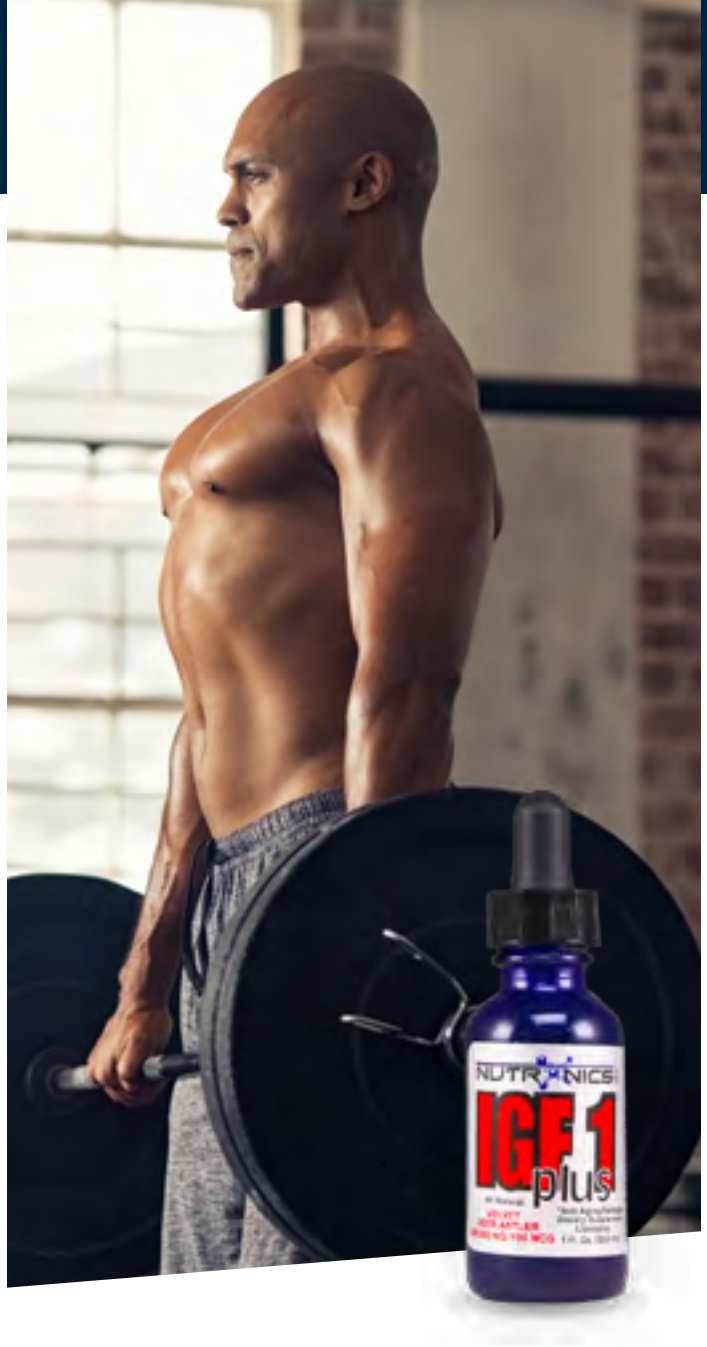
INTRODUCTION

Today if you are an athlete or a bodybuilder there is an enormous focus on getting bigger, stronger and faster with whatever means are at your disposal. A plethora of steroids, growth hormones and an ever increasing array of anabolic agents have arrived. However, with continued use the majority of these products may hold very dangerous and even tragic side effects.

If you're aging, wealthy and losing the strength and beauty of youth you may be considering growth hormone injections. Growth Hormones are the secret that the rich and famous use to slow down the aging process. However, a physician must prescribe and administer the very expensive Growth Hormone and it is something that must be continued once you have initiated it. If you don't, your body will quickly return to where it started.

If we look for a commonality among steroids, Growth Hormone and other anabolic agents available we find a bottle neck, a funnel, through which all of these substances must pass to create their affect on the muscle tissues, endocrine, exocrine glands and even the blueprint of life itself, DNA. What is the funnel? It's insulin-like growth factor-1 (IGF-1). Growth Hormone itself, whether secreted by the pituitary gland or even if it is injected, only sticks around in the blood for a short period of time. It is absorbed by various tissues the most important being the liver where it is converted to IGF-1. IGF-1 is the primary muscle development and youth-promoting factor of Growth Hormone.

IGF-1 is actually far safer, and yet just as potent as growth hormone itself. If fact, the vast majority of strength increasing, muscle increasing and antiaging effects of Growth Hormone are because of the ability of Growth Hormone to increase IGF-1 levels in our body. Besides our own pituitary gland there is another natural source of IGF-1, Deer Antler Velvet. Along with Growth Factors, Deer Antler Velvet is a rich source of all the nutrients our bodies need including the minerals calcium, phosphorus, sulphur, magnesium, potassium, sodium, manganese, zinc, copper, iron, selenium and cobalt. Also found in Deer Antler Velvet in varying quantities are the major amino acids: collagen, anti inflammatory prostaglandins, glucosamine, chondroitin, gangliosides, and erythropoietin and the essential fatty acids Omega-3 **and** Omega 6. Natural IGF-1 not only is beneficial to the athlete and body builder but is proving to be the most dramatic supplement available for countering the ailments of aging and promoting increased wellness.



Remember that the rich and famous have been using Growth Hormone for many years and it works, but the reason it works is IGF-1. Many products have come on the market that are classified as secretagogues (a substance that causes another substance to be secreted) they claim to increase the amount Human Growth Hormone secreted by the pituitary gland but in reality have shown minimal Growth Hormone response. Growth hormones are very expensive and must be injected so over time many products have been developed that are inexpensive and can be taken orally. It's a fact that if you take Growth Hormone or secretagogues orally they are broken down in the intestines by bile acids and the vast majority of the active ingredients are simply not absorbed. For this reason, a product created from deer antler velvet with a novel, new mechanism of absorption has been developed by Nutronics Labs. This product is called IGF-1 Plus and is available only through Nutronics Labs, Inc. (NutronicsLabs.com or 1-800-833-3144).

NUTRONICS LABS: THE WORLD'S LEADER IN ALL NATURAL IGF-1 FORMULATION

The first documented evidence of the use of deer antler velvet as a medicine was found on a silk scroll recovered from a Han tomb in the Hunan Province in China. The scroll is believed to be about 2,000 years old and recommends medical treatments and prescriptions for 52 different diseases using deer antler velvet.

Nutronics Labs has been the world leader in Deer Antler Velvet containing IGF-1 (insulin-like growth factor-1) for over 25 years. Since its inception this Deer Antler Velvet extract product has been utilized by many top nutritional companies worldwide including: GNC, American Nutritional, Biozone, Synergy Nutritionals, Now Foods International, The Healthy Protocol (Royal Velvet), S.W.A.T.S. (The Ultimate Spray), Cal Comp Nutrition, Maxlife Direct, National Gym Association, and many more.

