Restore Cerebral Blood Flow

Lose Weight by Suppressing Your Hunger Hormone

New Sugar-free Chocolate

Vastly Improved Curcumin and Milk Thistle

Extinguish Fires of Chronic Inflammation

OBTAIN LOWEST PRICES ON YOUR SUPPLEMENTS
Dear Member,

A critical mission of Life Extension® is to identify aging factors overlooked by conventional medicine.

We are leaders in the field of cerebral ischemia. Our experimental models have achieved record-breaking periods of brain ischemia (no blood flow) with successful resuscitation. We accomplish this by administering nutrients, hormones, and drugs that protect brain cells against the lethal effects of oxygen deprivation.

If you’re wondering how this pertains to you, the answer is that normal aging causes cerebral circulatory deficits. This means not enough oxygenated blood is reaching your brain cells. A noticeable result is memory problems, depression, and loss of mental acuity. If not corrected, the outcome can degenerate into dementia.

A common side effect of heart-lung machine procedures is cognitive dysfunctions that persist long after the surgery. In an unprecedented clinical study, heart surgery patients placed on a bypass pump were given an herbal medication and compared to a similar group given a placebo. Three months after heart surgery, 31% of the placebo arm had at least one neurological deficit compared to only 6% of the herbal medication group.

You don’t need to be hospitalized to take advantage of this brain-protecting breakthrough. It has been added to a cognitive-enhancing formula that Life Extension members already take and higher doses are available as a low-cost standalone.

MORE NEW FORMULATIONS THAN EVER!

Recent discoveries enable Life Extension to address more condition-specific issues than ever before. For example, chronic inflammation suffered by aging individuals not only creates discomforts, but inflicts cellular damage that is at the root of most diseases. A new finding has led to a natural method to help extinguish the flames of systemic inflammation.

Excess calorie consumption is an epidemic problem, but a plant extract has been found to suppress the hunger-hormone (ghrelin) thereby slashing appetite while inducing meaningful fat loss. And a new sugar-free chocolate enables one to enjoy a delicious snack without the deadly glucose spikes.

ANNUAL SUPER SALE

This is when we enlighten members to the year’s most exciting discoveries. Our researchers spent countless hours meticulously reviewing scientific studies. These findings are then translated into affordable methods to benefit aging humans right now.

Life Extension® does not accept pathological aging. We fight back against the biological forces that conspire to rob us of our youth.

As has been done for the past 25 years, we are launching our annual Super Sale. This enables members to access our most advanced nutrient formulas at extra discounted prices. You can take advantage of this once-a-year opportunity by calling 1-800-544-4440.

For longer life,

William Faloon
2 **Restore Oxygen Flow to Your Brain**

Researchers are recognizing that aging humans suffer chronic obstructions to their cerebral blood flow. This sets in motion neuronal injuries that manifest initially as memory loss, depression, and cognitive dysfunction. The long-term effect of cerebral circulatory deficit can be stroke and Alzheimer’s disease. Find out how to reverse the suffocating impact of reduced blood flow in your brain.

15 **Balance “Hunger Hormones” to Shed Body Fat**

Resistant weight gain is often caused by hormone-induced hunger signals that lead to snacking and lack of satiety. Groundbreaking human studies demonstrate an extract from the Italian Borlottto variety bean regulates appetite hormones, including the major hunger hormone ghrelin. The result from placebo-controlled clinical trials is significant fat loss.

25 **Turn “Off” Your Body’s “Aging Switch”**

Researchers have located an “aging switch” that turns on chronic diseases by releasing chemical signals that generate chronic inflammation. In an exciting development, scientists have uncovered two natural compounds that suppress this “aging switch” to put the brakes on premature senescence.

33 **Probiotics Enhance Defenses Beyond the Colon**

Imbalance of gut bacteria can do more than induce intestinal or digestive problems—it may be a catalyst for diabetes, cardiovascular disease, cancer, obesity, and respiratory infections. Two of the most studied probiotics have been shown to restore healthy gut bacteria, improve cell signaling, enhance immune function, and block pathways that lead to chronic conditions.

43 **Sustainable Energy Without Stimulants**

Aging humans suffer higher levels of fatigue, often complaining of brain drain, diminished energy, and chronic exhaustion. Two traditional Chinese medicinal ingredients have been uncovered that work deep at the cellular level to boost ATP, the body’s internal energy resource. When combined, these readily available plant extracts have shown the ability to fight all forms of fatigue, including mental, emotional, physical, and stress without stimulants.

51 **Bio-Enhanced Turmeric Compounds Target Multiple Inflammatory Pathways**

Millions of Americans suffer from constant pain and diseases caused by chronic inflammation. Today’s drugs target only a portion of the unwanted inflammatory factors. Scientists have identified three compounds (curcumin, ginger, and turmeric oil) that work across a broad spectrum to reduce chronic discomforts and long-term disease risk.

61 **Enhanced Safeguards for Liver Function**

Multiple studies confirm that milk thistle provides potent protection against liver damage and helps normalize elevated liver enzymes. Seeking to deliver more of milk thistle’s liver protective compounds, formulators have developed an innovative method that transports a 10-fold greater concentration of active milk thistle compounds to the liver for optimal health and function.

71 **Defend Against Migraines**

Alarming new evidence demonstrates that regular migraines may be a risk factor for many of the most crippling brain disorders, including stroke and dementia. As scientists searched for alternatives to the anti-epileptic drugs used for migraine treatment, they discovered two nutrients that effectively calm and balance the electrical storm of neurotransmitters that leads to migraines while nourishing the brain with improved blood flow to provide prevention and relief.

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**Annual Super Sale begins November 18, 2013.**

To order, call 1-800-544-4440.
Broad-Spectrum Protection Against
Your brain is under assault from environmental toxins, oxidant stress, inflammation, blood flow fluctuations, and excess glucose.\textsuperscript{1,2} Collectively, these factors contribute to a state of neurotoxicity that accelerates brain aging resulting in neurodegenerative decline, Parkinson’s, and Alzheimer’s.\textsuperscript{1-4}

Currently there are no medical options to halt this steady march toward mental darkness. Pharmaceutical intervention is largely palliative and cannot cure or restore lost brain function.

For thousands of years, Chinese doctors have used \textit{gastrodin}, extracted from the root of the exotic \textit{orchid}, \textit{Gastrodia elata}, to treat a range of cognitive problems ranging from vertigo and headaches to paralysis and seizures.\textsuperscript{5-8}

What scientists today are discovering is that \textit{gastrodin} acts as a broad-spectrum “brain shield” that protects against various factors that cause age-related degradation of our mental processes. >
The wide ranging brain benefits of gastrodin were long ago identified.

What has researchers excited are new findings showing that gastrodin has regenerative properties that include rebalancing neurotransmitters, improving blood flow, decreasing memory loss, protecting brain functions during a stroke, and potentially reducing risk of Alzheimer’s and Parkinsons. In short, gastrodin provides unparalleled, multi-factorial brain protection in both extreme and everyday conditions.

Impressive human studies using gastrodin in hospital settings confirm its benefit in shielding the brain against neurological insults, including protecting the brain against memory loss that can occur when one undergoes open heart surgery. In the discussion that follows, we highlight leading research showing how gastrodin protects against factors that conspire to deteriorate our brain.

**Neuroregeneration — Once Thought to be Impossible**

Not so long ago, most scientists thought that adult brain tissue had no hope of regenerating itself. The loss of brain cells and brain function was considered irreversible. According to neurologists, once your brain had finished growing, the ongoing loss of brain cells was just a natural part of aging.

But molecular science is revealing startling discoveries about the brain’s ability to heal itself. What scientists have now found is that the brain can regenerate the neurons involved in brain remodeling (plasticity). Plasticity is the process by which brain cells reorganize and restructure their connections to form new memories and facilitate learning.

Scientists in China and Singapore have made remarkable findings about how a natural orchid extract called gastrodin stimulates these neuro-regenerative processes. Extracts from the Gastrodia orchid have been shown to have a beneficial influence on up to nearly 20% of the genes that control the brain’s plasticity and regrowth. In the studies, gastrodin was shown to mobilize and activate specific aspects of the brain’s regenerative activities.

Instead of succumbing to progressive brain shrinkage with constriction of one’s thoughts, feelings, and memories, brain cells have built-in natural, self-healing systems. Gastrodin can turn on and activate these regenerative mechanisms. This may turn out to be one of the most powerful methods ever discovered for preventing loss of brain function at any age.

**Brain Blood Flow**

A major cause of brain aging and many of the problems that go along with it is a reduction in blood flow to the brain. The result is that the brain becomes starved for oxygen and fuel, producing a low-grade “suffocation.” This reduction in brain blood flow is progressive over the course of an individual’s lifespan. Reduced blood flow has been proven to be a direct cause of poor cognition and memory. Gastrodin has repeatedly shown that it beneficially increases brain blood flow both in laboratory animals and human patients.

In rats with experimentally-induced massive strokes, a gastrodin-based traditional preparation greatly improved blood flow when given 30 minutes after the stroke. Even at a relatively low dose, brain blood flow was restored to normal with the gastrodin-based formula.

Human studies are just as dramatic. In a study involving 202 patients, a gastrodin-based formula improved brain blood flow in 96% of the patients following stroke and other brain injuries. In another study of patients with impaired circulation to the rear portions of their brains (where balance, vision, and coordination are processed), 95% of patients given gastrodin plus betahistine...
(a prescription medication) showed improved blood flow, while only 70% of betahistine control patients showing improvement.20

Brain blood flow is also reduced by elevated blood sugar.21 The result is often memory impairment and an increased risk for Alzheimer’s disease. Gastrodin, in a recent lab study, improved insulin sensitivity, ridding the blood of excess glucose and reducing body fat.22

**Improved GABA Levels**

While “burnout” is a popular phrase to illustrate extreme fatigue, it is a very real condition that occurs in your brain from too much stimulation. Given the multi-tasking pace of our lives, combined with the incessant information overload, most of us are suffering from an imbalance of our neurotransmitters.

Your brain is constantly working to maintain a balance between the cells that create electrical activity, and those that reduce or calm brain activity.

Brain cells modulate different neurotransmitters to excite or calm the brain. When the brain is resting or calm, it uses a neurotransmitter called GABA.23

Heightened brain stimulation, with its increased cellular activity, puts an enormous strain on brain tissue, whereas inhibition tends to promote rest, regeneration, and healing.

This delicate balance of neurotransmitters is of tremendous importance to healthy brain function. Too much excitatory input, or too little inhibitory input, disturbs the balance, overstresses the brain, and leads to a “burn out” of brain cells.

Scientists commonly find an extreme neurotransmitter imbalance in people with Alzheimer’s and Parkinson’s diseases, in seizures, in stroke and head trauma victims, in diabetics (especially those with painful diabetic neuropathy), in people undergoing surgical anesthesia, and even in “normal” aging.24-28

**Gastrodin** helps restore the vital balance of neurotransmitters. Studies show that gastrodin increases levels of the inhibitory neurotransmitter GABA by as much as 34%, which exerts a calming effect on the brain and counteracts the overactive brain activity.11,29,30

Pharmaceutical companies are spending huge sums on research and development of drugs to control neurotransmitter imbalance. However, their approach has been not to create balance but to simply suppress excitation. Their only drug offering, Namenda® (memantine), has had little impact on neurodegenerative diseases, and no effect on the heightened brain activity seen following low blood-flow conditions such as surgery and anesthesia.31-33
Memory Loss

One of the greatest fears of getting older is the threat of memory loss. Not recognizing your loved ones or even remembering your name is a devastating condition. Studies show that gastrodin can help counteract many of the key processes that lead to memory loss.

When rats are subjected to toxic drugs that impair memory, they become confused and take longer to find their way through familiar mazes, or to rescue themselves from danger. The stress of dangerous situations also freezes up memory, just as it does in humans. Gastrodin reverses those impairments, helping the bewildered animals consolidate and retrieve memories they’d already stored away. In rats exposed to aluminum, which is thought to be a risk factor for Alzheimer’s disease, similar improvements in memory preservation were obtained even without a reduction in brain aluminum levels.

Reducing the Cognitive Risks of Open Heart Surgery

Perhaps the most dramatic demonstration of gastrodin’s ability to prevent brain aging caused by circulatory deficit comes from a recent human study done under the extreme stress of open heart surgery. During this operation, the patients’ hearts are stopped while they are kept alive only by use of the heart-lung machine. In this procedure, blood flow to the brain is reduced as fat globules introduced by the surgical trauma causes cerebral capillary beds to occlude. Up to 55% of patients may suffer memory loss and cognitive impairments after bypass surgery that can last for weeks, months, or forever following surgery. Surgeons refer to these cognitive deficits resulting from open heart surgery as “pumphead syndrome.”

The symptoms involved in pumphead syndrome resemble accelerated brain aging, complete with circulatory deficit, inflammatory changes, and increases in abnormal proteins such as those seen in neurodegenerative diseases. The only difference is that, instead of slowly occurring over many years, these cognitive changes occur within the single hour of open heart surgery.

In a human clinical trial, intensive care specialists in China injected gastrodin or a saline control solution in 200 patients undergoing open-heart surgery. Prior to surgery, all of the patients tested normal on memory and cognition. After the operation they found that 42% of patients had cognitive decline, which included substantial memory loss.14 The outcome in the gastrodin treated group of patients was very different. Only 9% had any change at all from baseline. Even three months after surgery, 31% of the patients who did not receive gastrodin continued to have memory difficulties. Yet only 6% of the gastrodin group had residual memory problems.14

This study showed that even under the extreme conditions of open heart surgery gastrodin prevented rapid brain aging produced by intensive brain stress, including catastrophic loss of memory. This is the most compelling evidence yet of the clinical impact of gastrodin’s multiple brain-protecting and brain-healing effects.

Neurodegenerative Diseases

The World Health Organization estimates that neurological disease affects over a billion people worldwide and the trend is expected to continue. The WHO report states that, “The neurological burden is expected to become an even more serious and unmanageable threat to public health.”

Yet despite this global escalating increase in neurodegenerative diseases, mainstream medicine is not providing much help in treating or solving this condition. Even the drugs that are currently on the market treat only symptoms rather than curing the cause of these disorders. Unlike prescription medication, gastrodin has strong evidence for its effectiveness in shielding the brain from destruction during the long slide into cognitive decline and dementia.

In laboratory experiments that simulate Alzheimer’s and Parkinson’s disease, gastrodin protects the cells in the brain centers that are most vital for learning and memory. These are the areas that quickly
degnerate under the threat of Alzheimer's disease. With gastrodin, the result is a beneficial increase in cell survival and a decrease in cell death.

Also helpful in fighting the onset of Alzheimer's, gastrodin switches on the enzymes that break down and clear away toxic $\alpha$-beta proteins, which kill brain cells and steal memories in Alzheimer's disease. Gastrodin's housecleaning ability to eliminate toxic $\alpha$-beta proteins may be one of the great prevention advances regarding Alzheimer's disease.8

Gastrodin has been shown to reduce general brain inflammation, a major contributor to neurodegeneration.45 Animals supplemented with gastrodin have improved learning and memory compared with their peers receiving no therapy.5 In the laboratory, gastrodin was proven to shift brain biochemistry away from producing the toxic $\alpha$-beta proteins associated with Alzheimers, and towards a healthier, normal protein.8

**Stroke**

Just as in patients being hooked up to the heart-lung machine during surgery, strokes involve rapid and catastrophic disruption of brain **blood flow**, an excess of excitatory brain activity, activation of destructive enzymes, and accumulation of inflammatory cytokines.46 Stroke-inflicted brain damage happens in an extremely short period of time and can provide important insights into brain aging.

Gastrodin's unique ability to balance excitatory-to-inhibitory neurotransmitter levels makes it therapeutically valuable in strokes. Rats treated with gastrodin after an experimentally-induced stroke had an increase of the inhibitory neurotransmitter **GABA** by up to 34% as well as increases in the protective amino acid **taurine** by up to 14%.11,47

As a result, the animals given gastrodin had significantly smaller areas of brain damage and swelling; they also performed better on tests of memory and behavioral performance, compared with animals that had strokes but were not supplemented.48-50

Similarly, when brain cells in culture were exposed to low oxygen levels (similar to a stroke), they exhibited sharp rises in excitatory neurotransmitters. Pretreatment with gastrodin prevented that rise, and the subsequent microscopic evidence of neurotoxicity.51

Gastrodin's ability to promote neuroregeneration is especially important when a stroke happens. Once metabolized in the body, gastrodin boosts production of an enzyme that restores normal structure to brain proteins damaged during stroke.13 Experimental-induced strokes in animals given gastrodin were up to 55% smaller than in untreated animals.13 And pre-treatment with gastrodin reduced the rate of cell death by apoptosis following stroke.52

**Seizures**

Gastrodin has long been used in traditional Chinese medicine to prevent and treat seizures with impressive results. As a result, Western medicine is now seeking to exploit it as a source of antiepileptic drugs.55,56

### Human studies

*One of the most important genes influenced by gastrodin is the gene that produces neuronal cell adhesion molecules.*9 These molecules are essential to the process by which brain cells find their way to link up with others as **synapses**. One result of this activity is that new memories can form rather than be erased or forgotten.63 Gastrodin also increases the activator protein-1, a regulator of new protein formation which results in new neuron growth and improved memory.64

In addition, gastrodin switches on the “misfolded protein response,” a self-healing mechanism that recognizes and destroys the abnormal proteins involved in brain cell death in Alzheimer's, Parkinson's, and Huntington's diseases.65,66
Following brain injury or stroke, seizures are unfortunately a common and distressing occurrence. They are the clearest example of what happens when the brain’s excitatory neurotransmitters outweigh the inhibitory ones. Rapid and uncontrolled electrical activity are hallmarks of seizure activity typically spreading to both sides of the brain in the absence of adequate inhibitory action.

In a rat model of epilepsy, treatment with gastrodin significantly reduced the frequency and time to onset of seizures; at the same time it reduced brain markers of lipid peroxidation, a side effect of prolonged seizure activity that indicates destruction of brain cell membranes.56

Mainstream medicine treats acute seizures with GABA-like drugs that increase inhibitory brain activity (drugs such as lorazepam (Ativan®), for example). Gastrodin naturally raises calming GABA levels in brain cells by decreasing levels of GABA-breakdown enzymes. Gastrodin supplementation also lowered seizure-prone animals’ seizure severity scores.30

**Anxiety**

According to the National Institutes of Health, over 40 million adults in America suffer from anxiety disorder.57 Like seizures, anxiety is a direct result of an imbalance between excitatory and inhibitory brain cell activity, with excitatory stimuli being predominant. Drugs used to treat anxiety, therefore, are usually ones that mimic the calming, inhibitory effects of GABA, such as the benzodiazepines (Valium, oxazepam, and others.)

Gastrodin’s two major breakdown compounds, found in brain cells after ingestion of gastrodin, have been shown to have powerful anti-anxiety effects in mice.38 Unlike their drug counterparts, however, these gastrodin metabolites did not produce unwanted side effects such as sedation or muscle relaxant effects.

In a study involving 100 patients with neurotic anxiety, 100% of the patients showed improvement with gastrodin therapy.59 However, in the patient group treated with conventional medicine, 78% of the patients showed improvement. Beyond just improvement, 88% of those treated with gastrodin were clinically cured of anxiety while those taking conventional medicine showed a 32% cure rate.59

**Migraine Headaches**

The Gastrodia orchid from which we get gastrodin has been used for thousands of years in preventing and treating headaches in traditional Chinese medicine.60 Now, in a laboratory model of the biochemical effects of migraine headaches, gastrodin has been compared to two approved anti-migraine drugs, sumatriptan and flunarizine.60 Gastrodin, in a fashion similar to that of the prescription drugs, significantly reduced the expression and actions of proteins known to be involved in the pain response that occurs in migraine and other “vascular” headaches.60

**Diabetic Neuropathy**

Even outside of the brain, gastrodin shows strong evidence of its “nerve shielding” effects. This is evident in studies of gastrodin and painful diabetic neuropathy, a condition in which peripheral nerves become damaged by chronic exposure to high blood glucose levels. We’ve seen that gastrodin reduces insulin resistance and speeds clearance of glucose from blood, which can help prevent neuropathy.22

But gastrodin also seems to heal nerve fibers even after diabetic neuropathy develops. Diabetic rats exhibiting pain resulting from normally non-painful stimuli, such as light touch (alldynia) and excessive sensitivity to minor painful stimuli (hyperalgesia) showed improvement in their symptoms following gastrodin administration.81 In-depth studies revealed a decrease in the nerve cells’ excitability, precisely what we’d expect from the gastrodin compound capable of balancing out the excitatory-to-inhibitory signaling ratio in nerve cells.61 Human studies show an improvement in nerve conduction velocity and total curative rate in diabetics receiving gastrodin by injection as a drug, compared with a control group.62

**Summary**

Every second, your brain is targeted by an onslaught of destructive events that cause it to age. Even so-called normal aging results in multiple damaging cascades of events that lead to memory loss, slowed learning reflexes, and can set one up for Alzheimer’s and Parkinson’s diseases.
Those who suffer a stroke, head injury, or undergo heart surgery can accumulate years’ worth of brain aging in a few short minutes.

In recent years, scientists have made significant advances in the understanding of the mechanisms of neuro-degeneration. They’ve even discovered silent brain-healing systems that lie latent, awaiting activation.

**Gastrodin**, derived from a traditional Chinese medicinal orchid, can activate dormant self-healing programs hidden in the depths of your brain.

Studies show that gastrodin fights brain aging at multiple levels, re-balancing neurotransmitters towards a calmer less overly active state, restoring brain blood flow to more youthful levels, and preventing memory loss and other cognitive changes.

The combination of these protective and self-healing effects may help slow “natural” brain aging while reducing risk for slow-onset disorders like Alzheimer’s disease. And, by similar mechanisms, gastrodin seems to slow or reverse damage done by acute events like strokes.