To insure its superiority Nutronics Labs uses only cold-processed extract of Cervi Parvum Cornu. (deer antler velvet) from New Zealand. Nutronics Labs produces the only antler velvet product in the world that:

- Contains only the highest grade in the 32 grading categories for quality.
- Uses no chemicals, drugs, boiling or heat in the processing (which destroys or alters the life giving nutrients.)
- Uses only the upper third (30%) of the harvested antler (which contains 10 to 20 times higher concentrations of most nutrients than the bottom two thirds.

When harvested at the appropriate time the genus Cervus (antler velvet) contains, as an extract, a minimum of 2,500 nanograms per gram of IGF-1. Nutronics Labs commissions Endolab, *Hormone measurement & Consultation Centre, Christchurch Hospital, Christchurch, New Zealand* to test each harvest for IGF-1 level.

For the first time Nutronics Labs is selling its unique formula directly to the public. Now you can buy IGF-1 Plus direct from the world's largest manufacturer. Nutronics Labs Proprietary Deer Antler Velvet Formula is the only Deer Antler Velvet product that is produced with the deer antler extract contained in two concentrations. One for the professional athlete/bodybuilder (70mg of extract in a 1 oz. product) and one for the general consumer (11mg of extract in a 1 oz. product). Through exclusive laboratory processes, Nutronics Labs has developed and implemented the additional capability of providing varying levels of IGF-1 for its deer antler extract products. This allows Nutronics Labs to offer levels of IGF-1 not available in any other product. No other company has 10,000ng per serving as found in our IGF-1 Plus Ultra or the 100,000ng per serving found in our IGF-1 Plus Maximum products. We simply do not supply these potencies to any other company.

Nutronics Labs Inc. is a 15 year Illinois corporation that has been involved in the research and development of high tech nutritional products. Dr. Rick Lentini, in conjunction with New Zealand researchers and the worlds leading authority on Deer Antler Velvet, Dr. Alex Duarte, created the first IGF-1 liposome /sublingual spray formulation in the world. This unique liposome spray formulation maximizes the absorption of New Zealand premium grade, Deer Antler Velvet extract in the human body.

Nutronics Labs IGF-1 Plus unique formulations have been used by hundreds of thousands of people worldwide including major celebrities and world champion athletes for more than a decade. Nutronics Labs has donated its proprietary formulations to the MS Society and has received letters of thanks and recognition from the American Heart Association as the world's leading authority on Deer Antler Velvet Extract / IGF-1 Plus™.

WHAT IS GROWTH HORMONE AND WHAT IS IGF-1?

Growth Hormone (for humans, HGH) is one of many of endocrine hormones such as testosterone, estrogen, melatonin and DHEA, which decline in production with age. While some of these hormones can reduce the effects of aging, only HGH and IGF-1 go far beyond the scope of the other hormones not only to help prevent biological aging but also to help reverse a broad range of symptoms associated with aging and even certain diseases of aging. For the body building enthusiasts, only IGF-1 ultimately builds enormous muscle tissue. HGH builds muscle also, but only through its effect in increasing IGF-1. So if you are interested in building muscle tissue, increasing strength and endurance, and turning back the aging clock by 20 or more years, IGF-1 is the secret, a real "fountain of youth." HGH, also known as somatotropin is the primary hormone produced and secreted by the pituitary gland. Its production peaks during adolescence which accelerates body growth. By the time a person reaches the age of 60 he or she may only secret 25% of the amount of HGH secreted when they were 20-years-old. Most of the time growth hormone is released in a pulsatile fashion during sleep or following strenuous physical activity. It is quickly converted in the liver to the powerful growth promoting growth factor known as IGF-1. The decline of Growth Hormone with age is directly associated with certain aging signs like wrinkling of the skin, graying of the hair, decreased energy and sexual function, increased body fat, heart disease, weak and brittle bones and much more. The good news is that both growth hormone and IGF-1 can help reverse these physical signs and restore energy levels, bone strength, hair color, more youthful appearing skin and for most people reading this report, an increased, youthful muscle mass while simultaneously reducing body fat. Now, there is a natural form of IGF-1 available that is much less expensive than Growth Hormone and does not require injections or artificially stimulating the pituitary gland to produce HGH. It is natural IGF-1 derived from New Zealand deer antler velvet and it may be the answer that all bodybuilders and aging citizens have been looking for. An answer, that may, for everybody promote better health and extend life.

"Velvet antler contains the missing link to longevity, something just not present in all the promising nutrition programs I have ever worked with. Its growth factors are a significant part of what makes it so special. Growth factors may be the only substances than can retard and even reverse aging."

-Dr. Michael Rosenbaum, 1999
Pioneering Nutritional, Alternative and Integrative Healthcare since 1977. Marin County, California

WHAT IS DEER ANTLER VELVET?

Deer antler velvet can be defined as 'deer antlers during their phase of rapid growth', and it gets the name 'velvet' because of its velvet-like covering of hair. Velvet antler is considered by the Chinese to be one of the most powerful animal-based remedies in their Traditional Chinese Pharmacopoeia.

The male deer of most species develop a pair of antlers every year from bony outgrowths called pedicles at the top of the skull. In New Zealand, velvet antler is removed from red deer stags.

The annual growth cycle of antlers starts in spring with the rapid development of a soft cartilaginous core from each of the two pedicles. This core is covered with a layer of connective tissue, then skin with a dense covering of fine hair, and the whole antler is well supplied with blood vessels and nerves. Velvet antler is very sensitive during this growth phase, and the male deer are protective of it and non-aggressive. Velvet antlers grow very rapidly, at a rate of up to 2 cm a day. As growth occurs, cartilage is gradually replaced by bone by a process of calcification. When growth is complete, the antler 'hardens' or calcifies completely, the blood vessels at the junction between the pedicle and the antler close off, and the skin, nerves and connective tissue dry, shrivel and flake off. The bony cores remain as hard antler ready for the 'rutting' season in autumn, when the stags are aggressive and combative as they compete for hinds. At the end of the rutting season, in early spring, the pedicle-antler junction weakens and the antlers are cast naturally.

In New Zealand, Deer Antler Velvet can only be removed by veterinarians or specially trained and certificated farmers under a program developed in consultation with animal welfare groups approved by the New Zealand Government's Animal Welfare Advisory Committee. This ensures that all Deer Antler Velvet removed in New Zealand for use in products complies with a removal process which causes **no stress or injury to the animals.**

Only Quality Assured farms acting under strict veterinary supervision, and in line with current New Zealand legislation, supply Deer Antler Velvet for Nutronics Labs products. This ensures that humane animal welfare standards are adhered to and a premium product is supplied for the Nutronics Labs product line. Nutronics Labs Deer Antler Velvet is 100% pure New Zealand red deer velvet and is manufactured under Good Manufacturing Practice (GMP), and New Zealand Ministry of Agriculture certification.

MUSCLE BUILDING AND REGENERATION

The benefits from IGF-1 are so astounding and offer such promise that back in 2002, H. Lee Sweeney, Ph.D., Professor and Chairman of Physiology at the University of Pennsylvania and a recognized expert on the subject of the genetic enhancement of skeletal muscle, spoke to the World Anti-Doping Association with regard to the muscle building and regenerating properties of IGF-1. Dr. Sweeney reported that IGF-1 has been shown to increase the rate of muscle growth from training and increase the rate and extent of muscle repair after injury.