Gastrodin’s re-balancing act also offers promise to those suffering from seizures, migraine headaches, and even painful diabetic neuropathy.

**Dosage Suggestions**

A wide range of gastrodin doses have shown protective and supportive effects on neurovascular function, in particular in the context of neurovascular inflammation. One pre-clinical study using a well-validated model showed improved memory consolidation and retrieval in chemically impaired rats using a human equivalent dose of 50 mg daily. This 50 mg dose, when combined with nutrients that function via some of the same mechanisms as gastrodin, may be sufficient to derive results in aging humans.34

Those seeking maximum benefit should consider adding 600 mg of gastrodin in divided doses (300 mg twice daily) for thirty days. After thirty days, 300 mg of gastrodin may be sufficient based upon the experience of gastrodin as an over-the-counter (OTC) pharmaceutical agent. As additional research continues on gastrodin, better clarification on optimal dosing for a wide range of neurovascular and neuro-inflammatory conditions should be available.

Guarding one’s brain against daily wear and against potential catastrophes may now be possible with daily use of gastrodin.

*If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.*

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**Brain Fitness**

Your brain is constantly changing—creating new neurons and increasing the functional connections among them, known as **synapses** and **dendrites**. The level at which it performs these functions determines your brain’s **fitness**, which is dependent on the inflow of nutrients and blood.

**Physical exercise** promotes brain blood flow67,68 and the production of blood vessels,69 brain cells,69-71 and beneficial brain proteins called neurotrophins.72,73 In these ways, exercise protects brain fitness and the capacity of a person to meet the various cognitive demands of life.

As a result, studies have repeatedly shown that older individuals who regularly participate in **physical exercise** are less likely to succumb to cognitive decline, mild cognitive impairment (MCI), or Alzheimer’s disease.74-76

In a study of older adults diagnosed with mild cognitive impairment, scientists found that 40 to 60 minutes of intensive aerobic exercise four days a week acted as a “potent [non-drug-induced] intervention that improves executive control processes for older women at high risk of cognitive decline.”77 Another study of 1,300 people by the Mayo Clinic concluded, “Any frequency of moderate exercise performed in midlife or late life was associated with [reduced odds] of MCI.”78

Like physical exercise, **mental exercise**—formal education, continuing to learn, being mentally engaged in life, and practicing cognitive skills—can help prevent cognitive decline, dementia, and Alzheimer’s disease.79-81 Mental exercise can also improve normally functioning minds.82

Studies show that brain fitness can be improved by various cognitive activities, such as chess, bridge, or more structured computer-based workouts.83 Scientists found that, compared to other computer-based activities, computerized brain-boosting exercises improved attention and memory in people over age 60.84,85 Other research showed that participants aged 65 and older who performed mental training for two-and-a-half hours weekly improved their memory, reasoning, and information-processing speed—within five weeks.86 And individuals who did crossword puzzles four days a week were found to have a 47% lower risk of dementia than those who did a crossword puzzle just once a week.87
29. Kim HJ, Hwang IK, Won MH, Vanillin, 4-hydroxybenzyl alcohol prevent hippocampal CA1 cell death following global ischemia. Brain Res. 2007 Nov 21;1181:130-41.
Wouldn’t it be nice to enjoy guilt-free chocolate? With Rich Rewards™ Dark Chocolate, now you can!

The negative effects associated with eating chocolate don’t come from its cocoa content, but from the sugar. Finally, there’s a new chocolate that has all of the great taste without the harmful sugar content. *

Rich Rewards™ Dark Chocolate is a unique 70% dark chocolate that is 100% sweetened with nature’s own sweetener—xylitol.

The Benefits of Nature’s Sweetener

Xylitol is a natural sweetener derived from fibrous plant materials. It’s present in small amounts of various fruits and vegetables—and your body even makes considerable amounts of xylitol on its own!

Xylitol is classified as a low glycemic carbohydrate, but unlike many carbs, this natural sweetener does not cause rapid rises in blood glucose. The caloric impact of xylitol is typically about 40% lower than other carbohydrates. In addition, xylitol may reduce the risk of tooth decay, making it a healthy addition to any diet. *

Better Ingredients, Better Product

Rich Rewards™ Dark Chocolate is made using only USDA organic certified cocoa butter and organic cocoa liquor. With the quality ingredients of Rich Rewards™ Dark Chocolate, sweetened by nature’s own healthy sweetener, xylitol, you can finally enjoy guilt-free chocolate—and all of the sweet benefits that go along with it.

- 100% Natural
- Low glycemic
- Vegan
- Gluten free
- Lactose free
- Kosher

The retail price for a bag containing 15 pieces of Rich Rewards™ Dark Chocolate is $15. If a member buys four bags during Super Sale, the price is reduced to just $8.75 per bag. *Not a low calorie food

References

To order Rich Rewards™ Dark Chocolate, call 1-800-544-4440 or visit www.LifeExtension.com
SUPPORT for COGNITIVE FUNCTION with AGING

Your brain is under constant onslaught from environmental and stress-related challenges, as well as normal aging processes. Fortunately, our brain cells have built-in, self-healing systems that provide natural defenses against these ongoing threats. Even more remarkable, molecular science is revealing that the human brain has the capacity to preserve the neurons involved in brain remodeling (plasticity).

Scientists in China and Singapore have found that gastrodin, a compound typically derived from a traditional Chinese orchid (Gastrodia elata), provides powerful support for the brain’s normal defenses and regenerative mechanisms. To make these benefits available to members, Life Extension introduces Brain Shield™, providing 300 mg of gastrodin in each capsule for maximum brain support.

MULTI-FACTORIAL BENEFITS!

Recent studies confirm that the gastrodin in Brain Shield™ is one of the most powerful compounds for supporting healthy brain function at any age! Gastrodin works by the following mechanisms:

- To retain normal function, the aging brain relies on adequate blood flow to get sufficient oxygen and fuel. It has been repeatedly shown that formulas containing gastrodin beneficially support normal, healthy levels of brain blood flow in both animals and in humans.

- The body maintains a delicate balance of neurotransmitters, such as GABA, which is of tremendous importance to healthy brain function. Studies show that alone or in combination the active compounds in gastrodin help maintain healthy levels of vital neurotransmitters in those whose levels are already within the normal range.

- With aging, short-term memory function is often impaired. Studies show that gastrodin and its active constituents help support the healthy body’s normal defenses against the mild memory problems associated with aging.

- Scientists have shown that the breakdown metabolites of gastrodin help provide support against the normal stress and tension of daily life.

- And Brain Shield™ helps alleviate the occasional cranial pain associated with daily life.

Brain Shield™ supports healthy cognitive and circulatory function in aging individuals.

Those seeking maximum benefit should start with one 300 mg capsule of Brain Shield™ taken twice daily. After thirty days, one Brain Shield™ (gastrodin) capsule daily may be sufficient based upon the experience of those taking Cognitex® are obtaining gastrodin as an over-the-counter (OTC) pharmaceutical agent. Those taking Cognitex® are obtaining 50 mg of gastrodin in the daily dose along with complimentary nutrients. As additional research continues on gastrodin, better clarification on optimal dosing for a wide range of neurovascular and neuro-inflammatory conditions should be available.

A bottle of 60 300 mg vegetarian capsules of Brain Shield™ retails for $18. If a member buys four bottles during Super Sale, the price is reduced to $20.25 per bottle.

To order Life Extension® Brain Shield™, call 1-800-544-4440 or visit www.LifeExtension.com

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

References
Brain decline affects all aging humans. Scientific studies demonstrate more youthful cognition and memory in response to the proper nutrients. Cognitex® provides the following brain boosting ingredients in one advanced formula:

**Gastrodin** acts as a “brain shield,” calming brain cells and helping to protect against oxidant, inflammatory, and excitatory damage. **Gastrodin’s** multiple modes of action work together with other nutrients to improve circulation and shield the brain from age-related insults.

**Alpha-glyceril phosphoryl choline** boosts levels of **acetylcholine**, a neurotransmitter that enables brain cells to communicate. **Acetylcholine** is intimately involved in memory and learning. Acetylcholine levels markedly decline as humans age past 30.

**Vinpocetine** enhances circulation, oxygenation, electrical conductivity of brain cells, and helps protect against cerebral hypoperfusion.

**Pregnenolone** is a hormone involved in synchronization of brain cells that declines in normal aging brains.

**Hops** and **rosemary** have all shown to help suppress inflammatory cytokines.

**Wild blueberry extract** has been shown to inhibit oxidative and inflammatory changes in brain cells believed to be involved in memory decline.

The ability of **phosphatidylserine** (PS) to improve cognitive skills has been extensively studied. PS exerts significant benefit for cognition, especially those functions that tend to decline with age, including memory, learning, vocabulary skills, and concentration.

**Ashwagandha** inhibits an enzyme (acetylcholinesterase) that breaks down **acetylcholine** in the brain.

**Grape seed extract** improves blood vessel tone and elasticity, thus boosting cerebral oxygen flow.

**Uridine-5’-monophosphate** is a compound naturally found in the milk of nursing mothers and is essential to humans when brains are the youngest. UMP also supports superior cognitive function in aging adults.

**MOST ADVANCED NEUROLOGICAL FORMULA AT NEW LOWER PRICES**

The ingredients in Cognitex® sell for a small fortune in Europe where they are commonly prescribed. You can obtain them all at a fraction of this cost in the comprehensive Cognitex® nutrient formula for the brain.

A wide range of **gastrodin** doses have shown protective and supportive effects on neurovascular function, in particular in the context of neurovascular inflammation. One pre-clinical study using a well-validated model showed improved memory consolidation and retrieval in chemically impaired rats using a human equivalent dose of **50 mg** daily. This **50 mg** dose, when combined with nutrients that function via some of the same mechanisms as gastrodin may be sufficient to derive results in aging humans.* **Gastrodin** is also available in **300 mg** capsules.

The retail price for **90 softgels** of Cognitex® with Brain Shield™ is $62 (Item# 01897). If a member buys four bottles during **Super Sale**, the price per bottle is $35.78. If eight bottles are purchased during **Super Sale**, the cost per bottle drops to **$33.75**. Cognitex® is also available without preg

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To order Cognitex® with Brain Shield™, call 1-800-544-4440 or visit www.LifeExtension.com

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

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*Gastropharmacol. 1997;56:45-54.
References for most can be found at: http://www.lef.org/magazine/mag0807/feb0807_report_cognitex_01.htm

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**Just three softgels of Cognitex® provide the following nutrients:**

- **Alpha-Glyceril Phosphoryl Choline (A-GPC)**  600 mg
- **Phosphatidylserine** (from Sharp-PS®)  100 mg
- **Brain Shield™** (Gastrodin)  50 mg
- **Vinpocetine**  20 mg
- **Grape Seed Extract**  150 mg
- **Wild Blueberry Extract**  150 mg
- **Sensoril™ Ashwagandha Extract**  125 mg
- **Uridine-5’-Monophosphate (disodium)**  50 mg
- **Proprietary NeuroProtection Complex Blend**  125 mg
- **Pregnenolone**  50 mg

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Groundbreaking human studies demonstrate that a proprietary extract of the Italian Borlotto variety bean modulates several appetite hormones, including ghrelin.\(^1\)–\(^5\) Controlling hunger and satiety hormones can block hunger and increase feelings of fullness, ultimately promoting weight loss.\(^1\),\(^3\)

In addition to regulating hunger hormones, this Italian Borlotto variety bean extract helps neutralize the alpha-amylase enzyme that converts dietary carbohydrates into sugars.\(^2\) This slows down and limits the absorption of glucose from the intestine.\(^2\)

By safely rebalancing hunger hormones like ghrelin, this unique Italian Borlotto variety bean extract helps promote healthy weight reduction by reducing nagging feelings of hunger and the desire to overeat, while limiting glucose absorption.\(^2\) >
Compared to the control meal, the bean meal resulted in decreased levels of the appetite-promoting hormone ghrelin and reduced hunger. Additionally, the people eating the beans had 15% lower glucose and 16% lower insulin levels. \(^{13}\) Insulin levels are too high in most aging humans, which contributes to health problems and unwanted body fat storage. \(^{13}\)

Based on these results, the scientists reasoned that a concentrated and standardized Italian Borlotto variety bean extract should produce a much more potent effect.

**Benefits for Healthy Weight Individuals**

In a randomized, double-blind, placebo-controlled study, 12 healthy, non-overweight volunteers took either a placebo or 100 milligrams of Italian Borlotta variety bean extract with a standardized meal after a 12-hour overnight fast. \(^{1}\) The study subjects then ate a normal meal.

Within three hours, the bean extract group experienced significantly lower levels of the appetite-stimulating hormone ghrelin compared to the placebo group. Even more importantly, the group had less of a desire to eat and more of a feeling of fullness. \(^{1}\)
And in the bean extract group, the increase in blood sugar was 41% lower than the placebo group 30 minutes after the meal. Between 45 and 120 minutes after the meal, the increase in insulin was 26% lower. These are important factors not only for weight management, but also for slashing risk of a number of degenerative and potentially fatal diseases.14-19

**Lose Nearly 10 pounds in 12 weeks...**

**Without diet or exercise!**

Next, researchers investigated the weight-loss effects of Italian Borlotto variety of bean extract on overweight individuals. In a not-yet published study, 60 overweight participants with a body-mass index (BMI) between 25 and 30 took 200 milligrams of extract daily or received no treatment. No dietary changes were requested of the individual participants.

At the end of 12 weeks, the group receiving the Italian Borlotto variety bean extract showed the following improvements:

1. Reduction in total body weight of 8.8 pounds versus 0.2 pounds in the placebo group.
2. Reduction of almost 2.5 inches in waist circumference versus 0.6 inches in the placebo group.
3. Reduction in appetite levels from baseline values. The placebo group showed no improvement.
4. Increase in satiety from baseline. The placebo group showed no improvement.

No significant adverse events or side effects were reported in the study.2

**Inhibiting Carbohydrate Absorption**

Appetite hormones aren’t the only factor undermining your weight loss attempts. Today’s carb-heavy Western diet can foil even the best efforts to maintain healthy levels of body weight.

Excess blood glucose leads to increased insulin—which contributes to greater difficulty burning stored body fat as fuel.20 It also causes the body to store more excess carbohydrate calories as fat. The result of rapid sugar absorption is high-risk, after-meal glucose surges and increased disease risk.14-19

In addition to its ability to rebalance appetite hormones, Italian Borlotto variety bean extract also impedes alpha-amylase, the enzyme that breaks down dietary starch that convert into simple sugars that are rapidly absorbed in the small intestine.2,3,8
By inhibiting alpha-amylase, Italian Borlottovariety bean extract impedes the breaking down of starches and slows the rate at which free sugars are absorbed, thereby blunting glucose spikes. This provides a practical approach to help lower glucose levels, improve age-related markers of health, and regain glycemic control.

**Summary**

When your appetite hormones are out of whack, they can sabotage even the best efforts to lose weight. Clinical studies demonstrate that a proprietary extract from the Italian Borlottobean is a safe, effective nutritional supplement that modulates appetite by effectively blocking hunger while increasing feelings of fullness.

Italian Borlottovariety bean extracts help neutralize the enzyme (alpha-amylase) that converts carbohydrate into sugar. This impedes the after-meal glucose surge that has been implicated in increased risks of a number of chronic, degenerative conditions.

Based on clinical trial data, this new Italian Borlottovariety bean extract can help in achieving healthy body weight and optimizing glucose control, thereby reducing disease risks, improving appearance, and boosting longevity.

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-866-864-3027.

**References**

A large, rigorous study published in the New England Journal of Medicine confirmed the health benefits of those who switch to a Mediterranean diet rich in omega-3 fish oil as well as protective nutrients called polyphenols found in olive oil, fruits, vegetables, nuts like walnuts, and wine. The study ended early because the benefits were so overwhelming, with startling benefits for vascular health, that it was considered unethical to continue to deprive the control group.

In addition to the health-promoting benefits of vegetables and fruits with their abundance of polyphenol nutrients, the Mediterranean Diet group took at least 4 tablespoons of polyphenol-rich extra-virgin olive oil a day.

LIFE EXTENSION® MEMBERS LONG AGO BENEFITED

Starting in 2005, Life Extension members began taking a supplement (Super Omega-3) that provided potent concentrations of fish oil and olive polyphenols like hydroxytyrosol and oleuropein. This supplement also provided standardized sesame lignans to support the beneficial effect of omega-3 fatty acids in the body.

Olive oil contains polyphenol nutrients that have demonstrated wide-ranging health benefits. The recommended twice daily dose of Super Omega-3 supplies a similar polyphenol content to that found in 4 to 6 tablespoons of olive oil.

References
Since Life Extension® introduced CoQ10 in 1983, our scientists have continued to develop increased potency and absorbability.

**Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™** contains PrimaVie® shilajit that doubles levels of CoQ10 in the mitochondria.

Combining CoQ10 and shilajit produced a 56% increase in energy production in the brain, and in muscle there was a 144% increase in energy production.

The primary reason people take CoQ10 supplements is to help restore youthful energy levels.

Shilajit boosts CoQ10’s beneficial effects by stabilizing CoQ10 in the superior ubiquinol form, which prolongs its action at the cellular level.

Additionally, shilajit facilitates the more efficient delivery of CoQ10 into the mitochondria, which results in enhanced cellular energy.

Shilajit helps the mitochondria convert fats and sugars into the body’s main source of energy, ATP (adenosine triphosphate).

Combining ubiquinol CoQ10 with shilajit generates a powerful synergy that supports more youthful cellular energy production than CoQ10 alone.

**To order Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ call 1-800-544-4440 or visit www.LifeExtension.com**

References

PrimaVie® is a registered trademark of Natreon, Inc. Kaneka QH® is a registered trademark of Kaneka Corporation.
Excess calorie consumption has become epidemic in the United States. The invariable result is more overweight Americans and a litany of associated health problems.

A crucial component of a longevity or weight loss program is reducing portion size and the quantity of ingested calories.

A natural supplement has been developed to help tame hunger and promote satiety so more people can adhere to lower-calorie diets.

The Body’s Appetite Hormones

Hunger and satiety are controlled by hormones.1 Advanced Natural Appetite Suppress contains a Italian Borloto variety bean extract that helps support normal levels of the gut hormones that control appetite and satiety.2,3 The result is reduced desire for food and less food intake.3,4

The stomach hormone ghrelin produces feelings of hunger, while the hormones cholecystokinin (CCK), glucagon-like peptide-1 (GLP1), and peptide YY (PYY) produce feelings of food satisfaction and fullness.5,6 Advanced Natural Appetite Suppress provides a potent dose of a novel Italian Borloto variety bean extract. Studies show this proprietary extract helps the body modulate levels of ghrelin and the satiety hormones CCK, GLP1, and PYY.2,5,6,7 This helps reduce food intake and supports normal, healthy levels of hunger and fullness.5,8

This extract also modulates alpha-amylase, the enzyme that converts dietary starch into simple sugars.2 This can affect the rate at which free sugars are absorbed from the digestive tract into the blood stream.3,4,8

Remarkable Clinical Research

In a recent human trial in which all overweight participants avoided making intentional dietary or exercise changes, those taking this Italian Borloto variety bean extract lost 9 pounds on average in 12 weeks—versus only one-third of a pound in those taking placebo.8

The supplemented subjects also lost 2.5 inches in waist size—a 4.2 times greater reduction than the placebo subjects.8

The supplemented participants had reduced appetite levels and increased satiety, and no significant side effects were reported.8 Advanced Natural Appetite Suppress contains the identical Italian Borloto variety bean extract used in this study.

The suggested twice daily dosage of one (1) vegetarian capsule of Advanced Natural Appetite Suppress provides:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>European (Italian Borloto variety) white kidney bean extract</td>
<td>200 mg</td>
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</table>

A bottle of 60 vegetarian capsules of the new Advanced Natural Appetite Suppress retails for $38. If a member buys four bottles during Super Sale, the price is reduced to $22.95 per bottle.

Beanblock® is a registered trademark of Indena S.p.A

References
4. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222422/.

To order Advanced Natural Appetite Suppress, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Finding a unique and practical gift can be challenging. What better way of showing you care than endowing those you know with vibrant health and longer life?

The new 5th Edition of Disease Prevention and Treatment can help your friends and family overcome a chronic medical condition, or better yet, prevent it from developing in the first place.

Disease Prevention and Treatment is fully indexed so that a person can easily learn more about their medical conditions. Each chapter provides novel solutions to help prevent and treat 130 different disorders.

This beautiful hardbound book makes the perfect holiday gift by providing fascinating reading material and serving as a handy household reference that may be used for years to come.

This 2014 edition of Disease Prevention and Treatment provides 1,400 pages of information about therapies that are documented in the scientific literature, but are not routinely used in clinical medical practice. Gaining access to this knowledge enables one with a medical disorder to take advantage of these advanced modalities immediately, rather than waiting years for conventional medicine to catch on.

It is a well-known fact that people suffer and die even though effective treatments may already exist for their diseases. Don’t let this happen to someone who you care about. By giving them a gift copy of Disease Prevention and Treatment, you’ll help break down the barriers of ignorance that may be denying them life-saving knowledge.
Unique Health Reference Book

*Disease Prevention and Treatment* contains information that the lay public and their doctors are largely unaware of.

If you know someone who is concerned about staying healthy, or needs better help treating cancer, heart disease, arthritis...the 2014 edition of *Disease Prevention and Treatment* is a must for their library.

*Disease Prevention and Treatment* is the only book that makes specific recommendations about combining mainstream therapies with diet, nutrients, hormones, and unique medications to provide the best chance of preventing or gaining control over serious medical disorders.

This is not a nutrition book. Rather, *Disease Prevention and Treatment* provides guidelines about how to safely use FDA-approved drugs, along with alternative therapies, in order to implement logical treatment regimens to address the multiple pathological processes involved in degenerative disease.

The protocols discussed in this book are documented by thousands of published studies from internationally recognized scientific journals. Despite this bountiful evidence, the medical establishment largely ignores many of the therapies recommended in this book.

The leading cause of death and disability today is ignorance about scientific approaches to prevent and treat degenerative disease. The state-of-the-art information contained in *Disease Prevention and Treatment* could literally save the life of someone you care for.

Super Discounted Gift Price

The cover price of the 1,400-page *Disease Prevention and Treatment Protocol* book is $69.95. Until January 31, 2014, members can obtain a single copy of this book for $24.95. If four books are purchased, the price per book is reduced to $20.98...a savings of 70% off the cover price.

The holiday season creates a wonderful opportunity to share this wealth of knowledge with family and friends. At the low price of just $20.98 (4 book price) a copy, members can obtain a gift that sells for $69.95 in stores.

We will send as many copies of this beautiful hard cover *Disease Prevention and Treatment* as you need for a flat $5.50 shipping charge.

To order the Life Extension® *Disease Prevention and Treatment* book, call 1-800-544-4440 or visit www.LifeExtension.com

Save 70% off Cover Price of *Disease Prevention and Treatment*
Published studies have shown the critical importance of lipoic acid in supporting healthy mitochondrial function.

Unlike other forms of lipoic acid, Super R-Lipoic Acid is more bioavailable, stable, and potent, achieving 10-30 times higher peak blood levels than pure R-lipoic acid. This unique sodium-R-lipoate can help you reach peak plasma concentrations within just 10-20 minutes’ of supplementation.

Super R-Lipoic Acid provides more of the active “R” form of lipoic acid than any other supplement.

A bottle of Super R-Lipoic Acid containing 60 vegetarian capsules retails for $49. If a member buys four bottles during Super Sale, the cost is only $30.38 per bottle. Each capsule contains 300 mg of stabilized, Bio-Enhanced® Super R-lipoic acid supplying 240 mg of R-lipoic acid. Suggested dose is one capsule daily.

To order Super R-Lipoic Acid, call 1-800-544-4440 or visit www.LifeExtension.com

Preserve Youthful

CELLULAR ENERGY

with Next-Generation LIPOIC ACID

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In an important scientific advance, researchers have uncovered a biochemical “switch” that turns on many of the chronic diseases of aging.

The name of this newly identified “switch” is HMGB1, which stands for “High Mobility Group Box-1”.

HMGB1 turns on the release of chemical signals called cytokines that generate inflammation in your body.1

The more chronic inflammation you have, the more rapidly your body ages. The tragic consequence of higher levels of inflammation is the acceleration of chronic diseases that cause premature death and disability.1,2

Once scientists uncovered the switch that “turns on” chronic inflammation, they began looking for a safe and effective means of “turning off” that switch.

Researchers have found two natural ingredients that can directly control HMGB1, thus reducing the body’s exposure to chronic inflammation, and ultimately protecting against inflammation-induced disorders.3,4
models to begin making strides in the fight against inflammation in asthma, rheumatoid arthritis, diabetes, multiple sclerosis, and inflammatory bowel diseases.\textsuperscript{12-20}

Big Pharma is frantically working to create treatments that target HMGB1, but at this point no anti-HMGB1 drug is anywhere near market-ready.\textsuperscript{21}

The good news is that two natural substances, \textit{mung bean} and an extract from \textit{green tea}, have been found to suppress HMGB1—providing anti-inflammatory power.\textsuperscript{3,4} And best of all, they’re available in an oral form.

\textbf{Dual Protection Against Chronic Inflammation}

\textit{Mung bean} and \textit{green tea} extract combat inflammation by interfering at several different points in the cascade of events that leads to HMGB1 release from stressed or damaged cells.\textsuperscript{3,4,22-25} Most of today's anti-inflammatory drugs only work on a single target point of inflammation.\textsuperscript{26}

Nearly all of the mung bean’s HMGB1-lowering action is found in the \textit{seed coat} of the bean.\textsuperscript{4} When fed to rats before or after exposure to heat stress, mung bean seed coat extract reduced blood markers of excessive oxidant stress, while also strengthening the body’s natural antioxidant defense system.\textsuperscript{27}

When cells are exposed to bacterial toxins, \textit{EGCG} (the major beneficial component in green tea) reduces HMGB1 release from cells in direct proportion to the dose.\textsuperscript{3} Importantly, EGCG has been found to drive down HMGB1 release even when given 2 to 6 hours after exposure of cells to the toxin.\textsuperscript{3,24}

\textbf{Dramatic Studies Show Increased Life Span!}

Three recent studies demonstrate the dramatic life-saving ability of \textit{mung bean seed coat} and \textit{EGCG} from green tea leaf.\textsuperscript{3,4,24}

They all involve \textit{sepsis}, a condition involving HMGB1 that kills hundreds of thousands of Americans every year in hospital intensive care units, despite modern antibiotics and life-saving technology.\textsuperscript{28} (Sepsis is an illness in which the body has a severe, systemic inflammatory response to infection.\textsuperscript{22})

In sepsis, HMGB1 triggers an outpouring of \textit{cytokines}. It is this resulting inflammation—and not the infecting germ—that ultimately kills the patient.\textsuperscript{1,29,30}

Once those cytokines are on the loose, it’s typically too late to fight back with anti-cytokine therapies.\textsuperscript{31-33}

With this in mind, researchers chose to study \textit{mung bean seed coat} extract and \textit{EGCG} from green tea leaf extract, based on their known anti-HMGB1 activities.
The researchers first induced sepsis in laboratory mice, dooming them to almost certain death without intervention.3,4,24

In one experiment, the mice orally received either EGCG, found in green tea, or a saline control at 24, 48, and 72 hours after the induction of sepsis.24 By day 2, 44% of the control mice survived, while 89% of the EGCG group remained alive. By day 5, only 16% of the control group survived, while 44% of the EGCG group survived for the duration of the study.24

Next, the researchers studied mung bean seed coat extract.4 Using the same experimental design as in the previous study, the mice were given the extract or a saline control the day after induction of sepsis. By day 2, only 53% of control mice survived, while 82% of those mice supplemented with mung bean coat remained alive. By day 4, only 29% of the control group survived, while 70% of the mung bean group remained alive.4

It’s impossible to overstate the significance of these results. For the first time ever, septic shock was significantly prevented, and animals were rescued from an otherwise likely death, using a simple, natural, oral treatment. The secret to these results was the sharp drop in HMGB1 levels induced by both EGCG and mung bean seed coat extract.3,4,24

Slow Down the Aging Process
These studies demonstrate just how powerfully these two natural ingredients work even in the direst of situations. Fortunately, most of us will never have to deal with sepsis or the out-of-control inflammation that it can produce. But all of us face the dangers imposed by chronic inflammation.

Both EGCG and mung bean seed coat extract can powerfully suppress HMGB1, reducing levels of total-body chronic inflammation.3,4,24

Reduced chronic inflammation can translate to longer and substantially healthier lives. In this way, mung bean seed coat extract and EGCG can slow down damaging aging processes and potentially prolong your life.

Summary
Chronic inflammation accelerates aging and is an underlying factor in many of the diseases associated with aging.3-6,24 Scientists have discovered a way to inhibit HMGB1, the molecule that “turns on” the release of inflammatory cytokines.3-6,24

Mung beans and green tea have been in use for thousands of years in traditional Chinese medicine.3,4 They both contain powerful substances that inhibit HMGB1. Lab studies have proven that these substances are highly effective at “turning off” the HMGB1 switch that induces chronic inflammation.3,4,24

Mung bean seed coat extract and EGCG are available in oral form, making their combined HMGB1-blocking effect convenient to take by mouth.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

References


**Astaxanthin** is a fat-soluble carotenoid compound. The challenge to deriving maximum benefits is its normally limited absorption—as low as about 50%. \(^2\) Assimilation of astaxanthin is impeded by limited uptake and intestinal degradation.

**Astaxanthin 4 mg with Phospholipids** combines 4 milligrams of natural astaxanthin with a proprietary blend of phospholipids.

By incorporating phospholipids, scientific study shows that carotenoid absorption may be enhanced several-fold. \(^3\)

**Astaxanthin 4 mg with Phospholipids** uses four different phospholipids to facilitate maximum absorption of astaxanthin into the bloodstream, where it is transported to cells throughout the body.

**ASTAXANTHIN**

Each softgel of **Astaxanthin with Phospholipids** provides 4 mg of natural astaxanthin along with 80 mg of proprietary phospholipid blend. Just one softgel a day provides tremendous systemic cellular support!

A bottle of 30 softgels of **Astaxanthin 4 mg with Phospholipids** retails for $16. If a member buys four bottles during Super Sale, the price is reduced to $9.45 per bottle.

Contains soybeans.

**References**
Super Potent Multi-Nutrient Formula

Commercial “one-a-day” supplements provide very low potencies.

The chart to the left reveals how much more potent Two-Per-Day is compared to the leading commercial multi-vitamin.

Compared to “one-a-day” products, Life Extension® Two-Per-Day contains up to 50 times more potency! This Two-Per-Day formula is available in tablet or capsule form.

Compared to “one-a-day” products, Life Extension® Two-Per-Day contains up to 50 times more potency! This Two-Per-Day formula is available in tablet or capsule form.

Two-Per-Day provides the three most effective forms of selenium which are sodium selenite, L-selenomethionine, and Se-methyl L-selenocysteine, plus alpha lipoic acid.

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INTRODUCING

CYTOKINE Suppress™
with EGCG

For Balanced Inflammation Control

Inflammation is a natural process that affects every cell and organ in the body. As we age, maintaining a balanced inflammatory response becomes increasingly critical to guarding our whole-body health.1-3

Fortunately, there’s something we can do every day to support this process at a deep molecular level.

**Cytokine Suppress™ with EGCG** provides two natural food ingredients—long used in traditional Asian cuisine and medicine—that have the ability to promote a healthy inflammatory immune response.4-6

Key constituents found in mung beans and green tea support the natural process of the immune system’s inflammatory activity. This potent benefit is delivered by the novel flavonoids and other molecules found primarily in the seed coat of the mung bean,4,7 and the compound EGCG (epigallocatechin-3-gallate), the major beneficial component in green tea.5

Acting together, these mung bean and green tea compounds help regulate levels, among those within the normal range, of a protein molecule known as HMGB1.6,8 This molecule is responsible for controlling the signaling compounds known as cytokines that generate inflammation.8,9

Also, mung bean seed coat extract has been shown to support the body’s natural antioxidant defense system.7

The result of this beneficial modulatory support is a healthy and balanced inflammatory response—which is particularly important as we age.

**Life Extension® Cytokine Suppress™ with EGCG** supports healthy inflammatory levels.4-6,8,9

The suggested daily dosage of one vegetarian capsule of **Life Extension® Cytokine Suppress™ with EGCG** provides:

<table>
<thead>
<tr>
<th>Ingredient</th>
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</tr>
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<tr>
<td>Cytokine Suppress™ mung bean extract (coat)</td>
<td>240 mg</td>
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<tr>
<td>Epigallocatechin gallate (EGCG)</td>
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A bottle of 30 vegetarian capsules of **Life Extension® Cytokine Suppress™ with EGCG** retails for $30. If a member buys four bottles during Super Sale, the price is reduced to $18.23 per bottle.

**To order Life Extension® Cytokine Suppress™ with EGCG, call 1-800-544-4440 or visit www.LifeExtension.com**

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
A high percentage of men will endure some form of prostate-induced discomfort over the course of their lifetimes.\(^1\)

A placebo-controlled, double-blind trial presented September 2013 reported that a specific blend of pomegranate, green tea, turmeric, and broccoli—formulated together in a capsule called Pomi-T™—powerfully maintained healthy levels of prostate specific antigen (PSA).\(^2\) Life Extension\(^6\) now offers this same capsule for men who are serious about supporting and protecting their prostate as they age—by targeting PSA. The four foods in Pomi-T™ have healthful benefits for your entire body. But their constituent molecules, naturally present in food, have now been shown to concentrate within prostate tissue and provide a rich array of complementary, prostate-supporting, PSA-modulating mechanisms.\(^3\)-\(^9\)

**POMEGRANATE**
- Specifically concentrates in prostate tissue\(^3\)
- Supports healthy apoptosis, your body’s system of removing senescent cells when needed\(^4\)-\(^6\)
- Promotes healthy levels of inflammatory response, inhibits androgen receptor expression, and inhibits abnormal cell migration.\(^5\),\(^7\),\(^8\)

**GREEN TEA**
- EGC\(G\), a green tea catechin, specifically concentrates in prostate tissue where it regulates PSA (prostate specific antigen) production to maintain healthy PSA levels\(^9\),\(^10\)
- Helps modulate genetic expression and activity of androgen receptors\(^11\)
- Supports body’s natural defenses against oxidation.\(^12\)

**TURMERIC**
- Promotes a healthy level of inflammatory response, chiefly due to its main component, curcumin\(^13\)
- Helps modulate cell signaling mechanisms, inhibiting abnormal cell adhesion and migration.\(^14\)
- Promotes healthy cell proliferation and apoptosis.\(^15\)

**BROCCOLI**
- Helps regulate enzymes (phase II detoxifying enzymes) in gut and liver tissue that helps render harmful dietary molecules harmless\(^16\)
- Helps promote healthy PSA levels\(^17\)
- Supports regulation of cell growth and transcription factors and normal production of apoptosis-inducing proteins.\(^18\),\(^19\)

The novel and scientifically validated blend of food in Pomi-T™ represents the next generation of targeted support for the aging prostate!

A bottle of 60 vegetarian capsules of Pomi-T™ retails for $33.33. Members of the Life Extension Foundation pay only $22.50 per bottle during Super Sale.

To order Pomi-T™, call 1-800-544-4440 or visit www.LifeExtension.com

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**References**

Typically we think of probiotics as only benefitting intestinal health. We are now learning that having the proper balance of healthy gut bacteria plays a role in protecting against a wide range of common disorders.¹⁻²¹

Modern Western culture can deplete good bacteria in our gut. Everything from diet to antibiotics to excessive hygiene creates an imbalance of good-to-bad bacteria. Once the good bacteria are destroyed, bad bacteria quickly multiply and open the door for degenerative diseases.

Fortunately, strong evidence demonstrates that taking the right mix of probiotics can restore your body’s natural protection against a host of diseases.¹⁻²⁰
SURPRISING EFFECTS OF PROBIOTICS OUTSIDE THE INTESTINAL TRACT

Total Body Benefits

It has long been known that good gut bacteria have a number of beneficial effects on intestinal health. For example, *Lactobacillus* and *Bifidobacteria*, two of the most studied types of beneficial bacterial, have been shown to improve both diarrhea and constipation, while reducing symptoms of abdominal bloating. Probiotic supplements that increase levels of these beneficial bacteria have helped improve both the quality of life and symptom scores of patients with irritable bowel syndrome (IBS) and ulcerative colitis, as well as those of generally healthy people.

But compelling new evidence indicates that good bacteria also play a beneficial role outside the digestive tract as well. Scientific studies have demonstrated that different species of *Lactobacillus* (*Lactobacillus acidophilus*, *Lactobacillus rhamnosus*, and *Lactobacillus paracasei*) increase HDL, improve metabolic syndrome, and reduce markers of inflammation. Additionally, different *Bifidobacterium* species (*Bifidobacterium lactis*, *Bifidobacterium bifidum*, and *Bifidobacterium longum*) improve blood sugar control, decrease liver inflammation, and reduce DNA damage that can trigger malignant cell development, respectively.

Probiotics Protect Against Chronic Diseases

Numerous studies have confirmed that taking a probiotic supplement to restore the balance of gut bacteria helps protect against a number of specific diseases, including diabetes, cardiovascular disease, and respiratory infections. Studies have shown that probiotics containing *Lactobacillus* and *Bifidobacteria* help improve diabetes and metabolic syndrome. In fact, both animal studies and human clinical trials have demonstrated improvement in insulin resistance and reduction in blood sugar concentrations. After just 6 weeks of consuming a probiotic yogurt containing *Lactobacillus acidophilus* and *Bifidobacterium lactis*, type II diabetics significantly improved fasting glucose and hemoglobin A1c (a measure of blood sugar control). Animal and human studies have demonstrated that probiotics improve cardiovascular disease factors as well, including decreasing total cholesterol and LDL while boosting artery-cleansing HDL. Supplements of beneficial bacteria have been shown to reduce cholesterol absorption and the inflammation of fat stores. These changes contribute to a significant decrease in the formation of inflammatory, cholesterol-laden plaques observed in early atherosclerosis.
In addition, studies have shown that probiotics can suppress respiratory infections such as the common cold and the flu—especially if you begin supplementing prior to cold and flu season. Studies show that people who supplemented with different strains of Bifidobacteria or Lactobacillus for 3 to 6 months ahead of the winter cold and flu season reduced the duration of symptoms by an average of one to two (or even more) days, with a similarly impressive reduction in symptom severity.49,50

Regular use of probiotics has been found to reduce colonization of the nose by potentially pathogenic bacteria by 19%.51 This effect could save the lives of those who are older, or who have diabetes, or who have undergone a major operation—all of whom have a higher risk of being overwhelmed by bacterial infection.

**The Powerful Role of Probiotics in Cancer**

Probiotics have been found to be incredibly potent against one deadly disease in particular: cancer. The risk of cancer, especially in the colon, can be reduced through the use of probiotics.52 Supplementation with Lactobacillus acidophilus and Bifidobacterium longum significantly decreases the DNA damage that can trigger malignant cell development.33 Replenishing beneficial bacteria with supplements has been found to boost natural antioxidant and detoxification enzymes that prevent the activation of potential dietary carcinogens.52,53

Patients with colon cancer and those with precancerous polyps had sharply reduced proliferation of abnormal colon cells and a significant decline in harmful Clostridium bacteria when supplemented with symbiotics (probiotic bacteria combined with prebiotics, which are substances that feed or promote the accompanying bacteria).54

In addition, scientists have demonstrated that probiotic organisms switch-on protective signaling mechanisms that play a role in preventing cancer, including:

- **Suppressing** bacteria that convert harmless pro-carcinogen molecules into carcinogens.55,56
- **Binding** to potential carcinogens, promoting their excretion.55
- **Down-regulating** an enzyme that converts harmless molecules into carcinogens.55
- **Stimulating** expression of liver enzymes that detoxify carcinogens.55
- **Boosting** populations of cells that seek out and destroy cancers.56-58
- **Upregulating** inflammatory cytokines during an acute stage of cancer or other threat.56,59
- **Suppressing** the inflammatory response as the cancer or infection threat fades.56,59

**Probiotics Help Reverse Obesity**

An association between antibiotic overuse and obesity has been demonstrated, which can be reversed with appropriate probiotic supplementation.60 Studies of probiotic supplementation on both research animals and humans showed a significant reduction in body weight and body mass index (BMI).35,37-44 In one study, probiotic supplements were given to mothers prenatally (meaning from about five months before, and until one month after, birth), and excessive weight gain was subsequently reduced in the mothers—and in their children from birth right through to 10 years of age.61,62

**Factors Behind Gut Imbalance**

There are a number of factors that contribute to a dangerous imbalance of gut bacteria. The excessive use of antibiotics disrupts the optimum proportions of gut bacteria; excessive hygiene has drastically
Scientists have shown that a prolonged imbalance in intestinal bacteria can do more than induce intestinal or digestive problems—it can trigger numerous chronic diseases outside the intestine!

The link between imbalanced intestinal bacteria and today’s most prevalent diseases is clear. However, today’s diet, lifestyle, medical practices, and other factors tend to disrupt gut bacterial balance.

Fortunately, supplementing with key bacterial strains counters these destructive influences—restoring your body’s natural, intestine-based protection against a host of non-intestinal diseases!

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

References


Summary

Scientists have shown that a prolonged imbalance in intestinal bacteria can do more than induce intestinal or digestive problems—it can trigger numerous chronic diseases outside the intestine!

Reduced our ability to naturally acquire certain key bacteria from our environment, and a number of modern medical treatments such as artificial ventilation, tubes and catheters, and frequent pharmaceutical use, are known to severely impair the proper balance of gut bacteria.

The Western diet—high in animal proteins and fats, sugars, and refined carbohydrates—causes a rise in undesirable bacteria. Even the modern use of infant formula instead of breast milk has interfered with mankind’s long history of transferring bacterial diversity from mother to child. Recent findings suggest that even aging itself disrupts the bacterial makeup of the gut.

Although good bacteria can be found in small amounts in food, changing the entire ratio of gut bacteria requires substantial and consistent dosing with supplements providing potent levels of bacteria to enable their survival.

Also, while many supplements provide just one type of bacteria—the most popular being Lactobacillus—the combination of two different types delivers better odds of reversing the negative effects of dysbacteriosis, a condition where healthy gut bacteria are killed off leaving an imbalance between good and bacteria. Bifidobacterium is another potent bacterium that strongly supports microflora.


In **2003**, the Life Extension Foundation® introduced a standardized **resveratrol** extract shown to favorably alter genes implicated in the aging process—many of the same genes that respond to **calorie restriction**.

Since then, we have identified additional compounds that **simulate** calorie restriction’s ability to trigger youthful **gene expression**—the process by which genes transmit signals that slow certain aspects of aging.

**Compelling evidence reveals** that certain compounds found in berries, such as **pterostilbene** and **fisetin**, possess potent “longevity gene” activators that work in synergy with resveratrol. For example, **fisetin** (found in strawberries) has been shown to **stabilize** resveratrol in the body by shielding it from metabolic breakdown,¹⁻¹⁰ thus extending its beneficial effects.

**CAUTION:** If you are taking anti-coagulant or anti-platelet medications or have a bleeding disorder, consult your healthcare provider before taking this product.