Contrary to conventional wisdom, putting ice on injuries could slow down healing as it prevents the release of a key repair hormone, says a new study. For years, people have been told to freeze bruised or sprained muscles to reduce the swelling. Now, an international team claims that slapping a packet of frozen peas on a black eye or a sprained ankle may prevent it from getting better. The study, published in the 'Federation of American Societies for Experimental Biology' journal, suggests muscle inflammation after acute injury is essential to repair. It can also lead to new therapies for acute muscle injuries that lead to inflammation. In the study, Prof Lan Zhou and colleagues at the Cleveland Clinic in Ohio discovered inflamed cells produce a high level of insulin-like growth factor-1 (IGF-1) which significantly increases the rate of muscle regeneration.

During the study, the scientists studied two groups of mice. The first group was genetically altered so they could not form an inflammatory response to injury. The second group was normal. All mice were then injected with barium chloride to cause muscle injury. The first group of mice did not heal, but the bodies of the second group repaired the injury. When they studied the muscle tissue they saw the healthy mice produced a high level of IGF-1 in their inflamed tissue.

"We hope that our findings stimulate further research to dissect different roles played by tissue inflammation in clinical settings, so we can utilize the positive effects and control the negative effects of tissue inflammation," 'The Daily Telegraph' quoted Prof Zhou as saying.

Added Gerald Weissmann, editor of the journal: "For wounds to heal we need controlled inflammation, not too much, and not too little. This study goes a long way to telling us why insulin-like growth factor and other materials released by inflammatory cells helps wound to heal.

And not only are existing muscle fibers repaired quicker, IGF-1 is responsible for an increase in the amount of muscle fibers.

Dr. Rick Lentini states, "There are two main ways for an individual to increase overall muscle size. The first, Muscle Fiber Hypertrophy, is the increasing in the diameter of the individual muscle cells. This is accomplished by exercising the muscle, the more strenuous the exercise, larger the muscle cells and the larger the overall muscle. Muscle Fiber Hypertrophy = big muscle fibers."

"The second way to increase overall muscle size, Dr. Lentini continues, is Muscle Fiber Hyperplasia; this refers to the splitting of muscle fibers in the interest of creating more muscle cells and thus larger muscles."

Perhaps this is the most interesting and potent effect IGF-1 has on the human body- its ability to cause hyperplasia, which is an actual splitting of the muscle cells. With IGF-1 use one is able to cause hyperplasia, the holy grail of performance enhancing benefits. Hyperplasia + Hypertrophy = increased muscle growth and greater muscle strength. Obviously anyone pursuing size and/or strength would want both bigger muscle fibers and more of them. IGF-1 makes the elusive double dose of size more easily attained!

IGF-1 & Weight Training = Hyperplasia + Hypertrophy; improved athletic performance and more rapid recovery from any damage that results from the performance.

HOW DOES IGF-1 INCREASE MUSCLE MASS?

It is interesting to note that when scientists gave muscle tissue IGF-1, the muscle tissue increased in size, whereas if growth hormone was given alone there was no increase in muscle mass. The reason for this is simple. Growth hormone must first be converted to IGF-1 in order to work. IGF-1 therefore, is the most important molecule in increasing muscle mass. IGF-1 achieves this goal in the following ways:

How IGF-1 Builds Muscles

1. IGF-1 has been shown to increase the transport of proteins called amino acids into cells throughout the body. These amino acids, having reached the muscle cells, will regenerate muscle tissues following exercise. Thus, the first job of IGF-1 is to assure proper absorption of the building blocks of the muscle itself so that muscle protein synthesis can occur.
2. IGF-1 is like insulin in that it increases that uptake of blood sugar known as glucose; this has recently been confirmed by researchers at East Carolina University. Doctors established that IGF-1 stimulates glucose transport in human muscle tissue.
3. IGF-1 along with insulin has the ability to slow that rate of protein breakdown. This is known as catabolism inhibition. It is therefore anticatabolic.
4. IGF-1, like growth hormone but unlike insulin, shifts fuel utilization from carbohydrates to fat within the muscle cells themselves. Thus, your body will burn more fat including fat made from carbohydrates in your diet and other dietary fats. IGF-1 helps to establish lean muscle mass without a corresponding rise in fat tissue.

IGF-1 has many other powerful positive influences on human metabolism. Some of these include:

1. Improve white blood cell production
2. Restores the immune-promoting lymphoid tissue
3. Stimulates proliferation of both the B and T lymphocytes
4. Increases the uptake and degradation of the dangerous LDL cholesterol by macrophages
5. Improves nitrogen retention (muscle preservation) and increases sodium excretion
6. Improves parathyroid vitamin D interaction to produce dense bone matrix
7. Increases the urinary hydroxyl proline secretion

For the athlete bodybuilder, note the following summary:

The effects of increasing IGF-1 include:

1. An increase in proliferation and growth of muscle cells
2. An increased uptake of amino acids into the muscle cells
3. An increase in the uptake of blood sugar (glucose) into muscle cells
4. Improved utilization of fat for energy with a decrease utilization of carbohydrates
5. Reduction of catabolism (muscle breakdown) following workouts

THE ATHLETE'S AND BODYBUILDER'S DREAM

In the pursuit of large well-defined musculature, men and women have been searching for the magic bullet. IGF-1 is the magic bullet. A number of the world class bodybuilders having used IGF-1 have reported massive muscle increase of up to 20 pounds. In an article published in *Muscle Media 2000* the author T.C. Luoma declared IGF-1 as possibly the most potent bodybuilding supplement ever. It is IGF-1 that is responsible for producing an anabolic, muscle building and growth stimulating effect.

A study conducted by Suttie and Haines found that animals fed high levels of active antler velvet extract grew significantly faster and as much as 12 percent more than a control group. The animals also experienced increased liver weight and higher bone calcium content.

A very well-publicized study of antler's strength and muscle-enhancing attributes involved a blind trial of New Zealand athletes. Volunteers were divided into two groups, with height, weight and age closely balanced. The first group received 70 mg of velvet antler extract per day for 10 weeks, while a control group received a placebo. Subjects underwent moderate flex and weight training, and were tested twice during the 10-week period and once following the 10 weeks. The athletes were also scanned with a Dual XRay Absorptiometry Scanner (DEXA) before and after the trial to determine any changes in body composition.

The researchers found that muscular endurance doubled among the velvet antler group, tending to support the assertion of previous studies that velvet antler improves muscle activity. The New Zealand researchers theorized that the antler extract may improve blood supply to muscles or act as an anti-inflammatory, allowing athletes to recover faster from training sessions.

Athletes from New Zealand and other countries – swimmers and mountaineers to rugby players and golfers – TO PROFESSIONAL FOOTBALL AND BASEBALL PLAYERS have used velvet antler to increase strength, vitality and endurance. Other athletes and professionals requiring strength and endurance are also using antler as a substitute for anabolic steroids. Researchers at the University of Alberta, Canada, tested antler's ability to increase strength and endurance on cadets from the Edmonton police academy. The researchers found that use of velvet antler significantly increased blood plasma testosterone levels in the men participating in the study.