### References

10. Xenobiotica. 2006 Sep;36(9):857-66

**The suggested dose of one capsule a day provides:**

<table>
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<tr>
<td>Quercetin</td>
<td>60 mg</td>
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<tr>
<td>Trans-Pterostilbene</td>
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<tr>
<td>Fisetin</td>
<td>10 mg</td>
</tr>
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To order Optimized Resveratrol with Synergistic Grape-Berry Actives, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Clinically Validated Antibody Support

A double-blind, placebo-controlled clinical trial on humans found that the two amino acids in Winter Wellness™ significantly promoted antigen responsiveness.¹

A group of nursing home residents over age 65 were co-administered 280 milligrams of L-theanine and 700 milligrams of L-cystine once daily for 14 days. After controlled exposure to several new winter antigens on the 15th day, the scientists found that for certain groups, supplementation resulted in an increased rate of seroconversion—the point at which the immune system first develops antibody protection as a result of new antigen exposure.⁵

Winter Wellness™ powerfully primes the immune system against seasonal winter challenges.

The suggested daily dosage of two capsules of Life Extension® Winter Wellness™, or as recommended by a healthcare practitioner, provides:

- **L-Cystine 700 mg**
- **L-Theanine 280 mg**

Low-Cost Ingredients

A bottle of 60 capsules of Life Extension® Winter Wellness™ retails for $15. If a member buys four bottles during Super Sale, the price is reduced to $8.78 per bottle.

References


To order Life Extension® Winter Wellness™, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Choosing the Right Probiotic for You

While many supplements provide just one type of bacteria, taking a probiotic with multiple varieties of good bacteria can help better fight off bad bacteria. FlorAssist™ Probiotic Liquid Vegetarian Capsules provides a proprietary blend of six bacterial strains! Each FlorAssist™ dual capsule contains 15 Billion CFU (Colony Forming Units)† consisting of:

- Lactobacillus acidophilus LA-14
- Bifidobacterium lactis BL-04
- Lactobacillus paracasei LPC-37
- Lactobacillus rhamnosus LR-32
- Bifidobacterium bifidum/lactis BB-02
- Bifidobacterium longum BL-05

These potent strains of probiotic bacteria adhere to the soft lining of the intestinal tract, help maintain a healthy surface, and support the digestive system.

The retail price for a bottle containing 30 capsules of FlorAssist™ Probiotic Liquid Vegetarian Capsules is $33. If a member buys four bottles during Super Sale, the price is reduced to just $20.25 per bottle.

†Colony Forming Units.

FlorAssist™ Probiotic Liquid Vegetarian Capsules…

- Contain probiotic strains that are acid resistant, protecting them from stomach acid that can destroy the viability of the strains;
- Have dual encapsulation technology, keeping the capsule intact longer, and ensuring that the probiotic reaches the small intestine,
- Provide a high CFU† (Colony Forming Units) of 15 billion per capsule!

To order FlorAssist™ Probiotic Liquid Vegetarian Capsules, call 1-800-544-4440, or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Bone Restore combines critical bone-boosting nutrients into one superior formula.

Bone Restore includes highly absorbable forms of calcium and boron, along with vitamin D3, magnesium, zinc, manganese, and silicon. Bone Restore is available with or without vitamin K2 (MK-7).

Bone Restore now contains 300 mg of magnesium. The retail price for 120 capsules of Bone Restore is $24. If a member buys four bottles during Super Sale, the price is reduced to $14.85 per bottle. (Item# 01727)

The same Bone Restore formula without vitamin K2 (MK-7) is available as well. The retail price for 120 capsules is $22. If a member buys four bottles during Super Sale, the price is reduced to $12.83 per bottle. (Item# 01726)

Note: Those who take Super Booster or Super K usually do not need additional vitamin K2. They should order Bone Restore without vitamin K2. Those taking the anti-coagulant drug Coumadin® (warfarin) should use BONE RESTORE without vitamin K2.

Just four capsules of Bone Restore provide:

- Highly Absorbable Calcium 700 mg (as DimaCal® dicalcium malate, TRAACS® calcium bisglycinate chelate, calcium fructoborate)
- Vitamin D3 1,000 IU
- Vitamin K2 (as menaquinone-7) 200 mcg
- Magnesium (as magnesium oxide) 300 mg
- Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®) 3 mg
- Zinc (as zinc amino acid chelate) 2 mg
- Manganese (as amino acid chelate) 1 mg
- Silicon (from horsetail extract) 5 mg

To order Bone Restore, call 1-800-544-4440 or visit www.LifeExtension.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.
Safely Boost Your Energy Reserves

BY MARGARET POWELL

Tired of being tired all the time?

Aging people often suffer from diminished energy and persistent tiredness. But contrary to popular belief, mental and physical fatigue are not always natural products of growing older.

The causes of fatigue can be difficult to pinpoint—and therefore, challenging to treat. As a result, many people reach for stimulants, usually in the form of caffeine or energy drinks to artificially boost their energy levels. These options may work for the short-term, but they don’t create natural energy in your body; they temporarily squeeze adrenaline from your cells creating a larger energy deficit later on.

However, you don’t have to resort to stimulants to replenish your body’s energy stores. Two traditional Chinese medicine ingredients have been found to work at the cellular level to boost your body’s own natural energy source called ATP.

The potent medicinal mushroom called cordyceps and ginseng root provide sustainable energy by utilizing your body’s own energy resources.

Whatever the source of your fatigue—mental, emotional, physical, stress, or other—these two compounds can boost ATP levels and help you maintain optimal energy despite the passage of time.
**Recharge Your Body’s Batteries**

Your body is loaded with cells that contain mitochondria that make the vital energy molecule known as ATP. Think of ATP as the tiny “batteries” that our bodies use to store and move energy.

Fatigue and exhaustion are the direct result of insufficient ATP. Over time, our lack of energy is not simply due to “aging” but rather an indication that we are running low on ATP.

The good news is that you can restore youthful ATP levels throughout your body with a pair of time-tested natural ingredients. The medicinal mushroom *Cordyceps sinensis* and the root of the *ginseng* plant (*Panax ginseng*) have been proven to boost energy by ramping up ATP production.

In addition to increasing ATP production, *cordyceps* enhances our ability to burn fuel more efficiently and store its energy as ATP, and *ginseng* supports ATP production at the much higher levels possible when oxygen is available, as in a long-distance run or a prolonged, mentally challenging task.

**Nature’s Energy Boosters**

*Cordyceps sinensis* is considered one of the most valuable medicinal mushrooms in China due to its rarity and valuable health benefits. In traditional Chinese medicine, cordyceps has been used for everything from cancer prevention to metabolic modulation and energy production. Now, science has uncovered how cordyceps enhances energy levels in three ways:

1. **By raising ATP levels**, even under stressful conditions that would typically produce fatigue. For example, in animals with iron deficiency anemia (a common cause of fatigue in humans), cordyceps boosted ATP levels and blood flow.

2. **By lowering levels of lactic acid**, the substance that produces fatigue in overstressed muscles. This has direct bearing on exercise capacity. Studies show that when mice are supplemented with cordyceps, they can increase swimming time by 20% to as much as 94%.

3. **By increasing insulin sensitivity**, the more sensitive your cells are to insulin, the faster and more completely they take up sugar from your blood. In the short-term, this gives your cells access to more energy, and in the long-term, this lowers your risk of diabetes, heart disease, and other chronic conditions.

*Panax ginseng* is an important *adaptogenic* herb that has long been used to boost energy and reduce feelings of fatigue and exhaustion. Now, studies show that ginseng produces these effects by increasing ATP production in the mitochondria. Ginseng also activates multiple enzymes in the so-called tricarboxylic acid cycle (or Krebs cycle), enabling mitochondria to extract maximum energy (in the form of ATP) from their glucose fuel in the presence of oxygen.

As a result of their ability to enhance the body’s own energy production, studies have demonstrated the ability of cordyceps and *Panax ginseng* to enhance physical and mental energy. As you’ll soon read, scientists have developed a method to enable far more ginseng to be absorbed into your bloodstream than ever before!

**Boost Your Physical Energy**

In an impressive human study, 20 healthy adults age 50-75 years were supplemented with 333 mg of cordyceps extract three times a day for 12 weeks, or a placebo. At the beginning and conclusion of the
study each participant performed exercise testing on a stationary bicycle to maximal levels. By the end of the study period, the subjects taking cordyceps had a 10.5% improvement in the time until they experienced muscle fatigue, and their ability to work out until they were “out of breath” increased by 8.5%.22 The placebo patients not taking cordyceps showed a worsening of both fatigue and ventilation status.

Along with cordyceps, ginseng has been found to enhance physical energy as well. In the laboratory, rats treated with a single dose of energy-boosting ginseng increased the time they could run on a treadmill by 132%. After 7 days they had increased by 179%.23 Multiple studies now confirm that ginseng used alone or in combination prolongs aerobic exercise endurance of even untrained rats and mice.20,24-26

**Restore Your Mental Energy**

People with depression often lack the energy to do anything. In this case, the fatigue is mental rather than physical, yet just as debilitating. In fact, recent studies have confirmed that in people suffering from major depression, their brain levels of ATP are low—direct confirmation of that “blah” feeling and lack of motivation that so many people with depression report.27-29 By restoring ATP levels, the brain is able to function at a higher level.27

Among other mental benefits, ginseng produces improvements in levels of the calming neurotransmitter GABA.30 Unlike prescription drugs like Valium® and Xanax®, which alleviate anxiety by fooling your body into thinking it has more GABA, ginseng increases levels of your body’s own GABA, producing a more natural sense of calmness and healthier sleep.30,31

One study found that a single 200 mg dose of a standardized ginseng extract significantly reduced mental fatigue while improving cognitive performance on mental arithmetic tasks in a group of healthy volunteers.32

In a subsequent study, researchers gave healthy volunteers either 200 mg of ginseng extract, or a placebo, immediately followed first by a series of cognitively demanding tasks. Thirty minutes later they gave the volunteers either 25 grams (nearly an ounce) of glucose or a placebo.33 As to be expected, both ginseng and glucose improved performance on arithmetic and reduced feelings of fatigue. However, because ginseng lowered blood sugar, while the glucose raised it, the researchers concluded that ginseng was vastly superior to sugar as an energy-boosting supplement.

And in still another study, healthy young adults taking 400 mg/day of a standardized ginseng extract for 8 days improved working memory and feelings of calmness, compared with placebo recipients.34
Mainstream medicine and popular culture have conspired to produce a toxic response to fatigue in the form of stimulant drugs or caffeine/sugar combinations that have potentially addictive, and even fatal, adverse effects. Both cordyceps and ginseng have hundreds of years' worth of proven energy-boosting benefits without addictive or toxic potential. Both supplements are now known to act by raising ATP levels, making more energy available to brain, muscle, and other vital organs, restoring more youthful energy levels.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

References

There are three forms of vitamin K that the human body can utilize to promote arterial health and bone support. Life Extension’s Super K with Advanced K2 Complex provides the dynamic trio of vitamin K forms in one softgel, including vitamin K1, vitamin K2 (MK-4), and vitamin K2 (MK-7).

VITAMIN K1 is the form of vitamin K that is found in green vegetables. K1 is tightly bound to plant fiber, so only a fraction is absorbed into the bloodstream. Supplementation ensures ample K1 blood levels.

VITAMIN K2 is usually found in meats, dairy, and egg yolks. Since you may be avoiding these foods for health reasons, ingesting a K2 supplement is essential. MK-4 is the most rapidly absorbed form of K2, and MK-7 boasts a very long half-life in the body, making both forms the perfect complement to any vitamin K regimen.

To order
Super K with Advanced K2 Complex or Super Booster, call 1-800-544-4440 or visit www.LifeExtension.com

<table>
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<th>Vitamin K2 (MK-7)</th>
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<tr>
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The retail price for a bottle containing 90 softgels is $30. If a member buys four bottles during Super Sale, the price is reduced to $18.23 per bottle. Since each bottle lasts for three months, members pay as little as $6.08 a month for this high-potency blend of all three active forms of vitamin K during the Super Sale.

(The same Super K formula consisting of Vitamin K1, K2 (MK-4) and K2 (MK-7) can be found in the Life Extension® Super Booster. If you take the Super Booster, you do not need additional Super K with Advanced K2 Complex softgels.)

Warning to Coumadin® (warfarin) Drug Users
Patients prescribed vitamin K-antagonist anti-coagulant prescription drugs like warfarin should consult their physician before taking vitamin K supplements like Super K and Super Booster. There is evidence, however, that cases of warfarin could benefit from a consistent low dose of supplemental vitamin K. Ask your doctor if you can take a low dose (45 mcg a day) of vitamin K2 in the long-acting MK-7 form for the purpose of stabilizing your INR levels and also protecting your body against long-term vitamin K deficit. Do not initiate any form of vitamin K supplementation without full cooperation of your treating doctor, as your doctor may need to increase your dose of warfarin to compensate for the vitamin K you supplement with. Life Extension provides several forms of low-dose vitamin K for physician consideration.

References
Most people rely on stimulants, particularly caffeine, to boost sagging energy levels during the day. The result is often a roller coaster of intense energy followed by deep lulls that can lead to further exhaustion. But there is a better way. For sustained vigor, the secret is to boost the body’s own energy source, ATP (adenosine triphosphate).

**Asian Energy Boost** is specifically designed to provide all-natural support for cellular and physical energy levels to help you stay alert without negative effects, such as crashing or uncomfortable jitters.

**Support for Energy Homeostasis**

Your body’s natural mechanism of *homeostasis* maintains normal balance during daily challenges, helping you remain energized and focused—when *properly supported*. Ongoing stress, however, means your body seldom gets time to restore your natural equilibrium. For individuals seeking optimum homeostasis and sustainable energy, **Asian Energy Boost** combines the potent Asian mushroom **Cordyceps sinensis** and a specially fermented form of the **Panax ginseng** root. Combined, they deliver potent energy support.

**Cordyceps sinensis**

One of the most valued medicinal mushrooms in China, **Cordyceps sinensis** has been revered traditionally for its multiple benefits, including support for energy and endurance. Studies show that the **Cordyceps** in **Asian Energy Boost** supports energy levels by promoting healthy levels of ATP—the energy currency used throughout the body. **Cordyceps** also supports healthy insulin sensitivity in those already within normal range, allowing your cells to efficiently take up sugar from your blood to enable stable energy output.

In one study, healthy adults age 50-75 took 333 milligrams of Cordyceps extract three times daily for 12 weeks. These study subjects were able to perform a stationary bicycle exercise at maximal levels for over 10% longer before muscle fatigue could be scientifically detected.

**Panax ginseng**

**Panax ginseng** is an important adaptogenic herb that can improve our ability to manage stress. Recognized as one of the most beneficial ginsengs available, it is the species traditionally used in China and Asia. For enhanced potency, **Asian Energy Boost** uses **Panax ginseng** that has been naturally fermented, a process shown to increase absorption of the active compound—Compound K (Ginsenosides metabolite)—by over 15-fold. Evidence indicates that ginseng supports ATP production in the mitochondria. Studies have shown that this extract promotes both physical and mental energy, including cognitive performance.

**Complementary Effects**

The **Cordyceps** and fermented **Panax ginseng** in **Asian Energy Boost** work in a complementary fashion to help maintain ATP levels and your body’s energy stores. **Cordyceps** extract supports ATP production when oxygen availability is insufficient. **Panax ginseng** supports ATP production at the much higher levels possible when more sufficient oxygen is available—such as a challenging but prolonged task.

The suggested daily dosage of three vegetarian capsules of **Asian Energy Boost** provides:

| **Panax ginseng** | 1,000 mg |
| **Cordyceps** (Paraeoloma hepialis) extract (mycelia) | providing 70 mg cordycepic acid |
| GS15-4™ Fermented Asian ginseng extract (root) | 165 mg |

A bottle of 90 vegetarian capsules of **Life Extension® Asian Energy Boost** retails for $24. If a member buys four bottles during the **Super Sale**, the price is reduced to $14.85 per bottle. Contains soybeans.
Study after study confirms the vital importance of maintaining optimal levels of vitamin D. Research often indicates that a blood level between 50–80 ng/mL of 25-hydroxyvitamin D is ideal. Because people have individual requirements, Life Extension® has created a large selection of vitamin D supplements to ensure that you achieve your vitamin D3 goals.

Keep in mind that you may already be getting 1,000-3,000 IU of vitamin D in your multi-nutrient formulas. Vitamin D is now available in superior absorbing softgels. A recent study demonstrated that the use of one 5,000 IU vitamin D softgel daily resulted in a near 30% increase in vitamin D levels in just 60 days.

VITAMIN D3 7,000 IU
60 softgels
Retail: $14
Four-bottle Member Price during Super Sale: $8.51 ea.
Some individuals (such as those weighing more than 180 pounds) may require higher potencies of vitamin D. When combined with 1,000-3,000 IU obtained from multi-nutrient formulas, this 7,000 IU potency of vitamin D3 softgel should enable these individuals to attain 25-hydroxyvitamin D blood levels above the desired range of 50 ng/mL. Item # 01718

VITAMIN D3 5,000 IU
60 softgels
Retail: $11
Four-bottle Member Price during Super Sale: $6.68 ea.
Vitamin D3 5,000 IU softgel should enable these individuals to attain 25-hydroxyvitamin D blood levels above the desired range of 50 ng/mL. Item # 01713

VITAMIN D3 1,000 IU
250 softgels
Retail: $12.50
Commercial companies offered only 400 IU vitamin D products when Life Extension long ago introduced a 1,000 IU version. For most people, this 1,000 IU potency is insufficient to attain optimal vitamin D blood levels. For smaller individuals who obtain 2,000-3,000 IU in their multi-nutrient formulas (and children), this potency of vitamin D may be suitable. Item # 01751

VITAMIN D3 2,000 IU (Natural mint flavor)
1 ounce
Retail: $28
Vitamin D3 2,000 IU (Natural mint flavor) can be used. Item # 01732

VITAMIN D3 LIQUID
2,000 IU (Natural mint flavor)
1 ounce
Retail: $28
For those rare individuals who have difficulty absorbing enough vitamin D from softgels, this liquid of vitamin D can be used. Item # 01732

Also available without mint. (Item# 00864)

To order any of these high-potency vitamin D3 supplements, call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Do not exceed 10,000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

* If you have a thyroid condition or are taking antithyroid medications, do not use without consulting your healthcare practitioner.

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.
The list of chronic diseases caused by inflammation is enormous.\textsuperscript{1,3} From initiating cancer, Alzheimer’s, and heart disease to the chronic pain of arthritis, sustained inflammation relentlessly destroys our aging bodies.\textsuperscript{1,3} Mainstream medicine has failed to offer satisfactory solutions for suppressing chronic inflammatory reactions.\textsuperscript{3} Non-steroidal anti-inflammatory drugs (NSAIDs) and glucocorticoids target acute pain, but they have adverse side effects and are not suitable to quench ongoing inflammation.\textsuperscript{4,5}

This widespread problem led scientists to seek a solution to safely reduce both acute pain and the chronic inflammation.\textsuperscript{5} Three plant extracts have been identified that powerfully inhibit the underlying factors that trigger inflammation—safely reducing both chronic pain and long-term disease risk. Unlike drugs, turmeric oil, ginger, and curcumin work through diverse mechanisms to block multiple pathways of the inflammation-signaling process.\textsuperscript{7-16}

These natural ingredients deliver benefits that no currently available drug can—they inhibit both COX and LOX enzymes, which in turn curtails creation of the prostaglandin and leukotriene signaling molecules.\textsuperscript{7-16} An abundance of studies have confirmed that the biochemical actions of curcumin, ginger, and turmeric oil can be beneficial against the causative factors behind arthritis,\textsuperscript{16,23} cardiovascular disease,\textsuperscript{16,24-28} cancer,\textsuperscript{29-33} and other diseases…and these effects are often observable in a matter of weeks!\textsuperscript{20,27,29,34}

A novel method has been discovered to deliver more of the active molecules found in these three plant extracts to your bloodstream.\textsuperscript{35-38}
An All-Out Assault on Chronic Inflammation

Just about every chronic disease—from arthritis, to heart disease, to diabetes, to Alzheimer’s disease—has one thing in common: destructive, unchecked inflammation.1-3

Chronic inflammation is often the end result of a complex “domino effect” of signaling molecules known as prostaglandins and leukotrienes.39,40 The problem with most drugs is that they only inhibit one of the steps involved in chronic inflammation (providing only partial relief).41

For example, NSAIDs inhibit the production of prostaglandin signaling molecules by blocking enzymes known as COX-1 and COX-2. But they do not inhibit production of leukotriene signaling molecules, which requires blocking the 5-LOX enzyme.7,41

Curcumin, turmeric oil, and ginger work together to block all these signaling pathways to deliver broad-spectrum protection against chronic inflammation.7-16

As a result, these plant extracts have potential benefit against numerous disorders.42,43

2,000 Studies Can’t Be Wrong!

Inflammation is a major trigger of cancer,44 the second leading cause of death in the United States.45

Your body has a natural ability to fight cancer through the activity of its own tumor-suppressing genes.46 However, over time, environmental factors such as inflammation can turn off (or “silence”) these genes, allowing cancer to take hold and spread unchecked.47,48

Over 2,000 published studies show curcumin suppresses many cancers—including breast, prostate, liver, skin, colon, and lung cancers31,49—by interfering at every stage of their development, progression, and metastasis.50 While anticancer drugs and cancer itself weaken the immune system, curcumin enhances it,51-55 serving as an “immune-restorer.”52

Guard Against Platelet Aggregation

Inflammation plays a key role in the development of cardiovascular disease.56 Due to their action against the underlying causes of inflammation: curcumin, ginger, and turmeric have all been found to have powerful effects against cardiovascular disease.16,24-28

A study on ginger indicated that it could improve cardiovascular and cerebrovascular complications that occur as a result of platelet aggregation (the tendency of blood cells to clump together).24 For the study, either ginger or aspirin taken daily with 10 mg of the antihypertensive drug nifedipine (Procardia) was shown to boost the drug’s anti-platelet aggregation effect in both normal and hypertensive patients.
Outperforms Leading Arthritis Drug

The hallmarks of the most common form of arthritis (osteoarthritis) are inflammation and cartilage destruction. While both ginger and curcumin block inflammation—curcumin also inhibits cartilage breakdown by the body—57

In one study, one group of rheumatoid arthritis patients received 500 milligrams of curcumin daily, another received 50 milligrams daily of the NSAID drug diclofenac, and a third group received a combination of the two. After eight weeks, the curcumin-only group had the greatest reduction in joint pain and swelling, with no supplement-related adverse effects. By contrast, 20% of participants in the drug-only group dropped out due to adverse effects19

Ginger has also been tested against the NSAID drug diclofenac. Two groups of osteoarthritis patients took either ginger extract (340 milligrams daily) or diclofenac (100 milligrams) for four weeks.20 Both treatments were equally as effective; however, the drug group experienced an increase in digestive pain (dyspepsia) and degeneration of their stomach mucosa.