In study after study athletes that are given IGF-1 and did nothing, were bigger and stronger than athletes that weren't given IGF-1 but exercised. Athletes that were given IGF-1 during middle age exhibited no deterioration of muscle fibers that indicate the classic and inevitable signs of aging. These athletes did not lose any fast twitch muscle fibers - the fibers responsible for power and speed - and had the same power and speed output that they had when they were 10 years younger.

Antidotal evidence is also building. Many bodybuilders are claiming they are experiencing drops of five percent body fat in one month while increasing lean body mass and strength at the same time. This simply means you burn fat at the same time you build muscle.

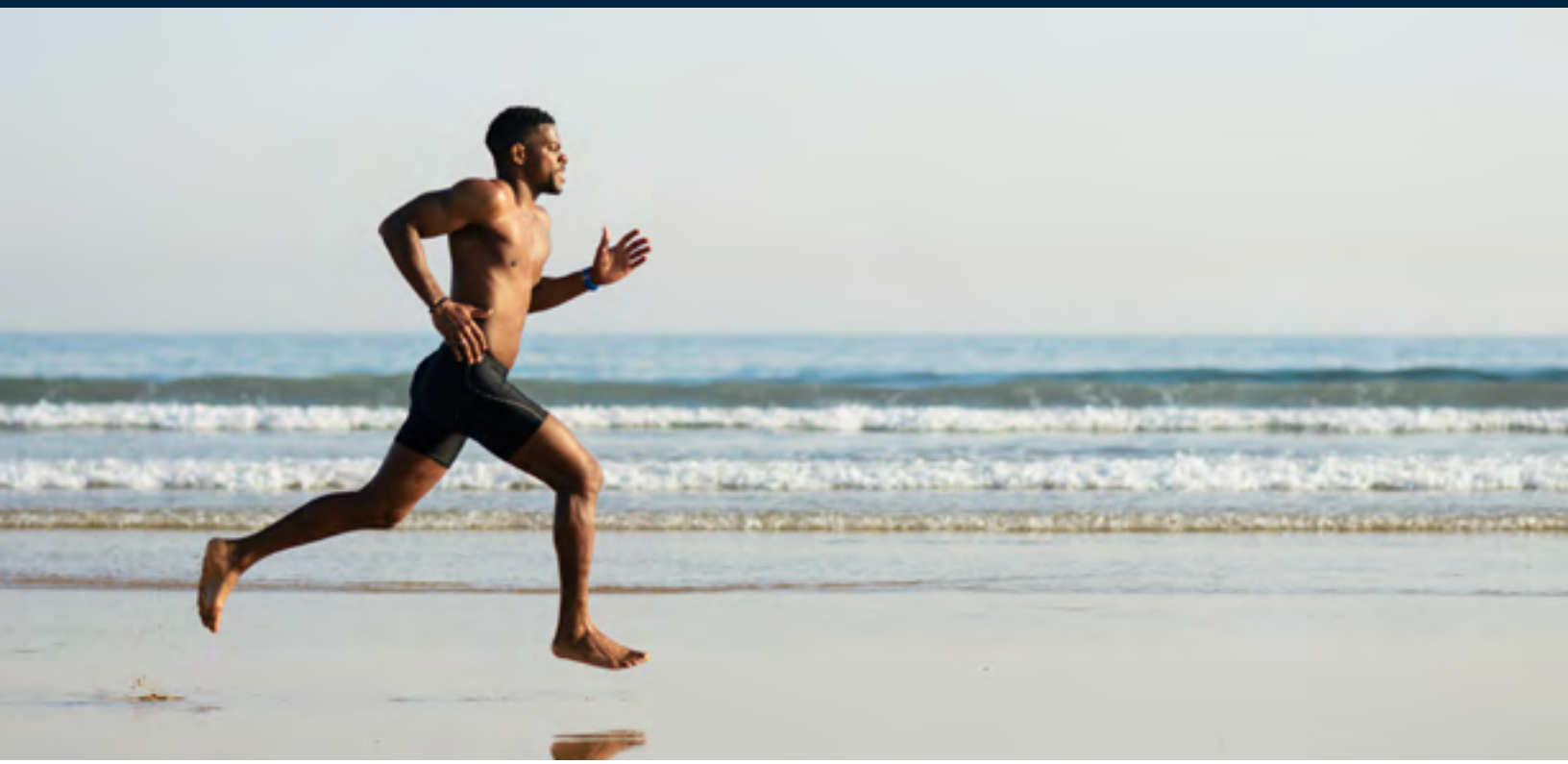
Many times bodybuilders will use several different agents in order to achieve synergistic effect. With IGF-1 it doesn't appear to be necessary. In one study of healthy volunteers there was no additive anabolic effect in those who took a combination of IGF-1 and growth hormone compared to those who took just IGF-1 alone. The only synergistic effect that appears to be helpful with IGF-1 is strenuous exercise, exercise that will indeed help develop large, dense, well-defined musculature. According to Phil Micans of the International Antiaging Systems in London who has distributed IGF-1 in several forms, IGF-1 is 10 times more potent than growth hormone as an anabolic agent.

For twelve years, Dr. Arkady Koltun, M.D., Ph.D., Chairman of the Medical Committee for the Russian Bodybuilding Federation, conducted research into anabolic agents that can improve performance, strength, and musculature in Russian athletes. In studies with Russian kayakers, weigh/lifters, bodybuilders, and power lifters, Dr. Koltun found that deer antler velvet is myotropic (increases muscular strength). He also found that it has powerful neurotropic (nerve strengthening) properties and is beneficial in treating infectious diseases, fatigue, and hypertension.

Dr. Koltun revealed that deer antler velvet induced significant increases in endurance in his athletes. After using deer antler velvet in the pre-Olympic festival in Russia, two of Dr. Koltuns' top kayakers and a world-record holder in canoeing achieved remarkably improved results. These sportsmen not only stabilized their racing time one week before competition, but dramatically increased their speed in rowing. All received gold medals and established new world records. Many of us remember the very successful Russian Olympic teams of the nineteen seventies and eighties.

"Groundbreaking research by scientists in New Zealand and abroad is proving velvet antler's traditional use. Shown to be a powerful adaptogen, it strengthens the immune system to combat physical and mental stress. Rich in minerals, amino acids and other bioactive ingredients including anti-inflammatory agents, glucosamine and chondroitin sulfate, velvet antler is highly effective for relief of arthritis and joint pain. Containing marked anabolic properties, including IGF-1, it significantly increases muscular strength and endurance, and was called the 'secret weapon' of Russian Olympic training programs. It may well become the future athlete's nutritional supplement of choice."

-Alison Davidson
From the back cover of her book, "Velvet Antler: Nature's Superior Tonic" 1999



OTHER HEALTH BENEFITS OF IGF-1

IGF-1 is causing a great deal of excitement not only among bodybuilders but among people interested in reducing the symptoms of aging and those people interested in living the longest, healthiest and most active life possible. This is the legacy of IGF-1. According to researchers, IGF-1 increases lean body mass, reduces fat, builds bone, builds muscle and builds nerves. By taking it directly you bypass the pituitary gland which may be burnt out by the aging process.

Some researchers feel that IGF-1 is even more potent than growth hormone in terms of its direct effects. For instance Keith Kelly, Ph.D., showed that growth hormone reversed the shrinking of the thymus, one of the most important immune-modulating organs of the body. However it was the IGF-1 resulting from the growth hormone that had this effect on the thymus gland. In the human body HGH works but we now know that its effect is because of its conversion to IGF-1.

IGF-1 MAY ASSIST IN FAT LOSS

One of the big problems associated with losing weight, especially with calorie restriction, is a significant loss in muscle mass when there is a commensurate loss of fat. Any procedure that can preserve lean muscle body mass when fat loss is being experienced would be most helpful and certainly improve the health of the patient during the weight loss procedure. According to Doctor Edmund Chein, patients who were obese and were given human growth hormone injections lost up to 12% of their body fat every six months. As an example, a patient that weighed 200 pounds could lose 24 pounds of fat every six months. We know that human growth hormone increases the fat burning mechanism of the body, because it increases IGF-1, the IGF-1 in turn, not only preserves muscle tissue but increases muscle mass. IGF-1 may also improve the fat burning mechanism and improve hormonal weight loss effects without having to restrict calorie consumption. Studies have shown that the aging pituitary gland contains as much growth hormone as it did when the individual was younger. However, the ability to release the growth hormone is somehow blocked as the body ages. Something happens in the feedback loop between the release of IGF-1 in the liver and the hypothalamus in the brain. Ordinarily, a reduction in the IGF-1 tells the brain to direct the pituitary to make more growth hormone but this feedback loop breaks down with age. For this reason there should be no negative feedback loop problems associated with just taking IGF-1 since the mechanism in the aging person is already diminished. It would also indicate that IGF-1 should be taken in order to preserve muscle mass, increase energy levels, and maintain proper body weight.

IGF-1 MIGHT HELP HEART PATIENTS

IGF-1 is also being studied in patients with congestive heart failure. Doctor Marc Y. Donath reported that it improved heart function in patients with congestive heart failure. In a randomized, double blind, crossover trial, IGF-1 was associated with a 27% rise in what is known as the cardiac index and a 21% boost in stroke volume index. In other words, the heart improved in strength and with each beat pumped more blood. This was accompanied by a reduction in systemic vascular resistance and a 25% decline in pulmonary artery wedge pressure. There was also a 33% drop in right arterial pressure compared with the placebo during seven hours of continuous monitoring. This study was conducted by Dr. Donath at the University Hospital of Zurich.

In another remarkable study — a hormone similar to insulin prevents heart muscle from dying by initiating a series of cellular biochemical interactions, a UC Irvine College of Medicine research team has found. The findings—the first to provide a detailed picture of the link between this insulin-related hormone and heart muscle death—suggest that gene therapy might help treat a variety of heart diseases, as well as stave off heart damage that is common among diabetes patients. The study appears in the Dec. 22, 2000 issue of the Journal of Biological Chemistry.

DEER VELVET ANTLER PROVIDES NUTRITIONAL SUPPORT FOR JOINT STRUCTURE AND FUNCTION

In 2000 the first health care claim of deer antler velvet to be substantiated by scientific evidence, in compliance with US Food and Drug Administration dietary supplement regulations, was announced by the North American Elk Breeders Association (NAEBA).

Executive Director Ben Coplan said the determination, made by two consulting firms hired by NAEBA, Nutrinfo of Watertown, Massachusetts and Tradeworks Group, Inc. of Brattleboro, Vermont, is a significant breakthrough for the nation's 1,400 breeders of farm-raised elk.

According to Coplan, the Nutrinfo report states there is a reasonable basis to claim that antler velvet helps relieve the symptoms of arthritis. However, a disease claim may not be used for a dietary supplement in the US; therefore, the acceptable statement for product labels and advertisements of a dietary supplement would be "provides nutritional support for joint structure and function."

"This determination, by two of the leading dietary supplement firms in the world, is "just what the doctor ordered" for the members of our growing agricultural industry," Coplan said. "We intend to research and substantiate other health benefit claims for velvet antler. We want to carefully research the potential benefits of velvet antler supplements for supporting the immune system, anti-aging, muscle strength and endurance, and sexual vitality."

Deer velvet antler has been highly regarded in traditional Eastern medicine for two thousand years. It is consumed regularly by people of Japan, Taiwan, Korea and Hong Kong as a highly prized medicinal drug to treat blood loss, weakness, and chronic joint pain. Scientific studies in Canada and New Zealand are now verifying the health benefits of this important supplement. "The scientific-backed health benefit claim will greatly expand marketing opportunities for velvet antler dietary supplements in the United States," Coplan stated.

IGF-1 IMPROVES BLOOD SUGAR UTILIZATION

IGF-1 has similar properties to insulin in that it has improved blood sugar profiles in type II diabetic patients. When diabetics were given human growth hormone it was shown to actually make their condition worse by increasing insulin resistance. The administration of IGF-1 actually normalized the insulin resistance in a group of healthy volunteers.

Other researchers in Florida tried to establish the effect of IGF-1 in preventing muscle wasting from people who had to take drugs like Prednisone. In this particular study volunteers were divided into three groups. The first group got IGF-1 alone, the second group got IGF-1 plus Prednisone, and the third group just received Prednisone alone. The study discovered that 100 micrograms of IGF-1 per kilogram of body weight, if given twice a day, enhanced the body's protein metabolism in the same way as growth hormone. Like growth hormone, it preserved muscle mass even when the patients were taking Prednisone. However, growth hormone, in an earlier study, caused insulin resistance when given in combination with Prednisone. IGF-1 did not cause these diabetic-like effects.

Just the opposite, those subjects who received IGF along with Prednisone had normal glucose metabolism. This is truly incredible when one thinks that are known to suppress circulating insulin and decrease insulin sensitivity.

As a result of this research, doctors believe that IGF-1 offers promise in the treatment of patients who received intravenous feedings following surgery to prevent the muscle mass loss and improve outcome. This study was conducted by Nelly Mauras and Bernard Beaufrere of the Nemours Children's Clinic in Jacksonville, Florida.

IGF-1 CAN REGENERATE NERVES

One of the most exciting uses for IGF-1 is the repair of nerve damage that occurs in injury or illness. When a nerve is damaged in the arm or leg the connection to muscle tissue is dramatically impaired. As a result, there is a loss of movement and a wasting of the effected muscle tissue. These nerves can regenerate to some extent. Severe damage of more than one-half inch may result in permanent injury. However, IGF-1 has repaired and reconnected severed nerve endings up to a distance of six millimeters. This has never, heretofore, been done. In studies where nerve cells have been placed in culture tubes, IGF-1 has been shown to have remarkable growth effects on spinal cord motor neurons. It increased motor neuron activity in spinal cultures by 150 to 270%. In addition to this, it significantly decreased the preprogrammed cell death in developing chick embryos. In certain animal studies it had a direct effect in stimulating nerve axons of the spinal cord motor neurons to regenerate. It increased intramuscular nerve sprouting 10 fold when it was given to normal adult rats. According to Swedish scientist Hans-Arne Hannson of the Institute of Neuro Biology at the University of Goteborg, IGF-1 by itself could stimulate nerve regeneration.