Reverse Cognitive Impairment

Curcumin and ginger offer great promise in the fight against cognitive decline and dementia.

In animal models of Alzheimer’s, curcumin has been shown to cross the blood-brain barrier in order to enhance clearance of amyloid-beta from the brain (the accumulation of which is strongly associated with Alzheimer’s).58

One impressive study demonstrated ginger’s ability to defend against—and possibly even reverse—middle-aged cognitive impairment.59 For the study, 60 healthy middle-aged women took 400 or 800 milligrams of ginger extract or placebo daily. After two months, the ginger participants showed significantly enhanced memory and brain activity consistent with boosted cognitive capability.

As beneficial as these ingredients are on their own, they’re even more powerful together. Scientists have combined curcumin and ginger extracts with turmeric oil in a novel formulation that also delivers a distinct advantage: it naturally enhances absorption.

Enhanced Formula Provides Better Absorption!

Turmeric oil is obtained from the potent liquid remaining after curcumin extraction.60,61 Aside from turmeric oil’s own strong anti-inflammatory and antioxidant effects, research revealed that its rich content of compounds called aromatic turmerones produces a significant enhancement of curcumin levels inside the cell compared to normal curcumin.38

This formulation also contains phospholipids, a type of emulsifying molecule that enhances absorption of poorly soluble active compounds.62

Summary

Chronic inflammation eventually leads to serious diseases such as cancer.1-3 Drugs that target acute inflammation are not suitable for long-term use and can cause substantial side effects.3-5

In a significant breakthrough, ginger, curcumin, and turmeric oil have been found to block chronic inflammation at every stage of the process, safely inhibiting long-term disease risk.7-16

Multiple studies demonstrate that these three extracts combat an array of disorders, including cancer, cardiovascular disease, and arthritis.16-33

These three extracts have been combined in a groundbreaking formulation that greatly boosts absorption! •


GREEN TEA EXTRACT

When Life Extension® introduced standardized green tea extract in 1993, the supplement was very expensive. As more research was published about green tea’s multifaceted benefits, more companies competed to make higher-potency extracts at lower prices.

The good news for consumers is that they can obtain high-potency standardized green tea extract capsules at a fraction of the original price.

The Life Extension Foundation Buyers Club offers 98% green tea extracts in either a lightly caffeinated or decaffeinated form. These 98% extracts are standardized to provide high potencies of critical EGCG, the most important polyphenol found in green tea.

These highly concentrated Mega Green Tea Extract Caps contain 725 mg of either lightly caffeinated or decaffeinated 98% standardized green tea extracts. The retail price for 100 vegetarian capsules of Mega Green Tea Extract is $30.

If a member buys four bottles of 725 mg Mega Green Tea Extract capsules during Super Sale, the price is reduced to $18.90 per bottle. Most people take just one capsule daily.

To order Mega Green Tea Extract, call 1-800-544-4440 or visit www.LifeExtension.com

Item # 00954

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.
Next Generation Curcumin

Curcumin is an active compound derived from the Indian spice turmeric. It has been widely acclaimed for its diverse health-promoting effects on nearly every organ system in the body, including its support for the body’s natural inflammatory response system. But most curcumin is neither absorbed well nor retained well in the blood—posing a challenge to those who wish to maximize its benefits.

Life Extension® took the lead in resolving this issue several years ago by introducing Super Bio-Curcumin® containing BCM-95®, a patented, bioenhanced preparation of curcumin that has been shown to reach up to 7 times higher concentration in the blood than standard curcumin. Now, an exciting next generation curcumin formula has become available! The new Advanced Bio-Curcumin® with Ginger & Turmerones provides additional compounds that further boost absorption of curcumin’s highly beneficial phytonutrients.

UNRIVALED POTENCY AND ABSORBABILITY

In addition to BCM-95®, this new curcumin formula contains:

1. Turmerones: After curcumin is extracted from turmeric, what remains is turmeric oil rich in compounds called turmerones. Combining BCM-95® with a high content of turmerones provides health consumers with more beneficial turmeric compounds that further multiply absorption. Scientists have shown that these potent turmerones not only support curcumin absorption, but significantly increase the amount of curcumin inside the cell as well.

2. Ginger: Curcumin and ginger are close botanical relatives. Research demonstrates that they have overlapping and complementary health benefits, and scientists are focusing on the therapeutic effects of combining these two plants.

Advanced Bio-Curcumin® with Ginger & Turmerones provides a supercritical extract of ginger standardized to the greatest concentration of ginger compounds—including beneficial gingerols and shogaols.

3. Phospholipids: This new curcumin formula also contains phospholipids, a type of emulsifying molecule known to greatly enhance absorption of poorly soluble active compounds.

The powerfully enhanced bioavailability and potency of Advanced Bio-Curcumin® with Ginger & Turmerones is superior to conventional curcumin supplements. This product represents the most powerful and cost-effective way to supplement with—and receive the full benefits of—this very critical nutrient.

The suggested daily dosage of one softgel of Advanced Bio-Curcumin® with Ginger & Turmerones provides:

- Turmeric Phospholipid Blend 630 mg
  - BCM-95® Bio-Curcumin Turmeric 25:1 extract (rhizome) [total curcuminoids complex with essential oils (380 mg)], Turmeric oil (rhizome) [providing 60 mg total tumerones], Phospholipids
  - Ginger CO₂ extract (root) 200 mg [providing 60 mg gingerols]

Each softgel of Advanced Bio-Curcumin® with Ginger & Turmerones provides 400 mg of BCM-95® Super Bio-Curcumin plus an array of tumerones and phospholipids.

A bottle of 30 softgels of Advanced Bio-Curcumin® with Ginger & Turmerones retails for $30. If a member buys four bottles during Super Sale, the price is reduced to $18.23 per bottle. Contains soybeans.

To order Life Extension® Advanced Bio-Curcumin® with Ginger & Turmerones, call 1-800-544-4440 or visit www.LifeExtension.com

References


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Discount Prices For
Premium-Quality Products

*Life Extension* members are longevity enthusiasts who take extraordinary steps to stave off disease, aging, and death. When members buy products from the *Life Extension Foundation Buyers Club*, they are assured of receiving the highest quality products based on the latest scientific studies that demonstrate benefits.

The discounts available to Foundation members enable them to purchase premium-quality supplements at prices below those charged by commercial companies.

Here are some examples of savings members enjoy during the annual Super Sale:

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Our Low Retail Price</th>
<th>Super Sale Member-Volume Discount Price Per Bottle</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Super Omega-3 EPA/DHA with Sesame Lignans &amp; Olive Fruit Extract</strong></td>
<td>$32</td>
<td>$16.81 (ten-bottle purchase)</td>
</tr>
<tr>
<td>120 softgels, Item # 01482</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Super purified EPA/DHA fish oil plus sesame lignans and potent olive (fruit and leaf) extract to provide critical omega-3 fatty acids and essential components of the Mediterranean diet.</td>
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</tr>
<tr>
<td><strong>Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™</strong></td>
<td>$62</td>
<td>$35.10 (ten-bottle purchase)</td>
</tr>
<tr>
<td>100 mg, 60 softgels, Item # 01426</td>
<td></td>
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</tr>
<tr>
<td>The superior ubiquinol form of CoQ10 plus a natural compound (shilajit) shown to double mitochondrial CoQ10 levels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Life Extension Mix™ • 315 tablets, Item # 01855</strong></td>
<td>$98</td>
<td>$46.91 (ten-bottle purchase)</td>
</tr>
<tr>
<td>High-potency multi-nutrient formula now with the bioactive methylcobalamin form of B-12 and Wild Maqui extract to provide a boost of powerful delphinidin anthocyanins.</td>
<td></td>
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</tr>
<tr>
<td><strong>Vitamin D3 • 5,000 IU, 60 softgels, Item # 01713</strong></td>
<td>$11</td>
<td>$6.68 (four-bottle purchase)</td>
</tr>
<tr>
<td>High-potency vitamin D in a softgel to provide greater absorption into the bloodstream.</td>
<td></td>
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<tr>
<td><strong>Ultra Natural Prostate</strong></td>
<td>$38</td>
<td>$21.60 (twelve-bottle purchase)</td>
</tr>
<tr>
<td>60 softgels, Item # 01895</td>
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<tr>
<td>Comprehensive support for an aging prostate gland utilizing botanical extracts plus boron and now with ThymoQ™ Phospholipid Complex for enhanced absorption.</td>
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<tr>
<td><strong>Super Zeaxanthin with Lutein, Meso-Zeaxanthin, and C3G</strong></td>
<td>$22</td>
<td>$13.37 (four-bottle purchase)</td>
</tr>
<tr>
<td>60 softgels, Item # 01685</td>
<td></td>
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<tr>
<td>Supports night vision and macular density.</td>
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<tr>
<td><strong>Super K with Advanced K2 Complex • 90 softgels, Item # 01724</strong></td>
<td>$30</td>
<td>$18.23 (four-bottle purchase)</td>
</tr>
<tr>
<td>More potent formula includes 200 mcg of long-acting MK-7 form of vitamin K2 plus 1,000 mcg of K1 and 1,000 mcg of the MK-4 form of vitamin K2.</td>
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</tr>
<tr>
<td><strong>PQQ Caps with BioPQQ® • 10 mg, 30 vegetarian capsules, Item # 01500</strong></td>
<td>$24</td>
<td>$14.85 (four-bottle purchase)</td>
</tr>
<tr>
<td>Promotes mitochondrial biogenesis (generation of new mitochondria) in aging cells.</td>
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<tr>
<td><strong>DHEA (Dehydroepiandrosterone) • 25 mg, 100 capsules, Item # 00335</strong></td>
<td>$18</td>
<td>$10.13 (four-bottle purchase)</td>
</tr>
<tr>
<td>A hormone that declines with aging, benefits overall health.</td>
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<tr>
<td><strong>Mitochondrial Energy Optimizer with BioPQQ® • 120 capsules, Item # 01768</strong></td>
<td>$94</td>
<td>$56.70 (four-bottle purchase)</td>
</tr>
<tr>
<td>To maintain healthy cellular function, protein structural integrity, and mitochondrial biogenesis.</td>
<td></td>
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<tr>
<td><strong>Super Bio-Curcumin® • 400 mg, 60 vegetarian capsules, Item # 00407</strong></td>
<td>$38</td>
<td>$23.63 (four-bottle purchase)</td>
</tr>
<tr>
<td>Super-absorbable formulation promotes healthy lipids, joint function, and healthy DNA. Absorbs up to seven times greater than conventional curcumin.</td>
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<tr>
<td><strong>CoffeeGenic® Weight Management™ with Green Coffee Extract</strong></td>
<td>$48</td>
<td>$28.35 (four-bottle purchase)</td>
</tr>
<tr>
<td>90 capsules, Item # 01707</td>
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<tr>
<td>Green Coffee Extract (350 mg) plus irvingia, chromium, and green tea extract.*</td>
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<tr>
<td><strong>Optimized Resveratrol with Synergistic Grape-Berry Actives</strong></td>
<td>$46</td>
<td>$27.90 (four-bottle purchase)</td>
</tr>
<tr>
<td>250 mg, 60 vegetarian capsules, Item # 01430</td>
<td></td>
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<tr>
<td>High potency trans-resveratrol with quercetin, plus trans-pterostilbene and fisetin to support DNA “longevity genes.” One per day resveratrol formula.</td>
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</tr>
</tbody>
</table>

*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.*
<table>
<thead>
<tr>
<th>Product Description</th>
<th>Code</th>
<th>Low Price</th>
<th>Member-Volume Discount Price Per Bottle</th>
<th>(four-bottle purchase)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Restore with Vitamin K2 • 120 capsules, Item # 01727</td>
<td></td>
<td>$24</td>
<td>$14.85</td>
<td></td>
</tr>
<tr>
<td>Highly absorbable forms of calcium plus FruiteX B® OsteoBoron®, magnesium, zinc and K2. Available with or without vitamin K2.</td>
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<tr>
<td>Cognitex with Brain Shield™ and Pregnenolone • 90 softgels, Item # 01897</td>
<td></td>
<td>$62</td>
<td>$35.78</td>
<td></td>
</tr>
<tr>
<td>Optimal support for the brain. Includes gastrodin, alpha glyceryl-phosphoryl-choline, vinpocetine, phosphatidylserine, uridine 5’-monophosphate, and more. Available with or without pregnenolone.</td>
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<tr>
<td>Brain Shield™ 300 mg, 60 vegetarian capsules, Item # 01802</td>
<td></td>
<td>$33</td>
<td>$20.25</td>
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<tr>
<td>Gastrodin provides unparalleled, multi-factorial support for cognitive and circulatory brain function.</td>
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<tr>
<td>Reishi Extract Mushroom Complex • 60 vegetarian capsules, Item # 01708</td>
<td></td>
<td>$30</td>
<td>$18.23</td>
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<tr>
<td>Standardized mushroom extract to restore and regulate immune system function.</td>
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<tr>
<td>Triple Action Cruciferous Vegetable Extract 60 vegetarian capsules, Item # 01468</td>
<td></td>
<td>$24</td>
<td>$14.85</td>
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</tr>
<tr>
<td>Comprehensive cruciferous plant extract formulation, with IBC, DIM, apigenin, and other DNA-protecting vegetable concentrates.</td>
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<tr>
<td>European Milk Thistle • 60 softgels, Item # 01822</td>
<td></td>
<td>$28</td>
<td>$16.88</td>
<td></td>
</tr>
<tr>
<td>High-absorption phospholipid-enhanced formula delivers nearly five times more active components to the bloodstream to support detoxification processes as well as promote liver health and function.</td>
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<tr>
<td>Super R-Lipoic Acid • 300 mg, 60 vegetarian capsules, Item # 01208</td>
<td></td>
<td>$49</td>
<td>$30.38</td>
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</tr>
<tr>
<td>Superior efficacy compared to alpha-lipoic acid—supplies 240 mg of stabilized R-lipoic acid.</td>
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</tr>
<tr>
<td>ArthroMax® Advanced with UC-II® and AprèsFlex® • 60 capsules, Item # 01618</td>
<td></td>
<td>$36</td>
<td>$21.60</td>
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</tr>
<tr>
<td>Promotes joint health and may promote comfortable joint structure and function.</td>
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<tr>
<td>FlorAssist™ Probiotic Liquid Vegetarian Capsules 30 liquid vegetarian capsules, Item # 01806</td>
<td></td>
<td>$33</td>
<td>$20.25</td>
<td></td>
</tr>
<tr>
<td>Supports digestive health by utilizing a novel “capsule in a capsule” delivery system to provide 15 billion CFU of six clinically validated strains of beneficial bacteria to all areas of the digestive tract.</td>
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</tr>
<tr>
<td>Advanced Bio-Curcumin® with Ginger and Tumerones • 30 softgels, Item # 01808</td>
<td></td>
<td>$30</td>
<td>$18.23</td>
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</tr>
<tr>
<td>Triple action formula acting on multiple signaling pathways to deliver broad-spectrum protection against inflammation.</td>
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<tr>
<td>Natural Stress Relief • 30 vegetarian capsules, Item # 00987</td>
<td></td>
<td>$28</td>
<td>$16.20</td>
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</tr>
<tr>
<td>With lemon balm extract to help relieve stress and sleeplessness, and L-theanine to promote relaxation without drowsiness.</td>
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<tr>
<td>Gamma E Tocopherol with Sesame Lignans • 60 softgels, Item # 00759</td>
<td></td>
<td>$32</td>
<td>$19.58</td>
<td></td>
</tr>
<tr>
<td>Provides the critical gamma tocopherol form of vitamin E plus sesame lignans to enhance the free radical scavenging benefits of alpha and gamma tocopherols.</td>
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<tr>
<td>Cytokine Suppresst™ with EGCG • 30 vegetarian capsules, Item # 01804</td>
<td></td>
<td>$30</td>
<td>$18.23</td>
<td></td>
</tr>
<tr>
<td>Combines mung bean seed coat and EGCG from green tea to modulate a healthy inflammatory response and support immune function.</td>
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</tr>
<tr>
<td>Super Booster Softgels with Advanced K2 Complex • 60 softgels, Item # 01680</td>
<td></td>
<td>$42</td>
<td>$25.65</td>
<td></td>
</tr>
<tr>
<td>A convenient one per day softgel that includes optimal potencies of gamma-tocopherol, sesame lignans, lycopene, lutein, ginkgo, chlorophyllin, and both forms of vitamin K2.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Neuro-Mag™ Magnesium L-Threonate • 90 vegetarian capsules Item # 01603</td>
<td></td>
<td>$40</td>
<td>$24.30</td>
<td></td>
</tr>
<tr>
<td>Optimal form of magnesium to protect synaptic density of neurons.</td>
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</tbody>
</table>

*This supplement should be taken in conjunction with a healthy diet and regular exercise program. Results may vary.*

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Most people don’t get enough oil-based nutrients like vitamin K, lycopene, and gamma tocopherol. This problem is solved with a one-per-day softgel called Super Booster. It provides high potencies of fat-soluble compounds lacking in dry powder formulas, along with other nutrients.

Just one Super Booster provides:

- **VITAMIN K2** Scientific studies show vitamin K2 provides superior benefits for the bones, arteries, and other tissues. The MK-4 form of vitamin K2 is the most rapidly absorbed and is now routinely used in Japan to maintain healthy bone density. MK-4, however, only remains active in the blood for a few hours. The MK-7 form of K2, on the other hand, remains bioavailable to the human body over a sustained 24-hour period. Super Booster provides a potent dose of MK-7 and MK-4 to keep calcium in the bone and out of the arteries.

- **GAMMA TOCOPHEROL** If one consumes only alpha tocopherol, the critically important gamma tocopherol is displaced from cells within the body. While alpha tocopherol vitamin E inhibits lipid peroxidation, the gamma tocopherol form quenches the dangerous peroxynitrite free radical. It is especially important for those who take vitamin E supplements to make sure they consume at least 200 mg a day of gamma tocopherol.

- **LUTEIN** The carotenoid lutein helps maintain healthy cell division, supports the macula of the eye, and protects the endothelial lining of the arteries.

- **LYCOPENE** Evidence suggests that people who ingest the carotenoid lycopene enjoy healthier prostate function. Lycopene also helps guard against LDL oxidation.

- **GINKGO** Hundreds of studies substantiate the multifaceted effects of Ginkgo biloba in promoting healthy circulatory and neurological function.

- **CHLOROPHYLLIN** Scientific studies indicate that chlorophyllin may protect against environmentally induced damage to DNA.

A bottle of 60 Super Booster softgels retails for $42. If a member buys four bottles during Super Sale, the price is reduced to $25.65 per bottle.

The Super Booster saves consumers huge dollars by combining a wide variety of costly nutrients into one daily softgel. If you add up the price of the individual ingredients contained in the Super Booster, you would spend two to three times more for this potency if taken separately.

To order Super Booster, call 1-800-544-4440 or visit www.LifeExtension.com

Contains soybeans.

CAUTION: If you are taking anti-coagulant or -anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

Tomat-O-Red® is a registered trademark of LycoRed, Ltd.

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The liver is responsible for more than 500 vital life functions.¹

Few people realize how critical liver function is to all aspects of health.¹

Our liver works tirelessly as a purification plant to eliminate cellular waste products such as ammonia, as well as environmental toxins like heavy metals, pollutants, and drugs.¹

Just as important, our liver helps regulate glucose/cholesterol blood levels, breaks down fats in our digestive tract, regulates blood clotting and converts foods into forms easier to use for the rest of the body. Our liver also helps detoxify dietary carcinogens.¹

Disorders ranging from cirrhosis to non-alcoholic fatty liver disease and even cancer can increase oxidative stress in the liver resulting in liver damage and impairment of function.²⁻⁶

For more than 2,000 years, milk thistle has been used to treat liver as well as gall bladder dysfunction.⁷ Studies confirm that milk thistle can protect liver function, prevent liver damage, and normalize elevated liver enzyme levels.⁸⁻¹⁰

Specific compounds within milk thistle are responsible for its potent liver-protecting benefits.¹¹ The exciting news is that, researchers have discovered a way to make milk thistle far more effective.

In recent developments, scientists have created a method to provide close to five times more of milk thistle’s bioactive compound into your bloodstream.¹²

As a result of this enhancement, you can now get up to 10 times more benefit directly to your liver from a single dose of milk thistle extract. The result is unprecedented protection for an aging liver.¹³,¹⁴
Close to 5 Times Better Absorption!

When *silybin* is combined with *phosphatidylcholine*, it is absorbed nearly 5 times better than silymarin alone, and its concentration to the liver is 10-fold greater than silymarin alone.\(^{12-14}\)

In a study of rats exposed to various liver toxins, the combination of *silybin* plus phosphatidylcholine protected against the telltale rise in plasma levels of liver enzymes (a marker of liver damage), while the same doses of either nutrient alone had no detectable effect.\(^8\)

Human studies also demonstrated that this complex has better results than silymarin or silybin alone, lowering serum levels of liver enzymes and producing clinical improvement in studies of liver cirrhosis and hepatitis caused by alcohol, drugs, and viruses.\(^{22}\)

Reverse Alcohol-Induced Liver Damage

You likely already know that large amounts of alcohol impose extreme oxidative stress on liver tissue,\(^2,19\) but what you might not know is that milk thistle compounds have the potential to *attenuate* and even *reverse* alcohol-induced liver damage.\(^2,19,22\)

In animal studies, acute alcohol administration produced a number of destructive effects in the liver, including prominent accumulations of fat in liver cells, small areas of dead tissue (necrosis), a rise in liver enzymes in the blood, a reduction in glutathione (the main intracellular antioxidant), and an increase in levels of the destructive cytokine TNF-alpha. Amazingly, supplementing with silymarin *prevented all* of these adverse alcohol-induced changes.\(^{19}\)

And one dramatic human study demonstrated just how powerfully silymarin protects liver activity and improves liver function in alcoholic patients.\(^{24}\) In a double-blind, clinical trial of 36 people with chronic alcoholic liver disease, patients took either silymarin or placebo every day for six months.\(^{24}\) At baseline, all patients had elevated liver enzymes and other markers of liver damage in their blood; they also had biopsy-proven tissue damage.

Following treatment, however, *all* of the markers of liver damage had *normalized* in the silymarin group (with only minimal changes among placebo recipients).\(^{24}\) Even better, subsequent biopsies indicated reversal of the disease process by revealing cellular-level improvement in the silymarin group, but no changes in the placebo patients.

The Key to Unlocking Milk Thistle’s Benefits

Extracts from the milk thistle (*Silybum marianum*) have been used for centuries for their preventive and curative properties for liver disease.\(^7,19\) One of the most beneficial milk thistle components responsible for these protective effects is called *silymarin*.\(^9,11\)

A potent antioxidant and anti-inflammatory, silymarin helps fight the root causes of liver disease.\(^{15-19}\) Further research has identified a molecule called *silybin* as being the most active component in silymarin.\(^9,20\)

As beneficial as milk thistle is, there’s one issue keeping it from reaching its fullest potential: *silybin* has poor bioavailability, meaning it’s difficult for your body to *absorb*.\(^{12-14,21,22}\)

But scientists have now developed a *novel* way to overcome silybin’s poor bioavailability. The solution is to combine silybin with a nutrient called *phosphatidylcholine*.\(^{23}\)

As a major component of cell membranes, *phosphatidylcholine* facilitates transport across the cells lining the intestines, making it an ideal “carrier molecule” for silybin.\(^{21-23}\)
Milk Thistle Outperforms Mainstream Treatment

Although *non-alcoholic fatty liver disease* (NAFLD) is the most common cause of chronic liver disease in industrialized nations, mainstream medicine has little to offer for those suffering from this disease. Fortunately, silymarin holds out substantial promise.

In a 2012 study, researchers compared silymarin (140 mg/day) with insulin sensitizing drugs like *metformin* and *pioglitazone*. All three treatments produced improvements in fasting blood sugar, lipid profiles, insulin levels, and insulin resistance, along with decreases in blood levels of liver enzymes. However, the silymarin group experienced the greatest decrease in liver enzymes, indicating greater protection against liver damage.

As promising as silybin is on its own, the increased bioavailability of silybin in combination with *phosphatidylcholine* represents a major step forward in managing non-alcoholic fatty liver disease. One early study of patients with non-alcoholic fatty liver disease showed significant reductions in plasma markers of liver fibrosis and significant improvements in insulin resistance, using a combination of silybin, vitamin E, and phospholipids.

A more recent, larger trial of a unique combination of silybin with phosphatidylcholine and vitamin E demonstrated significant improvements in liver enzymes, insulin resistance, and the appearance of liver tissue on biopsy (none of which were seen in placebo recipients).

**Restore Vital Liver Function**

In about 10% of cases, non-alcoholic fatty liver disease progresses to *non-alcoholic steatohepatitis* (NASH), a dangerous condition that ultimately produces liver fibrosis, cirrhosis, and even cancer.

Silybin has been shown to restore vital liver functions in animals with non-alcoholic steatohepatitis, improving insulin sensitivity and markers of oxidative and inflammatory damage.

It also suppressed the transformation of normal liver structural cells into the tough, inelastic tissue characteristic of liver fibrosis and cirrhosis, the end-stage phases of liver disease that follows non-alcoholic steatohepatitis.

**Reverse Active Liver Damage**

Viral hepatitis is a catch-all phrase for infections (such as hepatitis B and C) that can cause liver damage and raise the risk for liver cancer. Both hepatitis B and C can set up chronic infection (chronic active hepatitis) that can progress to fibrosis and cirrhosis.

Silymarin treatment in acute viral hepatitis can speed the normalization of liver enzymes in the blood, indicating a regression of active liver damage. A group of patients with chronic active hepatitis took 240 mg of silybin combined with *phosphatidylcholine*, or placebo, twice daily for 7 days. The patients taking silybin had significant drops in all markers of liver damage, while control patients experienced no changes.

While effective against hepatitis-induced liver damage, oral silymarin produces no reduction in the number of viral particles infecting the body, but studies of silymarin given intravenously reveal a substantial antiviral effect in patients who have not responded to standard IV antiviral treatment.

**Increased Survival Rates!**

Those with cirrhosis, the end-stage result of liver damage, are faced with two options: a slow and uncomfortable death or a liver transplant. Fortunately, milk thistle extracts have been found to increase the survival rate of this deadly condition.

One study found that in people with alcohol-induced cirrhosis, those taking silymarin survived longer than control subjects. A later study confirmed that finding, with 58% of silymarin-treated patients surviving longer than 4 years, compared with 39% of the placebo group.

Even when liver disease has reached the stage of cirrhosis, silymarin treatment can normalize elevated liver enzymes in the blood, indicating that it has slowed the progression of liver damage.
**Summary**

Milk thistle extract has now been proven to lessen and, in some cases, reverse liver damage. Studies have shown that it can benefit multiple liver disorders, including alcohol-induced liver damage, non-alcoholic fatty liver disease, non-alcoholic steatohepatitis, viral infections, and cirrhosis. Scientists have uncovered specific compounds in milk thistle responsible for its liver-promoting benefits—and in the process have uncovered a way to substantially increase their absorption and bioavailability. This breakthrough improves the delivery of the benefits of milk thistle extracts for liver health.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

**References**


Top Off Your TESTOSTERONE Naturally

Low Testosterone Levels May Lead to:
- Reduced Sex Drive • Less Energy
- Cloudy Thinking • Weight Gain
- Cardiovascular Issues

Maintaining healthy testosterone levels is one of the most important steps you can take to regain your health and improve your performance. With research showing that by the time a man is 60 years old, he may produce 60% less testosterone than he did in his 20s, the time is now to add Life Extension®’s Super MiraForte with Standardized Lignans to your supplement regimen.

Each daily dose of Super MiraForte with Standardized Lignans contains the following testosterone supporting ingredients:
- 1500 mg Chrysin
- 15 mg Bioperine®
- 850 mg Muira puama
- 282 mg Nettle root
- 15 mg Chelated elemental zinc
- 320 mg Maca
- 33.4 mg HMRlignan™

Low Testosterone Levels May Lead to:
- Reduced Sex Drive • Less Energy
- Cloudy Thinking • Weight Gain
- Cardiovascular Issues

The retail price for a bottle of 120 capsules of Super MiraForte with Standardized Lignans is $62. If a member buys four bottles during Super Sale, the price is reduced to $37.80 per bottle.

Caution: If you are taking any medication, use only under physician supervision. Men with existing prostate cancer may not be able to use this product.
Elevations in free testosterone can unmask an occult (hidden) prostate cancer. Anyone with this concern should have a baseline PSA prior to using this product and a follow-up PSA test 60 days later. If a significant elevation of PSA is found, discontinue this product and advise physician. Do not take more than 15 mg per day of Bioperine®.

Bioperine® is a registered trademark of Sabinsa Corp. HMRlignan™ is a registered trademark used under sublicense from Linnea S.A.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Milk thistle extract is one of nature’s most potent weapons to support liver health. Until recently, however, the technology hasn’t been available to fully harness this plant’s full benefits.¹

The problem has been that the star component of milk thistle, called silybin, does not dissolve well in water.²,³ This makes it difficult for your body to absorb all of it.²,³,⁴

Scientists have developed a novel technology to overcome silybin’s poor bioavailability. The solution is to mix silybin with a nutrient called phosphatidylcholine.

Phosphatidylcholine facilitates transport across the intestinal lining into the bloodstream, making it an ideal “carrier molecule” for silybin.⁵ Scientists believe that phosphatidylcholine molecularly bonds to silybin ushering it through the membranes of cells in the intestinal tract.⁶

This new silybin-phosphatidylcholine complex is absorbed nearly 5 times better than silymarin alone, and its concentration to the liver, its target organ, is 10-fold greater than silymarin alone.⁶-⁸

The suggested twice daily dosage of one softgel provides:

Milk Thistle Phospholipid Proprietary Blend 760 mg
Milk Thistle Extract (seed)
[std. to 80% silymarin (480 mg), 30% Silybin (180 mg), and 8% Isosilybin A and Isosilybin B (48 mg)], Phospholipids

SILIPHOS® Phytosome Milk Thistle Extract (seed) 160 mg
[std to 29.7% silybin (47.52 mg)]

A bottle containing 60 softgels of the new absorption-enhanced Milk Thistle retails for $28. If a member buys four bottles during Super Sale, the cost is reduced to only $16.88 per bottle—a savings of nearly one third!

This novel Milk Thistle extract with phosphatidylcholine contains standardized concentrations of silybin and isosilybin A and B not found in other milk thistle extracts! Compare the price of Milk Thistle to commercial silymarin supplements, and members will see that this new formula is available at one of the lowest costs per milligram.

Contains soybeans.

SILIPHOS® is a registered trademark of Indena S.p.A., Italy.

To order European Milk Thistle with Advanced Phospholipid Delivery call 1-800-544-4440 or visit www.LifeExtension.com

Reference
D-glucarate is found in grapefruit, apples, oranges, broccoli, and Brussels sprouts. D-glucarate supports a detoxification process that helps to remove DNA toxins.

Broccoli is one of the vegetables best documented to protect healthy DNA. The broccoli concentrate in LIFE EXTENSION MIX™ is standardized to provide sulforaphane and other glucosinolates, compounds responsible for broccoli’s protective benefits.

Olive polyphenols help protect against LDL oxidation, quench free radicals, and stabilize cell membranes. LIFE EXTENSION MIX™ contains an olive extract standardized to provide the best-documented polyphenol called hydroxytyrosol.

Luteolin is a flavonoid found in parsley, artichoke, basil, celery, and other foods. It has shown the ability to help protect against DNA oxidative damage. When measured against 27 other citrus flavonoids, luteolin proved one of the most beneficial at maintaining healthy DNA. Luteolin also suppresses excess levels of interleukin-6 and interleukin-1β. LIFE EXTENSION MIX™ contains a standardized dose of 8 mg of luteolin.

Lycopene is the red carotenoid in tomatoes that supports a healthy prostate and helps promote healthy lipid profiles for those already within a normal range.

Lutein is found in spinach and collard greens and has been shown to help maintain eye macula pigment structure.

Pomegranate may be the most effective plant to help maintain optimal endothelial function. This pomegranate extract is standardized to provide the punicalagins and other polyphenols found in up to 2.6 ounces of pomegranate juice.

Sesame lignans increase tissue levels of vitamin E, including gamma tocopherol, and inhibit the formation of an inflammatory precursor called arachidonic acid.

Wild blueberry extract, standardized to help maintain optimal neuronal function.

Pterostilbene is a compound naturally found in blueberries and grapes that has been shown to have beneficial, anti-aging effects

Cyanidin-3-Glucoside is a berry compound that promotes healthy function of the retina to help support night vision.

Pyridoxal 5'-phosphate helps protect against glycation reactions, a toxic process in which sugars bind to lipids and proteins to form non-functional structures in the body.

D-glucarate is found in grapefruit, apples, oranges, broccoli, and Brussels sprouts. D-glucarate supports a detoxification process that helps to remove DNA toxins.

Scientists have identified multiple mechanisms by which green tea extract helps protect against LDL oxidation, neuronal oxidation, and a host of other structural and functional age-related changes. LIFE EXTENSION MIX™ provides more green tea extract than found in commercial formulations.

Vegetable-Fruit Complex

Decaffeinated Green tea extract (45% EGCG) 325 mg
Broccoli sprout concentrate extracts and calcium D-Glucarate (providing sulforaphane, glucosinolates, D-3T, and PEITC) 725 mg
Olive juice extract (providing polyphenols, hydroxytyrosol, tyrosol, oleuropein) 12.5 mg
Grape seed proanthocyanidin extract (Leucoselect®) 25 mg
Grape (proanthocyanidin) extract (BioVin®) 25 mg
Luteolin (from orange extract) 8 mg
Lycopene (natural tomato extract) (Tomat-O-Red®) 3 mg
Lutein (marigold extract) (465 mcg trans-zeaxanthin) 15 mg
Maqui Berry (Aristotelia chilensis) anthocyanin extract 100 mg
Milk thistle extract (85% silymarin) 100 mg
Bromelain (from pineapple) 15 mg
Citrus Bioflavonoids (50% hesperidin) 200 mg
Acerola extract 4:1 300 mg
Bilberry extract (MirtoSelect®) 30 mg
Pomegranate extract (30% punicalagins) (POMELLA®) 85 mg
Sesame seed lignan extract 10 mg
Fruit/Berry Complex blend (proprietary blend of concentrated blackberry, blueberry, cherry, cranberry, elderberry, persimmon, prune powders) 300 mg
Wild Blueberry anthocyanin extract (fruit) 150 mg
trans-Pterostilbene (from pTeroPure®) 0.5 mg
Cyanidin-3-Glucoside (C3G) (from blackcurrant extract) 1.25 mg
CherryPure® Tart Cherry (Prunus cerasus) proanthocyanidin extract 85 mg
Delphinidins 2 mg
D-Glucarate 725 mg

Water-Soluble Vitamins and Enzymatic Activators

Vitamin C 2000 mg
as: ascorbic acid, calcium, magnesium & niacinamide ascorbates, ascorbyl palmitate, acerola extract
Natural Folate (from lemon extract) 400 mcg
Biotin 3,000 mcg
Trimethylglycine (TMG) 100 mg
Vitamin B1 (thiamine HCl) 125 mg
Vitamin B2 (riboflavin) 50 mg
Supplying: Riboflavin 5'-phosphate 2 mg
Vitamin B3 (niacinamide and niacinamide ascorbate) 117 mg
Vitamin B3 (niacin) 73 mg
Vitamin B5 (as calcium pantothenate) 600 mg
Pantethine 5 mg
Vitamin B6 (pyridoxine HCl) 5 mg
Pyridoxal 5'-phosphate (vitamin B6) 100 mg
Vitamin B12 (methylcobalamin) 600 mcg

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.
Published scientific studies document that people who eat the most fruits and vegetables have much lower incidences of health problems. Few people, however, consistently eat enough plant foods to protect against common age-related decline, and commercial multivitamins do not provide all of the vital plant components needed to maintain good health. Life Extension Mix™ provides a broad array of vegetable/fruit extracts.

**Life Extension Mix™** now contains an upgraded vitamin B12 that offers superior absorption compared to other forms of B12.

### Fat-Soluble Vitamins
- **Vitamin A** (as Betatene® natural beta-carotene from dunaliella and acetate) 5,000 IU
- **Vitamin D3** (cholecalciferol) 2,000 IU
- **Vitamin C** (as calcium ascorbate, ascorbic acid, ascorbyl palmitate, magnesium ascorbate, niacinamide ascorbate, acerola extract) 2,000 mg
- **Vitamin E** (natural a-alpha tocopheryl succinate and a-alpha tocopherol) 100 IU
- Natural mixed tocopherols (prodiving gamma, delta, alpha, and beta tocopherols) 60 IU

### Amino Acid Complex
- N-acetyl-L-cysteine 600 mg
- Taurine 200 mg

### Mineral Complex
- **Selenium** (from Se-methyl L-selenocysteine) 100 mcg
- **Selenium** (from L-selenomethionine—SelenoPure™) 50 mcg
- **Selenium** (from sodium selenite) 50 mcg
- **Zinc** (as zinc citrate) 20 mg
- **Zinc** (monomethionine) (OptiZinc®) 15 mg
- **Boron** (Albion® bororganic glycine) 3 mg
- **Calcium** 218 mg
- **Copper** (as copper bisglycinate chelate TRAKS®) 1 mg
- **Chromium** (as Crominex® 3+ chromium stabilized with Capros® and PrimaVie® Shilajit) 500 mcg
- Potassium chloride (37.4 mg elemental) 71.3 mg
- Molybdenum (sodium molybdate) 125 mcg
- Manganese (gluconate) 1 mg
- Iodine (potassium iodide) 150 mcg
- Magnesium oxide (335.96 mg elemental) 560 mg
- Magnesium citrate (35.28 mg elemental) 261.3 mg
- Magnesium glycerinate (11.74 mg elemental) 100 mg
- Magnesium taurinate (7.83 mg elemental) 100 mg
- Magnesium arginate (5.87 mg elemental) 100 mg
- Magnesium ascorbate (3.40 mg elemental) 58.1 mg

### Cholinergic Complex
- Choline (from bitartrate) 120 mg
- Phosphatidylcholine (from soy) 150 mg
- Inositol 250 mg

### Fat-Soluble Vitamins
- **Vitamin D3** helps maintain healthy bone density and DNA. There is five times more vitamin D in LIFE EXTENSION MIX™ compared to conventional multivitamins.

**The Life Extension Mix™** utilizes natural mixed tocopherols that provide natural vitamin E from alpha tocopherol and a small amount of gamma tocopherol (40 mg). Compared to synthetic vitamin E, the natural form is far more bioavailable to the body.

- **N-acetyl-L-cysteine** suppresses free radicals inside the cell and maintains healthy glutathione levels. Taurine may protect against free radicals between cells and supports eye health.

**Life Extension Mix™** contains the sodium selenite, selenomethionine, and Se-methyl-L-selenocysteine forms of selenium. Some scientific evidence suggests that consumption of selenium may reduce the risk of certain forms of cancer; however, the FDA has determined that this evidence is limited and not conclusive.

- **Zinc** is poorly absorbed, but LIFE EXTENSION MIX™ provides two of the most bioavailable forms of zinc.

**Boron** is not only needed to maintain healthy bone density but may also help promote healthy prostate cell function.

**LIFE EXTENSION MIX™** provides a high amount of an optimal form of chromium to help maintain arterial wall structure and already normal glucose levels.

**Magnesium** helps protect arteries and heart valves, and supports heart and brain cells. **LIFE EXTENSION MIX™** provides high potencies of six different forms of magnesium to fully saturate the body with this life-saving mineral.

- Maintaining high levels of *acetylcholine* in the brain helps support cognitive function and memory.

Contains soybeans. Contains fish (Tilapia).

1) Betatene® is a registered trademark of BASF SE. 2) Delphinidin® is a registered trademark of MNL protected by U.S. patent application US 13/076,117 and WO PCT/IB2010/002666. 3) OptiZinc® is a registered trademark of InterHealth Nutritional, Inc. 4) SelenoPure™ is a trademark of Nutrition, Inc. 5) L-efax® is a registered trademark of Indena S.p.A. 6) BioVite® is a registered trademark of Cyrex Nutrition. 8) Tomat-O-Red® is a registered trademark of Lycored LTD. 9) POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Venture Sciences, Inc. 10) PurePero® is a trademark of ChromaDex, Inc. 11) MetSol® is a registered trademark of Indena, S.p.A., Milan, Italy. 12) TRAKS® and Albion® are registered trademark of Albion Laboratories, Inc. 13) CherryPure® is a registered trademark of Shoreline fruit LLC.

**CAUTION:** Some people choose a high-niacin version of Life Extension Mix that provides 862 mg in the daily dose, of which 345 mg is the form of niacin that can cause temporary flushing, itching or gastric disturbances. Liver function testing is recommended when niacin is taken in excess of 500 mg daily. Those with gout or liver diseases should avoid taking high doses of niacin. Consult with your doctor before using this product if you are taking anticoagulant medications. Individuals consuming more than 2,000 IU/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxyvitamin D measurement. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

**References**

To order call toll-free 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
We are pleased to announce our 25th annual winter SUPER SALE. During this special event, members can purchase our most advanced formulas at extra-discounted prices.

When consumers buy products from the Life Extension Foundation® Buyers Club, they have assurance that the quality of the product is backed by the organization’s commitment to achieving an indefinitely extended life span.

During Super Sale, members can purchase premium-quality nutrients at prices below those charged by commercial companies. This enables members to obtain products they can trust and still obtain discounted prices.

Life Extension® members always receive a 25% discount off the retail price. The big savings occur when members purchase multiple bottles. For instance, when four or ten bottles of a product are purchased, the savings can exceed 50%!

Not only do Life Extension members save substantial dollars, but they also gain access to the most technologically advanced formulations in the world.

A review of this Special Edition of Life Extension Magazine® reveals new products and enhancements made to existing formulations. For example, in a significant advance, researchers have found that gastrodin, a compound typically derived from a traditional Chinese orchid (Gastrodia elata), powerfully supports the brain’s normal defenses and regenerative mechanisms.

For members seeking to control inflammatory processes, a new formula called Advanced Bio-Curcumin® with Ginger and Tumerones helps block inflammation at every stage of the process, safely inhibiting long-term disease risk.

Studies demonstrate that ginger, curcumin, and turmeric oil combat an array of disorders, including cancer, cardiovascular disease, and arthritis.