The implications of these early studies are absolutely enormous. If IGF-1 can regenerate spinal cord motor neurons, it may be able to treat one of the most devastating, fatal diseases known called amyotrophic lateral sclerosis (ALS), a devastating disease in which the loss of cortical motor neurons results in complete paralysis and death. It may be useful in many other diseases that affect peripheral nerves.

FIBROMYALGIA MAY BE ASSOCIATED WITH GROWTH HORMONE PROBLEMS

Patients with fibromyalgia may be one of the largest populations of growth hormone deficient individuals. New evidence suggests that fibromyalgia patients are deficient in growth hormone secretion. Growth hormone therapy may be warranted in these patients.

Marie Cook, a nurse at Oregon Health Sciences University of Portland, has stated that she and her colleagues have pursued a possible fibromyalgia connection after observing that fibromyalgia and growth hormone deficiency syndrome share many clinical features. These include muscle weakness, reduced exercise capacity, and chronic fatigue. In an earlier study they found that 30 to 40% of fibromyalgia patients had low insulin-like growth factor levels compared with age and gender matched controls. To further assess this apparent deficiency they performed growth hormone stimulating tests in 50 fibromyalgia patients with low IGF-1. Forty-one had abnormally low growth hormone response to provocative testing. Fibromyalgia affects about three and a half percent of the United States women and about one-half percent of the men. It is also believed to be the number two reason for office visits to rheumatologists, second only to rheumatoid arthritis. IGF-1 may, in fact, be a miracle medicine for fibromyalgia patients in that it can return strength, increase endurance, and improve immune response simultaneously.

IGF-1 MAY GIVE HOPE TO MS PATIENTS

Recent laboratory experiments on IGF-1 have demonstrated a stimulation of the protective sheath around nerves known as the myelin sheath. In degenerative diseases like multiple sclerosis and ALS or Lou Gehrig's disease, damage around the sheath stops signals from being transmitted between the brain and nerves.

IGF-1 has been found to re-grow these sheaths according to the University of Michigan scientists. Although several growth factors are currently being studied, IGF-1 appears to be most effective at inducing the growth of the sheath and preventing neuron cell death according to chief researcher Hsin-Lin Cheng. Michigan scientists presented the first results from their experiments with IGF-1 at a conference in New Orleans. The scientists said they removed nerve cells called dorsal root nerves from newborn rats and grew them in a dish. They found that if they stimulated the conditions of diabetes in the dish and then applied the IGF-1 it helped the nerves remain normal.

Tests with IGF-1 are now underway on 40 people with neuropathy at the Mayo Clinic in Rochester, Minnesota. According to these researchers, IGF-1 may provide a new treatment for a whole group of diseases that have not here to been treatable.

IGF-1 CAN IMPROVE IMMUNE SYSTEM RESPONSE

One of the most important discoveries about deer antler velvet if harvested and processes in cartilaginous stage comes from the work of Dr. Arthur Johnson of the University of Minnesota in Duluth. Dr. Johnson discovered that antler velvet cartilage contains a small molecular weight protein which has the unique ability to modulate the immune system. This means that, if the immune system is depressed, this particular protein can dramatically improve it. And, if the immune system is overactive, it can reduce its activity until it reaches the normal range. Velvet deer antler has been shown to be capable of modulating the immune system.

Another interesting relationship between IGF-1 and the immune system has also been uncovered in recent research. The activity between all of the major immune cell types such as T-cells and B-cells, natural killer cells, and macrophages have been shown to be altered by growth HGH. Studies have shown that lymphocyte-derived growth hormone is involved in the production of more lymphocytes and that these, in turn, can actually produce IGF-1 within the immune system. Thus, not only the liver but white blood cells are capable of producing IGF-1. This provides a biochemical basis for a line of communication between the immune system and the neuroendrocrine system, thanks to the action of HGH and its resulting IGF-1.

IGF-1 GEL MAY REDUCE HEARING LOSS

Sensorineural hearing loss (SSHL) is a condition that not only causes deafness in 40,000 Americans each year, but makes it difficult for millions of seniors to understand speech. The very common mild to moderate sensorineural hearing loss makes distinguishing spoken constantans difficult. Many millions of seniors struggle to understand what being said and what they hear on TV.

A new treatment has been developed, say researchers writing in BMC Medicine who describe the positive results of a preliminary trial of insulin-like growth factor 1 (IGF-1) applied as a topical gel. Takayuki Nakagawa, from Kyoto University, Japan, worked with a team of researchers to test the gel in 25 patients whose SSHL had not responded to the normal treatment of systemic gluticosteroids. He said, "The results indicated that the topical IGF-1 application using gelatin hydrogels was safe, and had equivalent or superior efficiency to the hyperbaric oxygen therapy that was Used as a historical control; this suggests that the efficacy of topical IGF1 application should be further evaluated using randomized Clinical trials." At 12 weeks after the test treatment, 48% of patients showed hearing improvement, and the proportion increased to 56% at 24 weeks. No serious adverse events were observed. This is the first time that growth factors have been tested as a hearing remedy. According to Nakagawa, "Although systemic glucocorticoid application results in hearing recovery in some patients with SSHL, approximately 20% show no recovery. Topical IGF-1 application using gelatin hydrogels is well tolerated and may be efficacious for these patients".

The thought that IGF-1 may be a natural, inexpensive solution for seniors with mild to moderate hearing loss adds further credence to the Fountain of Youth legacy of IGF-1.

MOUNT SINAI RESEARCHERS IDENTIFY POTENTIAL THERAPEUTIC TARGET FOR IMPROVING LONG-TERM MEMORY

Researchers from Mount Sinai School of Medicine have identified a therapy that may enhance memory and prevent the loss of long-term memory. The research is published in the January 27, 2011 issue of Nature.

Led by Cristina Alberini, Ph.D., Professor of Neuroscience at Mount Sinai, the research team evaluated how a protein called insulin-like growth factor II (IGF-II), a gene expressed during brain development that declines with aging, impacts memory formation and retention.

IGF-II is enriched in the adult brain in several areas, including the hippocampus and cortex, which are known to be important for memory formation. Researchers injected the hippocampus of rats with the protein and found that IGF-II significantly improved longterm memory. The team also found that IGF-II levels increased after learning, and that when that increase was blocked long-lasting memories could not form.

"The implications of these data are far-reaching and give us new clues about how to investigate memory loss and forgetfulness in people with cognitive impairment, like those with Alzheimer's disease, stroke, or dementia," said Dr. Alberini. Prior to this study, very little, if anything, was known about IGF-II in adult brain functions. The researchers tested the impact of injecting IGF-II into rats after "inhibitory avoidance learning," in which the rats learn to avoid an unpleasant experience. They found that compared to control groups, the rats injected with IGF-II had a much stronger memory retention. In addition, the rats maintained an elevated memory for several weeks, while the control group showed diminished memory over the same period of time.

In collaboration with Robert Blitzer, Ph.D., Associate Professor of Pharmacology and Systems Therapeutics and Psychiatry at Mount Sinai, the research team also evaluated the impact of IGF-II at the cellular level. They found that IGF-II had an impact on longterm potentiation (LTP). LTP is a type of synaptic plasticity, or the change in strength of the points of contact between nerve cells, that is believed to be critical for long-term memory formation. Dr. Blitzer and his team found that IGF-II promoted stable LTP, strengthening signal transmission between nerve cells and maintaining it for a longer period of time.

"This study is the first step to understanding the benefits of IGF-II," said Dr. Alberini. "We have identified some of the mechanisms associated with this effect and look forward to further studying them and exploring the clinical relevance of IGF-II."

Deer Antler Velvet contains IGF-II.

A LONGER, HEALTHIER LIFE

Another feature about IGF-1 is its potential to increase life span. This, of course, is intimately connected with the human growth hormone levels. Dr. William Sonntag at the Bowman Gray School of Medicine at Wake Forest University in Winston-Salem, North Carolina has examined animals in response to growth hormone and IGF-1 secretion. As the normal aging process occurs, the amount of growth hormone and IGF-1 decreases as well as protein synthesis. In the form of enzymes it is necessary to carry out all of the work of cells and tissues. Without the proteins cells die or metabolism slows down and becomes inefficient. Sonntag and his associates found that when the diet was restricted in animals, growth hormone secretion actually increased and this occurred only in older animals (rats). In fact, the amount of growth hormone approached that of the younger control rats.

Thus, calorie restriction may increase human growth hormone and IGF-1. There was a 70% increase in new protein in the heart muscle in those animals that had calorie restriction. Interestingly enough, the actual level of IGF-1 did not rise but the number of receptor sites in cells for IGF-1 increased from 60 to 100%. Thus, whatever level of IGF-1 was there it was used to maximum efficiency. It may be necessary to increase receptor sites for IGF-1 in order to maintain a longer life span. However, restricting calories is counter-productive to the social norm in an affluent society. It may turn out that the IGF-1 can accomplish all that is necessary in improving life span simply by taking it as a supplement.

In order to examine this possibility, we need to look at the actual blueprint of life, the substance that actually allows cells to replicate over and over for a life span. This, of course, is the DNA.

DNA, IGF-1, AND LONGEVITY

If scientists were to take one of your skin cells and put it into a culture of all of the right nutrients, they could show that your cells would divide a certain number of times and then finally die. This is known as the Hayflick phenomenon and it represents an inborn set of clocks that determine when the cell stops dividing. Researchers have determined that the telomere, a very small piece of the tail end of every chromosome in the nucleus of almost every cell in the body, is the culprit. It is the telomere that tells the cells when to divide and when to stop dividing. As the telomere shortens progressively with each cell division, it reaches a point where it no longer can allow cell division to occur. When cells stop dividing we age and die. The blueprint of life that determines our age in essence is the DNA. One of the top antiaging researchers in the country, Vincent Giampapa, M.D., director of clinical research at the Longevity Institute International in Monteclair, New Jersey has studied this problem intimately. Dr. Giampapa feels that there is a substance that will act like a genie and turn old cells into new ones. Although this substance is not yet available, researchers feel that growth hormone and its attendant IGF-1 can do the next best thing and help keep the cell in a healthy state as long as possible.

The question is, how does it actually do this? The answer lies within the DNA. The cell's ability to function depends on its genetic material known as DNA. This resides in the nucleus of the cell which codes for all proteins, hormones, and enzymes that make the cell run. It is the DNA that is constantly damaged by oxygen radicals and other factors such as ultraviolet light and heat. The DNA has the ability to repair itself but this ability dramatically reduces with the aging process. Simultaneously damage is occurring in other parts of the cells such as the energy-producing mitochondria which have its own DNA. We know that certain antioxidants like vitamin C and vitamin E reduce the damage to the DNA, however, it may turn out that IGF-1 holds the greatest promise to protect this delicate genetic material.

European researchers have shown that growth hormone and IGF-1 do what antioxidants cannot do. IGF-1 initiates the transport of nucleic acids into the nucleus of the cell where the DNA resides. It gives the raw material needed to repair damage to the DNA and initiates cell division. Thus, IGF-1 actually repairs the blueprint of life and helps to retard the aging process.

HOW CAN I GET A COMPLETELY NATURAL, INEXPENSIVE IGF-1 PRODUCT?

The most effective product on the market is *IGF-1 Plus;* we have a personal interest in *IGF-1 Plus,* but can claim its superiority because we know it's cold-processed extract of Cervi Parvum Cornu. (deer antler velvet) that comes only from New Zealand.

Nutronics Labs produces the only antler velvet product in the world that:

- Contains only the highest grade in the 32 grading categories for quality.
- Uses no chemicals, drugs, boiling or heat in the processing (which destroys or alters the life giving nutrients.)
- Uses only the tips (top 3%) and upper third (30%) of the antler (which contains 10 to 20 times higher concentrations of most nutrients than the bottom two thirds.)

NOTE: Most of the rare and super nutrients are found only in the tip. Most antler products do not contain the nutrients found in the tips, as the tips are too expensive and too rare to be added to these products.

When harvested at the appropriate time the genus Cervus (antler velvet) contains, as an extract, a minimum of 2,500 nanograms per gram of IGF-1. However, understand that when it is ingested and has to go through the gastrointestinal tract only a fraction of that taken is actually absorbed. This absorption rate may vary from individual to individual depending upon the degree of efficiency of the digestive process. For this reason, Nutronics Labs has developed a novel, new mechanism of absorption and applied it to the standardized cold processed deer antler extract. By delivering extract with a proprietary liposome sublingual delivery system there is an assurance of receiving and absorbing IGF-1 at a consistent level. Unlike other products only IGF-1 Plus can deliver 10,000 nanograms (ng's) in a spray and 300,000 ng's in a dropper. IGF-1 Plus 10,000 ng's and 300,000 ng's are is available through Nutronics Labs at www.NutronicsLabs.com and 1-800-833-3144.

"The medical claims for velvet deer antler are comprehensive and ambitious, and preliminary research tends to support most of them. Among the numerous claims, Deer antler velvet can: improve blood circulation, reverse atherosclerosis, and possibly reduce the incidence of fatal heart attacks; increase the quality and quantity of blood production in treating kidney disorders and anemia; modulate the immune system, bringing it back to an even keel when it is depressed or overactive; increase muscular strength and nerve function; and generally boost energy. What's in the antlers that can produce these effects? Cartilage, for one, which contains a substance called N-acetyl-glucosamine, which speeds up wound healing. The antlers also containchondroitin sulfate, an anti-inflammatory substance that in concentrated form has been shown to reduce the incidence of fatal heart attacks reportedly by 400%, according to a six year study. A natural growth hormone called IGF-1 is found in high levels in velvet deer antlers; this substance helps to keep the body lean and the muscles well-developed."