Life Extension has added new ingredients to existing formulations so that members have convenient access to a comprehensive health maintenance program. This is the time of year when members gain access to updated formulations—at low Super Sale pricing.

Super Savings on the new Life Extension Mix™

Life Extension Mix™ provides standardized botanical extracts, vitamins, minerals, and amino acids at a fraction of the cost of taking these nutrients individually.

As you’ll see on the previous pages, Life Extension Mix™ now contains delphinidins, potent anthocyanin compounds found in dark red fruits that help support the production of nitric oxide, control inflammatory processes, stimulate the immune system, and benefit metabolic balance.

The new Life Extension Mix™ also provides the bioactive coenzyme form of B12, methylcobalamin, which offers superior absorption when compared to other forms of vitamin B12.

The cost of taking all these nutrients separately would be astronomical, but members can obtain the full dose of Life Extension Mix™ for as little as $1.34 per day if they buy during Super Sale. On a “cost-per-milligram” basis, Life Extension Mix™ provides much more potency for far less money than commercial formulas.

Here’s how members can obtain Life Extension Mix™ at below wholesale prices:

The retail price of a five-week supply of the new Life Extension Mix™ (315 tablets) is $98. The member price for one bottle during Super Sale is $66.15. (Item# 01855)

If a member buys four bottles, the price is reduced to $58.05 per bottle. When a member buys ten bottles during Super Sale, the price goes down to just $46.91 per bottle. Since each bottle lasts for five weeks, that means that ten bottles will last for almost one year!

Members can save up to 52% off the retail price of Life Extension Mix™ during Super Sale. Life Extension Mix™ provides more health-maintaining nutrients than any other nutrient formula in the world. This year’s Super Sale begins November 18, 2013.

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Each day, **14 million** people experience the paralyzing pain of migraines.¹ Every **10 seconds** someone is admitted to an emergency room with a migraine-related condition.¹

As painful and debilitating as migraines can be, scientists never believed they caused any long-term damage. 

**But they were wrong.**

Scientists have recently uncovered an alarming discovery: Migraines cause lasting brain damage that is closely related to the changes seen in seizures, strokes, and dementia.²³ Indeed, having a history of migraines is turning out to be a risk factor for some of the most-feared chronic brain disorders.²⁴⁻⁶

Current migraine treatments include **drugs** originally developed for treating epilepsy.⁷⁹ Although these drugs are effective in the short term, they were never meant for long-term use, they are fraught with side effects, and they fail to address the underlying cause.⁷⁹

As scientists searched for treatment alternatives to anti-epileptic drugs, they uncovered two ingredients that provide a therapeutic dual-action against the changes in the brain that lead to migraines.

By restoring chemical balance to the brain and improving brain blood flow, **gastrodin** and **magnesium** target the underlying mechanisms behind crippling migraine pain, providing safe and effective relief.¹⁰⁻¹⁴
Getting to the Root of Migraine Pain

Brain imaging studies show that people with migraines have visible abnormalities that are similar to those seen in stroke victims and in people with dementia. And some large-scale epidemiological studies suggest that people with chronic migraines are at increased risk for strokes and dementia.

An abrupt reduction in brain blood flow occurs during an ischemic stroke, and more gradually in the condition known as vascular dementia. Similarly, before and during a migraine attack, blood flow in specific brain regions begins to drop. In all three cases—stroke, vascular dementia, and migraines—the result is increased vulnerability of brain cells to dysfunction, degeneration, and eventually death.

But brain blood flow disturbances are just part of the picture in migraine headaches. In addition to (and perhaps as a result of) those disruptions, people with migraines show a harmful imbalance in the brain’s excitatory and inhibitory chemical activity.

The Migraine/Seizure Connection

Normally, your brain maintains a healthy balance between excitatory and inhibitory activity by modulating neurotransmitters such as GABA.

When you do not have enough GABA, you can end up with the uncoordinated electrical “storm” that presents itself as an epileptic seizure. We now know that a milder version of this process occurs during a migraine.

Because the imbalance between excitatory and inhibitory neurotransmitters is common to both migraines and seizures, anti-epileptic drugs might appear to be a promising treatment option for migraine sufferers. Such drugs generally elevate the GABA-related activity in the brain, which has a calming, inhibitory effect. They also reduce concentrations of excitatory neurotransmitters, further restoring a normal balance.

The problem is that seizure drugs are loaded with adverse effects and were never meant to be used on a long-term basis for the prevention of something like a migraine. In fact, the US Food and Drug Administration has issued a warning that all anti-epileptic drugs are associated with increased risk of suicidal ideation and behavior.

Fortunately, magnesium formulations and gastrodin work to improve cerebral blood flow and restore neurotransmitter input as do anti-epileptic drugs... but with a much better safety profile. The result is a natural treatment that has been proven to reduce the number and severity of migraine attacks.

Reduce the Number and Duration of Migraine Attacks

Gastrodin, originally extracted from the root of the orchid *Gastrodia elata*, has been used for centuries in traditional Chinese medicine, especially for disorders involving the central nervous system such as headaches and seizures as well as stroke and dementia. Now, these effects have been validated by modern science.

In one clinical trial, gastrodin was found to reduce the total number and duration of migraine attacks—and was even more effective than the leading drug flunarizine. Other studies have also shown that gastrodin has a higher overall effective rate when compared to flunarizine.

How it Works

Studies show that gastrodin-based formulas improve brain blood flow, which is commonly reduced during migraines. In fact, due to gastrodin’s powerful effect on blood flow, doctors in China use it to treat stroke victims, whose decrease in brain blood flow is life-threatening.
But perhaps gastrodin’s most exciting mechanism of action stems from its ability to modulate both excitatory and inhibitory neurotransmitters: It raises GABA levels to normal by blocking the enzymes that break it down,\(^{11,27}\) and it decreases levels of excitatory neurotransmitters.\(^{28,39,40}\)

Restoring this balance has been shown to be neuroprotective, even against the massive decrease in brain blood flow seen in strokes.\(^{28,33,39}\)

Clearly, gastrodin’s multiple mechanisms of action make it an effective choice in the treatment and prevention of migraine headaches. But as we’re about to see, adding magnesium enhances the benefits of gastrodin for comprehensive migraine prevention.

**Magnesium for Migraine Relief**

**Magnesium** supplementation has been proven to be effective at preventing and reducing the duration of migraine headaches—with one dramatic study demonstrating a *complete disappearance of pain* in 87% of those given intravenous magnesium sulfate—and 100% of patients responding to treatment.\(^{41}\)

And in another impressive study, 80% of patients receiving intravenous magnesium sulfate experienced complete pain relief *within 15 minutes* of the injection, along with complete elimination of hypersensitivity to light or sound.\(^{42}\)

Doctors in hospitals and clinics have even started using intravenous *magnesium sulfate* to treat an existing migraine headache.\(^{41,44}\)

Clinical trials have demonstrated the benefits of *oral* magnesium as well. One study found that 360 mg of magnesium reduced the number of days women experienced headaches during their menstrual cycles,\(^{45}\) a study of both male and female migraine patients found that 600 mg/day of magnesium in the form of *trimagnesium dicitrate* significantly reduced the incidence of migraine headaches,\(^{46}\) and another study found that magnesium supplementation reduced the irritation of facial and neck muscles that is common in migraines.\(^{47}\)

In total, more than a half a dozen solid clinical trials have now demonstrated the utility of oral magnesium for preventing migraines and reducing their severity.\(^{45-51}\)

**How it Works**

Magnesium is increasingly being recommended for migraine prevention—and for good reason.\(^{13,50,51}\)

Studies show that up to 50% of migraine patients are deficient in magnesium during an attack, and that they have a high ratio of calcium to magnesium.\(^{13,52}\)

This imbalance sets the stage for the contraction of brain blood vessels resulting in a reduction of blood flow.\(^{52}\)

Researchers using high-tech Doppler ultrasound to measure blood flow velocity in a major brain artery have definitively proven that supplementation with magnesium does increase both brain blood flow and its velocity.\(^{48,53}\)

Like *gastrodin*, magnesium also has beneficial effects on the balance of excitatory to inhibitory neurotransmitters. Magnesium is a natural blocker of the excitatory receptor on brain cells, so when ample magnesium is available those receptors don’t trigger the excitatory electrical impulse.\(^{54-56}\) This allows the brain to move into its more balanced, calm mode.
PROTECT AGAINST DESTRUCTIVE MIGRAINES

Summary

Despite the fact that migraine headaches affect around 18% of American women and 6% of men, mainstream medicine has yet to find a safe, long-term way to prevent this debilitating condition.1

Two natural substances have now been found to be effective in preventing and often in treating migraine headaches. Together, gastrodin and magnesium target the underlying mechanisms of migraines, improving brain blood flow and restoring balance to the brain chemicals neurotransmitters.11-13,27-32

By calming the brain and reducing its dangerous level of excitotoxicity, gastrodin and magnesium have been shown to minimize or eliminate migraine headaches.11,27,28,30,39,40,54-56 This is especially important as we learn how much migraines have in common with debilitating disorders such as strokes and dementia—and how greatly migraines raise your risk for those conditions.2,17,18

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

References


FIGHT BACK AGAINST AGING!

Aging is Characterized by Inflammation, Glycation, and Mitochondrial Decay

The loss of cellular vitality is caused by a number of factors, including mitochondrial problems, glycation, and free-radical reactions. Life Extension* members have access to a state-of-the-art nutritional formula called MITOCHONDRIAL ENERGY OPTIMIZER with BioPQQ® that helps protect delicate cellular structures and enables cells to perform life-sustaining metabolic processes.

Mitochondrial Energy Optimizer with BioPQQ® is designed to counteract age-related structural and functional changes by providing the following unique ingredients:

- **CARNOSEINE**: As humans age, proteins in their bodies become irreversibly damaged by glycation reactions. Glycation is the cross-linking of proteins and sugar to form non-functioning structures called advanced glycation end products in the body, which can lead to alterations of normal cell function. Carboseine is not only a powerful anti-glycating agent, but it also protects neurons against reactive and cytotoxic protein carbonyl species associated with normal aging.1-10
- **PQQ**: This breakthrough micronutrient has been shown to trigger mitochondrial biogenesis—the growth of new mitochondria in aging cells!11 PQQ also activates genes involved in protecting the delicate structures within the mitochondria.7-10
- **PYRIDOXAL 5’-PHOSPHATE**:is the active form of vitamin B6 that has been shown to protect against both antioxidative capacity and supports DNA function.20
- **BENFOTIAMINE**: Protects endothelial cell integrity from the effects of high glucose levels. In addition, benfotiamine exhibits direct anti-inflammatory activity and supports DNA function.20
- **LUTEOLIN**: Systemic inflammation is involved in most undesirable consequences of aging. Culprits behind inflammatory reactions are pro-inflammatory cytokines, such as interleukin-1 and tumor necrosis factor-alpha. Luteolin is a flavonoid that has been shown to help suppress these inflammatory cytokines.11-16
- **PYRIDOXAL 5’-PHOSPHATE**: Aging results in the formation of advanced glycation end products throughout the body. Pyridoxal 5’-phosphate is the active form of vitamin B6 that has been shown to protect against both lipid and protein glycation reactions.17-24
- **R-LIPOIC ACID**: Destructive free-radical activity in the mitochondria plays a major role in the loss of cellular vitality. A microencapsulated Bio-Enhanced® R-lipoic acid facilitates youthful mitochondrial energy output while guarding against free radicals. Two forms of lipoic acid are sold on the supplement market, but R-lipoic acid is far more potent.25-28
- **ACETYL-L-CARNITINE ARGINATE**: The amino acid L-carnitine is required to transport fats into the mitochondria to be burned for cellular energy. Acetyl-L-carnitine arginate is a patented form of carnitine that also supports neurites in the brain.29

Taking all of the individual ingredients in the Mitochondrial Energy Optimizer with BioPQQ® separately would be prohibitively expensive, but Life Extension members obtain this comprehensive formula at substantial savings.

A bottle of Mitochondrial Energy Optimizer with BioPQQ® containing 120 capsules retails for $94. If a member buys four bottles during Super Sale, the price is reduced to $56.70 per bottle.

Just four capsules of Mitochondrial Energy Optimizer with BioPQQ® provide:

- Carnosine
- ArginoCarn® Acetyl-L-carnitine arginate DIHCl
- R-Lipoic acid (as microencapsulated Bio-Enhanced®)
- Benfotiamine
- Pyridoxal 5’-Phosphate
- BioPQQ®
- Luteolin
- Calcium

![Image of Mitochondrial Energy Optimizer with BioPQQ®]

To order Mitochondrial Energy Optimizer with BioPQQ®, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Help Promote Head Comfort—with the dual-action support of Life Extension® Migra-Mag with Brain Shield™.

The suggested three times daily dosage of one vegetarian capsule of Migra-Mag with Brain Shield™ provides:

- **Magnesium** as magnesium oxide, trimagnesium dicitrate: 363 mg
- **Brain Shield™ (gastrodin)**: 150 mg

A bottle of 90 vegetarian capsules of Life Extension® Migra-Mag with Brain Shield™ retails for $22. If a member buys four bottles during Super Sale, the price is reduced to $13.50 per bottle.

To order Life Extension® Migra-Mag with Brain Shield™, call 1-800-544-4440 or visit www.LifeExtension.com

References

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ULTIMATE PROSTATE PROTECTION

At Life Extension®, we continually update our formulas to reflect the latest research findings.

Ultra Natural Prostate formula has been upgraded to include the most scientifically substantiated nutrients to help protect the prostate gland and maintain its healthy function.

The new Ultra Natural Prostate formula contains thymoquinone—a potent compound typically found in black cumin seed. Here are the ingredients in the new Ultra Natural Prostate:

- **Thymoquinone** targets prostate cells to promote healthy apoptosis (orderly removal of senescent cells). The 10 milligrams of thymoquinone in this formula is the same amount contained in around 2.5 grams of black cumin seed oil.

- **Standardized lignans** from flax seed and Norway spruce knotwood convert to enterolactone in the intestine, which is then absorbed into the bloodstream to provide support for prostate cells against excess estrogen levels. Testosterone often converts to estrogen at higher rates as men age—and prostate cells are sensitive to estrogen’s growth stimulatory effects.

- **AprèsFlex®,** an extract of Boswellia, supports normal inhibition of 5-lipoxygenase or 5-LOX, an enzyme that is associated with undesirable cell division changes. AprèsFlex® absorbs into the blood nearly 52% better than standard Boswellia, for superior effectiveness.

- **Stinging and Dwarf nettle root extracts** help support prostate cells against excess estrogen levels by mitigating the activity of the aromatase enzyme needed to create estrogens.

- **DeepExtract™ USPlus® saw palmetto extract** helps inhibit dihydrotestosterone (DHT) activity in the prostate, helps inhibit alpha-adrenergic receptor activity (to support normal urinary flow), and helps regulate inflammatory reactions in the prostate. DeepExtract™ is a patented, state-of-the-art, ultra-high pressure CO2 extraction technology that ensures the most complete bioactive extract profile available. This results in a superior formula containing key ingredients in higher concentrations than many other extracts.

To order Ultra Natural Prostate, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Now With Thymoquinone

- **Pygeum** (*Pygeum africanum*) extract helps suppress prostaglandin production in the prostate and supports healthy urination patterns.²⁶,²⁷
- **Pumpkin seed oil** from select pumpkins, enhances the composition of free fatty acids and augments saw palmetto’s benefits.²⁸-³⁰
- **Beta-sitosterol** is a biologically active constituent of pygeum and saw palmetto³¹ that enhances pygeum’s protective effects and helps improve quality of life.³²,³³
- **Graminx® Flower Pollen Extract™**, a European pollen extract has been shown to help relax the smooth muscles of the urethra and help regulate inflammatory reactions.³⁴-³⁶
- **Boron** has been shown to slow elevation of prostate-specific antigen (PSA), seemingly a result of this mineral’s positive effect on the body’s regulation of protein-degrading enzymes.³⁷-³⁹
- **Lycopene**, a carotenoid associated with the tomato’s red color, supports efficient cellular communication, helps maintain healthy DNA, regulates hormonal metabolism, and promotes healthy prostate size and structure.⁴⁰-⁴⁶

**Ultra Natural Prostate** formula—now with thymoquinone—provides the latest scientifically validated, standardized botanical extracts shown to promote healthy prostate function. No other prostate protection formula provides such a broad array of nutrients to support the **multiple factors** involved in supporting the aging prostate gland.

*AprèsFlex®* is a registered trademark of Laila Nutraceuticals exclusively licensed to PL Thomas- Lalia Nutra.

**References**

4. Urol Int. 2015 Sep 1.

The suggested daily dose of two softgels of **Ultra Natural Prostate** provides:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>USPlus® Saw Palmetto CO2 DeepExtract™ (fruit)</td>
<td>320 mg</td>
</tr>
<tr>
<td>[providing 272 mg total fatty acids]</td>
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</tr>
<tr>
<td>Graminx® Flower Pollen Extract™ (from rye)</td>
<td>252 mg</td>
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<tr>
<td>Stinging and Dwarf nettle extracts (root)</td>
<td>240 mg</td>
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<tr>
<td>Beta-Sitosterol (from pine)</td>
<td>180 mg</td>
</tr>
<tr>
<td>ThymoQ™ Phospholipid Complex</td>
<td>170 mg</td>
</tr>
<tr>
<td>[Phospholipids, thymoquinone (10 mg)]</td>
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</tr>
<tr>
<td>Pygeum extract (bark)</td>
<td>100 mg</td>
</tr>
<tr>
<td>Pumpkin seed oil (providing 170 mg total fatty acids)</td>
<td>200 mg</td>
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<tr>
<td>AprèsFlex® Indian frankincense (Boswellia serrata) extract (gum resin) [providing 14 mg AKBA1]</td>
<td>70 mg</td>
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<tr>
<td>Proprietary Enterolactone Precursors Blend</td>
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<tr>
<td>[HMRlignan™ Norway spruce (Pinus abies) (knot wood) and Flax (seed) lignan extracts]</td>
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<tr>
<td>Lycopene (from natural tomato extract (fruit))</td>
<td>10 mg</td>
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<tr>
<td>Boron (as Albion® bororganic glycline)</td>
<td>3 mg</td>
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*3-O-acetyl-11-keto-ß-boswellic acid

A bottle of 60 softgels of **Ultra Natural Prostate** retails for $38. If a member buys four bottles during **Super Sale**, the price is reduced to $23.63 per bottle. Contains soybeans.

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Blood testing provides the ultimate information regarding correctable risk factors that may predispose you to disorders such as cancer, diabetes, cardiovascular disease, and more. Information about general health and nutritional status can also be gained through standard blood analysis. Standing behind the belief that blood testing is an essential component of any program designed to attain optimal health and longevity, Life Extension® offers this innovative and convenient service at a very affordable price. Not only is comprehensive blood testing an important step in safeguarding your health, it is a simple process from virtually anywhere in the United States.

Five Easy Steps:
1. Call 1-800-208-3444 to discuss and place your order with one of our knowledgeable health advisors. (This order form can also be faxed to 1-866-728-1050 or mailed. Online orders can also be placed at www.lifeextension.com.)
2. After your order is placed, you will be mailed either a requisition form to take to your local LabCorp Patient Service Center or a Blood Draw Kit; whichever is applicable (Please note: If a blood draw kit is used, an additional local draw fee may be incurred.)
3. Have your blood drawn.
4. Your blood test results will be sent directly to you by Life Extension.
5. Take the opportunity to discuss the results with one of our knowledgeable health advisors by calling 1-800-226-2370; or review the results with your personal physician.

It's that simple! Don't delay—call today!

For Our Local Members:
For those residing in the Ft. Lauderdale, Florida area, blood-draws are also performed at the Life Extension Nutrition Center from 9:00 am to 2:00 pm Monday through Saturday. Simply purchase the blood test and have it drawn with no wait! Our address is 5990 North Federal Highway, Ft. Lauderdale, FL 33308-2633.

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**FEMALE LIFE EXTENSION PANEL (LC322535)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and- kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**FEMALE LIFE EXTENSION PANEL (LC322552)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**FEMALE LIFE EXTENSION PANEL (LC325028)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**COMPREHENSIVE PANELS**

**MALE LIFE EXTENSION PANEL (LC322582)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**MALE WEIGHT LOSS PANEL (LCWLM)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**MALE LIFE EXTENSION PANEL (LC325028)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**MALE WEIGHT LOSS PANEL (LCWLF)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**FEMALE WEIGHT LOSS PANEL (LCWLF)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Hemoglobin A1c

**FEMALE LIFE EXTENSION PANEL (LC325035)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

**FEMALE LIFE EXTENSION PANEL (LC322535)**

- Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **C.B.C.** includes immune (white) cell count, red blood cell count and platelet count. Also includes:
  - C-Reactive Protein (CRP)
  - Homocysteine
  - Free Testosterone
  - Total Testosterone
  - Vitamin D 25-hydroxy
  - Hemoglobin A1c

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**THE CBC/CHEMISTRY PROFILE (LC381822)**

Note: This CBC/Chemistry Profile is included in many Life Extension panels. Please check panel descriptions.

**CARDIOVASCULAR RISK PROFILE**

- Total Cholesterol
- HDL Cholesterol
- LDL Cholesterol
- Triglycerides
- Iron

**LIVER FUNCTION PANEL**

- AST (SGOT)
- ALT (SGPT)
- Total Bilirubin
- Alkaline Phosphatase
- LDH

**KIDNEY FUNCTION PANEL**

- BUN
- Creatinine
- Uric Acid

**BLOOD PROTEIN LEVELS**

- Total Protein
- Albumin
- Albumin/Globulin Ratio

**BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE**

- Red Blood Cell Count
- White Blood Cell Count
- Eosinophils
- Basophils
- Monocytes
- Eos (Absolute)
- Baso (Absolute)
- Polynucleated Cells

**RDW**

- Calcium
- Potassium
- Chloride
- Phosphorus
- Iron

**COMPREHENSIVE THYROID PANEL (LC100018)**

TSH, T4, Free T4, Free T3, Reverse T3, TPO, ATA

**FOOD SAFE ALLERGY TEST** (LCM73001)

This test measures delayed (IgG) food allergies for 95 common foods.