- Burton Goldberg from his book "Heart Disease, Stroke & High Blood Pressure" 1998

The FDA in the United States regulates claims for dietary supplements through a process, which is different than for medicinal drugs; it does not "approve" dietary supplements, but allows producers to substantiate structure/function claims through critical review of scientific studies. The studies, the interest and the growing awareness of deer antler velvet is destined to confirm the knowledge from Eastern medicine and Russia where deer antler velvet has been used for centuries to control blood pressure, increase hemoglobin levels, increase lung efficiency, improve recuperation from exertion, improve muscle tone and glandular functions, sharpen mental alertness, relieve the inflammation of arthritis, and heal stomach ulcers.

Chinese herbal doctors use deer antler as a balancing agent for the endocrine system and in the treatment of penile erection dysfunction in men. Eastern physicians claim it is especially beneficial for men suffering from enlarged prostate glands and watery semen. Oddly enough, deer antler velvet has also been used in the treatment of menstrual disorders. It contains both male and female hormones.

A Deer antler velvet product called Pantocrine is manufactured by a Russian state pharmaceutical company to assist in the treatment of many different medical conditions (in hospitals) in which post-operative recovery of patients is a key factor. Deer antler velvet has become an elite medicinal food in Asia, New Zealand, and Korea - the world's largest consumer of the product.

"Velvet antler contains the missing link to longevity, something just not present in all the promising nutrition programs I have ever worked with. Its growth factors are a significant part of what makes it so special. Growth factors may be the only substances than can retard and even reverse aging."

-Dr. Michael Rosenbaum, 1999
Pioneering Nutritional, Alternative and Integrative Healthcare since 1977.
Marin County, California

FAQ

What is Deer Antler Velvet?
Male deer grow antlers every year and 'velvet' is the name given to each year's antlers in their early stage of growth. These antlers are soft and covered in fine 'velvety' hair, hence the term "velvet" or **"Deer Antler Velvet"**. If not removed, the antlers harden and calcify into sharp bony structures which the deer use as weapons. Deer Antler Velvet grows very quickly at up to 20mm each day. This process of annual regeneration is unique to deer. A **completely natural product**, Deer Antler Velvet is used for a wide of range of general health promoting benefits. Some of the most common uses are assisting the body's immune system, supporting stamina, athletic performance and restoring the body to general balance and wellbeing.

Why are deer antlers removed?
What is not widely known is that in the wild, the male deer sheds their antlers each year, and in this respect the harvesting of Deer Velvet is merely the modification of a natural event. Indeed, for deer farmed in New Zealand, it is recommended that Deer Velvet is removed each year, in order to prevent stags using them as weapons and damaging themselves and other deer, as is common in the wild.

Does this removal process hurt the deer?
Absolutely not! In New Zealand, Deer Velvet can only be removed by veterinarians or specially trained and certificated farmers under a program developed in consultation with animal welfare groups approved by the New Zealand Government's Animal Welfare Advisory Committee. This ensures that all Deer Velvet removed for use in Nutronics Labs products complies with a removal process which causes **no stress or injury to the animals.**

Is Deer Antler Velvet safe?
Deer Antler Velvet has been consumed for at least 2000 years. The first documented use of Deer Antler Velvet has been traced back to the Han tomb in the Hunan Province in China where a silk scroll was discovered listing over 50 conditions for which Deer Velvet is given. Consistent with the holistic approach of Traditional Chinese Medicine, Deer Velvet is taken as a general tonic to restore balance, strengthen the body and promote overall wellness. One of the few "pure" tonics among the thousands of natural remedies in the Chinese pharmacopoeia, **Deer Velvet is in the same highly regarded category as Ginseng.**

What is in Deer Antler Velvet?
Besides Growth Factors, Deer Antler Velvet is a rich source of all the nutrients our body's need including the minerals **calcium, phosphorus, sulphur, magnesium, potassium, sodium, manganese, zinc, copper, iron, selenium and cobalt.** Also found in Deer Antler Velvet in varying quantities are the major **amino acids, collagen,** anti-inflammatory prostaglandins, **glucosamine, chondroitin,** gangliosides, and erythropoietin and the essential fatty acids **Omega-3 and Omega 6.**

What about people taking prescription medicines?
Pure Deer Velvet has been widely used for over 2000 years in Traditional Chinese Medicine and is widely used to this day in China, Korea, Japan, and Russia. Whilst there are no reported interactions with prescription medications, as is common with all dietary supplements, it is recommended that anyone taking prescription medication or who may suffer from an acute or chronic health condition should consult with their health care professional first if they are at all concerned.

How long before I see results?
Individual results will vary dependent upon many factors, and for the type of health benefit being sought. Most individuals report experiencing benefit by their second to third week of use.

What about research on the health benefits of Deer Velvet?
Deer Antler Velvet has been and is still currently being researched all over the world. The New Zealand Deer Industry has funded a research program into Deer Antler Velvet since the 1980's. Recent research conducted in New Zealand has shown the positive effects of Deer Velvet:

- In stimulating the immune system
- As an anti-inflammatory
- In improving athletic performance
- In promoting growth
- Recovery from sports injury and the prevention of injury due to exercise

CONTRIBUTORS

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With a nutrition career spanning more than 35 years, Dr. Alex Duarte is a well-known and respected doctor specializing in natural, alternative approaches to healthcare problems. He has appeared on many television and radio shows in the United States, in addition to his own highly-successful infomercial *Health Alternatives*.

Dr. Duarte has authored over one dozen books and tapes, plus numerous special reports on *IGF-1*, Velvet Deer Antler, bodybuilding, and endurance. A sampling of other topics addressed by Dr. Duarte include articles on Sport Nutrition, Natural Medicines, Melatonin, MS, Arthritis, Heart Disease, AIDS and the Immune System, ADD, and Cataracts.

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Dr. Bruce Fong was introduced to natural medicine and homeopathic medicine as a young child and continues with that tradition today. He has followed in the family footsteps of medicine and is rooted in the belief that we must heal and prevent human disease and suffering. Optimal health may be achieved by determining and remedying the root cause of illness. He heads the Sierra Integrative Medical Center located in Reno, Nevada.

DR. RICK LENTINI, PH.D. - FOUNDER

In the early 90's, Dr. Lentini introduced Velvet Deer Antler to the western world. Nutronics Labs is the world's leading formulator and supplier of the world's purest Velvet Deer Antler extract and was the first to introduce it in the form of a liposome spray.

Dr. Lentini holds a PHD in Nutrition and is certified by the National Gym Association as a personal trainer. Dr. Lentini is a close friend of NGA president, Andrew Bostinto whose endorsements include Arnold Schwarzenegger, Lou Ferrigno, Jack LaLanne and a host of other well known fitness icons and celebrities. As an athlete, Dr. Lentini played tight end for the 1986 Chicago Chargers Semi Pro Football team and was chosen for the 1987 NFL Green Bay Packers replacement team.

Dr. Rick Lentini is committed to ensuring every formula introduced by Nutronics Labs is the world's best.