**ADRENAL FUNCTION PANEL (LC100021)**

DHEA-S, AM/PM Cortisol, Glucose, Insulin, Lipid Panel, RBC magnesium

**OMEGA SCORE™** (LCOMEGA)

Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.

**MITOCHONDRIAL FUNCTION PANEL** (LC100020)

Carnitine (Free with Total), CoQ10, Glucose

**VAP™ TEST** (LC804500)

The VAP™ cholesterol test provides a more comprehensive coronary heart disease (CHD) risk assessment than the conventional lipid profile. Direct measurements, not estimations, are provided for total cholesterol, LDL, HDL, VLDL, and cholesterol subclasses.
This test is used to check the blood level of thyroid hormones, and suppressed by androgens. C-reactive protein (C-reactive Protein (high sensitivity)), Fibrinogen, Homocysteine.

FIBRINOGEN (LC010249) $31
High levels of this blood-clotting factor increase the risk of heart attack and stroke.

HOMOCYSTEINE (LC010249) $64
Can indicate if you are likely to have a heart attack or stroke. Even if you take folate, you still may have dangerously high levels of this artery-clotting metabolic debris that can be lowered with high doses of TMG, vitamin B6, and vitamin B12.

MALE HEALTH

PSA (PROSTATE-SPECIFIC ANTIGEN) (LC010322) $31
Can provide an early warning sign for prostate disorders and possible cancer.

FREE-PSA (INCLUDES TOTAL PSA) (LC480780) $61
Recommended to determine if an elevated PSA is indicative of prostate cancer.

HORMONES

DHEA-SULFATE (LC004020) $61
This test shows if you are taking the proper amount of DHEA. This test normally costs $100 or more at commercial laboratories.

DIABETES PANEL (LC100019) $159
Glucose, Insulin, HbA1c, VAP™, Cortisol, C-Reactive Protein

MALE BASIC HORMONE PANEL (LC100012) $75
DHEA-S, Estradiol, Free and Total Testosterone, PSA

FEMALE BASIC HORMONE PANEL (LC100013) $75
DHEA-S, Estradiol, Free and Total Testosterone, Progesterone

DIHYDROTестOSTERONE (DHT) (LC500142) $99
Measures serum concentrations of DHT.

ESTRADIOL (LC004515) $33
For men and women. Determines the proper amount in the body.

INSULIN FASTING (LC004333) $25
Can predict those at risk of diabetes, obesity, and heart and other diseases.

PREGNENOLONE (LC140707) $116
Used to determine ovarian failure, hirsutism, adrenal carcinoma, and Cushing's syndrome.

PROGESTERONE (LC004317) $55
Primarily for women. Determines the proper amount in the body.

SEX HORMONE BINDING GLOBULIN (SHBG) (LC081950) $33
This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens.

BONE HEALTH

VITAMIN D (25OH) (LC081950) $47
This test is used to rule out vitamin D deficiency as a cause of bone disease. It can also be used to identify hypercalcemia.

OSTEOCALCIN (LC10249) $91
Osteocalcin is often used as a biochemical marker, or biomarker, for the bone formation process. It has been routinely observed that higher serum osteocalcin levels are relatively well correlated with bone diseases characterized by increased bone turnover, especially osteoporosis.

DPD CROSS LINK URINE TEST (LC511105) $79
The deoxypyridinoline (DPD) urine test can be used to measure bone re-absorption rates in healthy individuals and in those with enhanced risk of developing metabolic bone diseases. Deoxypyridinoline can be used to monitor therapies (which may include bisphosphonate drugs) in people diagnosed with osteoporosis.

BLOOD TESTS AVAILABLE ONLY IN THE CONTINENTAL UNITED STATES. NOT AVAILABLE IN MARYLAND.

For non-member prices call 1-800-208-3444

This is NOT a complete listing of LE blood test services. Call 1-800-208-3444 for additional information.
AMINO ACIDS
Acetyl-L-Carnitine
Acetyl-L-Carnitine Arginate
Branched Chain Amino Acids
D,L-Phenylalanine Capsules
Glycine Capsules
L-Arginine Capsules
Arginine/L-Ornithine Capsules
L-Carnitine Capsules
L-Carnitine Powder Natural Lemon Flavor
L-Glutathione, L-Cysteine & C
L-Glutamine Capsules
L-Glutamine Powder
L-Lysine Capsules
L-Tyrosine Tablets
Mega L-Glutathione Capsules
N-Acetyl-L-Cysteine Capsules
Optimized Carnitine with GlycoCarn®
PharmaGABA
Super Carnosine Capsules
Taurine Capsules

BONE & JOINT HEALTH
ArthroMax® with Theaflavins and AprèsFlex®
ArthroMax® Advanced with UC-II® and AprèsFlex®
Bone-Up®
Bone Restore
Bone Restore w/Vitamin K2
Bone Strength Formula w/KoAct™
Dr. Strum’s Intensive Bone Formula
Fast Acting Joint Formula
Glucosamine Chondroitin Capsules

BRAIN HEALTH
Acetyl-L-Carnitine
Acetyl-L-Carnitine Arginate
Brain Shield™
CDP Choline Capsules
Cognitex® with Brain Shield™
Cognitex® with Pregnenolone & Brain Shield™
Cognitex® Basics
DMAE Bitartrate
Ginkgo Biloba Certified Extract™
Ginkgo Biloba Extract
Huperzine A
Forskolin
Homocysteine Resist
Lecithin Granules
Methylcobalamin Lozenges
Migra-Mag with Brain Shield™
Neuro-Mag™ Magnesium L-Threonate
Optimized Ashwagandha Extract
Phosphatidylserine Capsules
Rhodiola Extract
Super Ginkgo Extract
Vinpocetine

DIGESTIVE
Bifido GI Balance
Carno-LOX w/PicroProtect
Digest RC™
Esophageal Guardian
Enhanced Super Digestive Enzymes
Extraordinary Enzymes
FlorAssist™
LACTOSOL™ Long Lasting Digestion
Life Flora™
Pancreatin
Regimin
Theralac® Probiotics

DURK AND SANDY PRODUCTS
Blast™
Inner Power™

EYE CARE
Bilberry Extract
Brite Eyes III
Eye Pressure Support with Mirtogenol®
Solarshield Sunglasses
Super Zeaxanthin with Lutein & Meso-Zeaxanthin Plus Astaxanthin and C3G
Super Zeaxanthin with Lutein & Meso-Zeaxanthin and C3G

FOOD
Rich Rewards™ Black Bean Vegetable Soup
Rich Rewards™ Spicy Cruciferous Vegetable Soup
Rich Rewards™ Cruciferous Vegetable Soup
Rich Rewards™ Lentil Soup
Rich Rewards™ Mung Bean Soup with Turmeric
Rich Rewards™ Coffee

HEALTH
Dr. Proctor’s Advanced Hair Formula
Dr. Proctor’s Shampoo
Super-Absorbable Tocotrienols

HEART HEALTH
AppleWise Polyphenol
Advanced Lipid Control
Aspirin (Enteric Coated)
Cardio Peak™ w/Standardized Hawthorn and Arjuna
Cholesterol™
D-Ribose Tablets
D-Ribose Powder
Endothelial Defense™ with Full-Spectrum Pomegranate™
Fibrinogen Resist
Forskolin
Homocysteine Resist
Natural BP Management
Olive Leaf Vascular Support
Peak ATP® with GlycoCarn®
PhosphOmega®
Picosolan
Pycnogenol® French Maritime Pine Bark Extract
Red Yeast Rice
Super Absorbable CoQ10™ with d-Limonene
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract
Super Ubiquinol CoQ10
Super Ubiquinol CoQ10 with BioPQQ®
Super Ubiquinol CoQ10 with Enhanced Mitochondrial™ Support
Thelavfin Standardized Extract
TMG Powder
TMG Tablets

HERBAL/PHYTO PRODUCTS
Artichoke Leaf Extract
Asian Energy Boost
Asthaxanthin w/Phospholipids
Berry Complete
Blueberry Extract
Blueberry Extract with Pomegranate
Butterbur Extract with Standardized Rosmarinic Acid
Calcium D-Glucarate
Enhanced Berry Complete with Acai
Full-Spectrum Pomegranate™
Grapeseed Extract with Resveratrol & Pterostilbene
Huperzine A

INFLAMMATORY REACTIONS
Arthro-Immune Joint Support
ArthroMax® with Theaflavins
Boswellia
Bromelain (Specially-coated)
Cytokine Suppressor™ with EGCG
DHA (Vegetarian Sourced)
Fast Acting Joint Formula
Ginger Force
Krill Healthy Joint Formula
5-LOX Inhibitor w/ AprèsFlex®
Mega EPA/DHA
Mega GLA with Sesame Lignans
MSM
Omega-3 Whirl
SerraLace™
SODzyme™ with GliSODin® and Wolfberry
Super Omega-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract
Tart Cherry w/Standardized CherryPURE®
Zyflamend® Vi Whole Body

LIVER HEALTH
Branch Chain Amino Acids
N-Acetyl Cysteine
L-Carnitine Powder
Liver Efficiency Formula
European Milk Thistle
Advanced Phospholipid Delivery
Hepatoprot
SAMe
Silymarin

HORMONES
Advanced Natural Sex for Women™ 50+
7-KETO® DHEA
DHEA
DHEA Complete
GH Pituitary Support Day Formula
GH Pituitary Support Night Formula
Liqui Melatonin
Melatonin
Melatonin Time Release
Natural Estrogen with Pomegranate Extract
Pregnenolone
ProgestaCare for Women
Super Mirafore with Standardized Lignans

IMMUNE ENHANCEMENT
AHCC® (Active Hexose Correlated Compound)
Black Cumin Seed Oil
Black Cumin Seed Oil w/Bio-Curcumin®
Buffered Vitamin C Powder
Echinacea Extract
FlorAssist™ Probiotic
i26 Hyperimmune Egg
Immune Modulator w/Tinofend®
Immune Protect with PARACTIN®
Lactoferrin
Norwegian Shark Liver Oil
Optimized Fucoidan w/Maritech® 926
ProBoost™ Thymic Protein A
Reishi Extract Mushroom Complex
Vitamin C with Dihydromysoeroticin
Winter Wellness™
Zinc Lozenges

PRODUCTS

Super Green Tea Extract
Super Green Tea Extract (Decaffeinated)
(also w/ CoffeeGenic® Green Coffee Extract)
Mega Lycopene Extract
Optimized Ashwagandha Extract
Optimized Garlic
Pomegranate Extract
Pomegranate Juice Concentrate
Pycnogenol

Resveratrol with Synergistic Grape-Berry Actives
Rhodiola Extract
Stevia Extract
Advanced Bio-Curcumin®
with Ginger & Turmerones
Super Bio-Curcumin®
Super Ginkgo Extract
Triple Action Cruciferous Vegetable Extract
Venotone
Whole Grape Extract

Super Green Tea Extract
Super Green Tea Extract (Decaffeinated)
(also w/ CoffeeGenic® Green Coffee Extract)
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<td>ANICE  - 500 mg, 30 caps</td>
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<td>ALL® REFILL PACK  - 120 caps</td>
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<td>ANTI-ADIPOCYTE FORMULA w/ADIPOSTAT &amp; INTEGRA LEAN® (ADVANCED)  - 60 veg. caps</td>
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<td>APPELWISE POLYPHENOL EXTRACT  - 600 mg, 30 veg. caps</td>
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<td>01009</td>
<td>ARGinine/orNithine  - 500/250, 100 caps</td>
<td>$13.49</td>
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<td>00038</td>
<td>ARGinine/orNithine POWDER  - 150 grams</td>
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<td>(L)-ARGININE CAPS  - 700 mg, 200 veg. caps</td>
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<td>ARTHROMAX® w/TEAFLAVINS &amp; APRESFLEX®  - 120 veg. caps</td>
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<td>ARTHRO-IMMUNE JOINT SUPPORT  - 60 veg. caps</td>
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<td>00919</td>
<td>ARTICHoke LEAF EXTRACT  - 500 mg, 180 veg. caps</td>
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<td>ASCORBLY PALMITATE  - 500 mg, 100 veg. caps</td>
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<td>ASPIN  - 81 mg, 300 enteric coated tablets</td>
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<td>Cognitex w/Brain Shield™ - 90 softgels</td>
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**Deduct an additional 10% on all products during Super Sale**

**Sub-Total of Column 1**

**Sub-Total of Column 4**
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<th>No.</th>
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<th>Retail Each</th>
<th>Member Each</th>
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<tr>
<td>80128</td>
<td>COSMESIS ANTI-OXIDANT REJUVENATING FOOT SCRUB - 2 oz</td>
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<td>COSMESIS ANTI-OXIDANT REJUVENATING HAND CREAM - 2 oz</td>
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<td>COSMESIS ANTI-REDNESS &amp; ADULT BLEMISH LOTION - 1 oz</td>
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**SUB-TOTAL OF COLUMN 7**

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<td>FIBER FOOD CAPS - 200 veg caps</td>
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<td>(OPTIMIZED) GARLIC - 200 veg caps</td>
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**SUB-TOTAL OF COLUMN 8**

**DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE**

**SUPER SALE 2013-2014**
 Buyers Club Order Form

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**G CONTINUED**

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**I**

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| *01680* IZS® HYPERIMMUNE EGG - 140 grams powder | $54.99 | $46.75 |
| 01704 IMMUNE MODULATOR W/THIOFEND® - 60 veg. caps | 17.00 | 12.75 |
| 00955 IMMUNE PROTECT W/ PARACTIN® - 30 veg. caps | 29.50 | 22.13 |
| 01292 INTEGRA-LEAN® AFRICAN MANGO IRVINGIA - 150 mg, 60 veg. caps | 28.00 | 21.00 |
| 01002 IODORAL® - 180 tabs | 50.00 | 37.50 |
| 01677 IRON PROTEIN PLUS - 300 mg, 100 veg. caps | 28.00 | 21.00 |
| 01492 IRVINGIA W/ PHASE 3™ - 120 veg. caps | 56.00 | 42.00 |
| J, K       |             |             |     |       |

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**J, K CONTINUED**

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**SUPER SALE 2013-2014**

Deduction an additional 10% on all products during Super sale

**SUPER SALE SAVINGS ON ALL PRODUCTS TO ORDER CALL 1-800-544-4440**

**LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**
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**SUB-TOTAL OF COLUMN 11**

**SUB-TOTAL OF COLUMN 12**

**DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE**

Life Extension members receive 25% off the retail price of all products.

Super Sale 2013-2014
### Buyers Club Order Form

#### SUPER SALE 2013-2014

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

**DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE**

To order call 1-800-544-4440

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**SUB-TOTAL OF COLUMN 13**

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**SUB-TOTAL OF COLUMN 14**

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**SUPER SALE SAVINGS ON ALL PRODUCTS**

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To order call 1-800-544-4440
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**SUB-TOTAL OF COLUMN 15**

**SUB-TOTAL OF COLUMN 16**

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

SUPER SALE 2013-2014

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 3, 2014

To order online visit www.LifeExtension.com/SuperSale
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<th>Description</th>
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<th>Member Each</th>
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As a member of the Life Extension Foundation®, you have the opportunity to participate in a great scientific endeavor. We are the world’s premier organization dedicated to stopping and reversing aging.

Our 33-year track record shows that we have been five to ten years ahead of conventional and alternative medicine in making new life-saving therapies available to our members.

When you join the Life Extension Foundation®, we update you on the latest published medical research by sending you FREE books. Our most impressive publication is the 1,400-page *Disease Prevention and Treatment* protocol book that contains novel therapies to treat 130 common diseases of aging. *Disease Prevention and Treatment* is the only book that combines conventional and alternative therapies in order to implement a treatment regimen for fighting the multiple processes involved in degenerative disease.

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The reason for many circulatory problems is the breakdown of *endothelial function* and structure. Today, there are nutrients that have been clinically shown to help maintain healthy endothelial function and arterial circulation. *Endothelial Defense™ with GliSODin®* provides potent nutrients to support endothelial health: *standardized pomegranate* and an orally active form of *superoxide dismutase*.

While both of these components have been clinically shown to help with blood flow and age-related changes in endothelial function, Life Extension® has made the best endothelial product even more powerful by adding *Full-Spectrum Pomegranate™*, which includes active constituents from the *seed* and *flower* in addition to the pomegranate *fruit.*

The daily serving of 2 softgels of *Endothelial Defense™ with Full-Spectrum Pomegranate™* contains:

- **Superoxide Dismutase/Gliadin Complex** 500 mg (GliSODin®) [SOD (Superoxide Dismutase) Enzyme Activity = 500 IU]
- **POMELLA®** *Pomegranate* (*Punica granatum*) 400 mg Extract (fruit) [std. to 30% punicalagins (120 mg)]
- **Pomegranate** (*Punica granatum*) 100 mg 5:1 Extract (fruit)
- **Proprietary Pomegranate Blend** (*Punica granatum*) 137.5 mg [flower extract and seed oil (standardized to 22% (30 mg) punicic acid)]

Contains soybeans and wheat.

**Next-Generation Pomegranate Power**

The unique blend of *pomegranate flower extract* and *seed oil in Endothelial Defense™ with Full-Spectrum Pomegranate™* contains potent polyphenols that provide support for youthful *lipid* and *glucose* metabolism, and help with *inflammatory factors.*

A bottle containing 60 softgels of *Endothelial Defense™ with Full-Spectrum Pomegranate™* retails for $56. If a member buys four bottles during *Super Sale*, the price is reduced to just $35.10 per bottle.

**To Order Endothelial Defense™ with Full-Spectrum Pomegranate™**, call 1-800-544-4440 or visit www.LifeExtension.com

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**References**

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Many aging individuals find themselves under assault from rising blood sugar levels. Despite a healthy diet and exercise, blood sugar levels can rise due to a number of factors including excess gluconeogenesis whereby the liver produces glucose from protein. Another issue is the rapid conversion of any starch, including whole grains, into glucose. The result is that even health-conscious, active people can experience higher-than-desired blood sugar levels as they age.

An all-natural, multi-pronged approach has been designed to support the natural balance of key glucose pathways!

Tri Sugar Shield™ provides three plant-derived nutrients that—through their rich array of complementary mechanisms—afford an unrivalled level of optimal, broad-spectrum support for healthy glucose metabolism in aging individuals within normal range.

MULTI-PRONGED APPROACH

Life Extension® Tri Sugar Shield™ contains the following three nutrients:

**Sorghum Extract**
Sorghum has long been cultivated in Asia (and now is grown in Africa, India, China, Australia and the USA) and helps maintain healthy blood sugar levels, among those in the normal range, by modulating four different mechanisms:

- Balances the rate of sugar manufacture in the liver (gluconeogenesis).
- Promotes insulin sensitivity.
- Regulates PPAR-gamma, a metabolic thermostat controlling glucose metabolism.
- Regulates the enzyme alpha-amylase, which in turn controls the release of sugar found in starch.

**Mulberry Leaf Extract**
Mulberry leaf has been used in Chinese traditional medicine for centuries. Like sorghum, mulberry leaf extract targets three different mechanisms:

- Targets the alpha-glucosidase enzyme to regulate conversion of starch into glucose.
- Supports glucose transporter GLUT4 that moves glucose out of the bloodstream and into muscle and liver cells.
- Promotes insulin sensitivity.

**Phloridzin**
Phloridzin is a natural polyphenol found in various fruit trees. Phloridzin helps maintain healthy blood sugar levels, among those in the normal range by:

- Targeting carrier protein SGLT1, in turn helping to block the absorption of glucose into the bloodstream.
- Targeting carrier protein SGLT2, in turn supporting glucose elimination via urine.

By targeting all of these diverse glucose pathways, Life Extension® Tri Sugar Shield™ delivers the widest possible support to help naturally stabilize already healthy glucose levels!

The suggested daily dose of one vegetarian capsule taken before the heaviest carbohydrate or sugar containing meals/drinks of the new Tri Sugar Shield™ provides:

- Sorghum bran (Sorghum bicolor) extract 600 mg
- White mulberry extract (leaf) 300 mg
- Phloridzin [from apple extract (root bark)] 100 mg

A bottle of 60 vegetarian capsules of Life Extension® Tri Sugar Shield™ retails for $36. If a member buys four bottles during Super Sale, the price is reduced to $21.60 per bottle.

References

To order Life Extension® Tri Sugar Shield™, call 1-800-544-4440 or visit www.LifeExtension.com

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Aging humans suffer chronic obstructions to their cerebral blood flow resulting in memory loss, depression, and cognitive dysfunction. These circulatory deficits are being recognized as underlying causes of stroke and Alzheimer’s. Find out how to restore healthy blood flow to your aging brain.

Turn “Off” Your Body’s “Aging Switch” • 25
In an exciting development, scientists have uncovered two natural compounds that suppress an “aging switch” involved in chronic inflammation and premature senescence.

Balance “Hunger Hormones” to Shed Body Fat • 15
Groundbreaking human studies demonstrate that a natural plant extract regulates appetite hormones, including the hunger hormone ghrelin, resulting in body fat loss.

Sustainable Energy Without Stimulants • 43
Two herbal ingredients have been uncovered that work at the cellular level to boost ATP, the body’s internal energy resource. When combined, these readily available plant extracts have shown the ability to fight fatigue without stimulants.

Enhanced Liver Protection • 61
Scientists have developed an innovative method that transports a 10-fold greater concentration of active milk thistle compounds to the liver for optimal health and function.

Defend Against Migraines • 71
Scientists have discovered two nutrients that calm migraine’s electrical storm of neurotransmitters while nourishing the brain with improved blood flow for prevention and relief.