

Annual **SUPER SALE** Begins!

LifeExtension®

www.LifeExtension.com

WINTER EDITION 2015-2016

Feel Younger By **Boosting**
Your **Brain Dopamine**



**Quercetin Increases
Resveratrol Efficacy**

**Purge Your Body
Of Senescent Cells**

**New Triple Action
Thyroid Formula**

**Comprehensive
Digestive Support**

OBTAIN ADVANCED NUTRIENT FORMULAS AT YEAR'S **LOWEST PRICES**



SUPER SALE

Life Extension's annual **SUPER SALE** enables clients to obtain **premium-grade** nutrient formulas at the year's lowest prices. Long-term supporters know that the **quality** of the products are backed by **Life Extension's** commitment to radically extended human life spans. Below are a few examples of the savings you can enjoy during the **SUPER SALE**:

	Retail Price	SUPER SALE Discount Price Per Bottle
<p>Two-Per-Day Multi-Nutrient Formula 120 capsules • Item #02014 Compared to commercial formulas like Centrum®, Two-Per-Day has up to 50 times higher potency, plus unique ingredients. Two-Per-Day provides biologically active forms of nutrients such as the 5-MTHF form of folate. Each bottle provides a <u>two</u> month supply!</p>	\$22	\$13.50 <i>(four-bottle purchase)</i>
<p>Super Omega-3 EPA/DHA with Sesame Lignans/Olive Fruit Extract 120 softgels • Item #01982 A highly refined, super purified Alaskan Pollock fish oil blend plus sesame lignans and potent olive (fruit and leaf) extract provides essential omega-3 fatty acids and vital components of the Mediterranean diet in a smaller-sized softgel that's easier to swallow.</p>	\$32	\$15.35 <i>(ten-bottle purchase)</i>
<p>AMPK Activator 90 vegetarian capsules • Item #01907 Activating AMPK "turns off" many of the destructive factors of aging, enabling cells to return to their youthful vitality. Research shows that the two plant extracts contained in this formula promote AMPK activation.</p>	\$48	\$29.70 <i>(four-bottle purchase)</i>
<p>Optimized Resveratrol with Nicotinamide Riboside 30 vegetarian capsules • Item #02031 This <i>trans-resveratrol</i> formula now includes 150 mg of quercetin—2.5 times the previous amount—to support beneficial apoptosis in senescent cells along with <i>nicotinamide riboside</i> that converts to NAD+ to energize cells.</p>	\$42	\$24.30 <i>(four-bottle purchase)</i>
<p>Taurine 90 vegetarian capsules • Item #01827 Research shows taurine can promotes new brain cell formation along with whole-body health benefits.</p>	\$13	\$8.10 <i>(four-bottle purchase)</i>
<p>Health Booster (formerly called Super Booster) 60 softgels • Item #01981 Just <u>one</u> daily softgel provides a variety of valuable nutrients including vitamins K1 and K2, blueberry extract, gamma tocopherol, sesame lignans, chlorophyllin, and lycopene, along with vision protecting carotenoids zeaxanthin, meso-zeaxanthin, and lutein.</p>	\$52	\$32.40 <i>(four-bottle purchase)</i>
<p>Advanced Bio-Curcumin® with Ginger and Tumerones 30 softgels • Item #01808 Enhanced-absorbing curcumin with additional inflammation-suppressing support.</p>	\$30	\$18.23 <i>(four-bottle purchase)</i>
<p>Ultra Natural Prostate 60 softgels • Item #01898 Comprehensive support for the aging prostate gland utilizing standardized nettle root, flower pollen, lignans, plus boron and phospholipids for enhanced absorption.</p>	\$38	\$21.60 <i>(ten-bottle purchase)</i>
<p>Triple Action Thyroid 60 vegetarian capsules • Item #02003 Signs of suboptimal thyroid function including "brain fog" and fatigue are often dismissed as "normal aging." An array of nutrients has been shown to combat many of the complaints that arise from suboptimal thyroid health.</p>	\$36	\$21.60 <i>(four-bottle purchase)</i>

The SUPER SALE extends to February 1, 2016.

Customers traditionally take advantage of the **SUPER SALE** to stock up on a year's supply of their favorite supplements. To place your order, call **1-800-544-4440** or visit www.LifeExtension.com (**SUPER SALE** pricing available only to customers in the US, Canada, and England.)

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.

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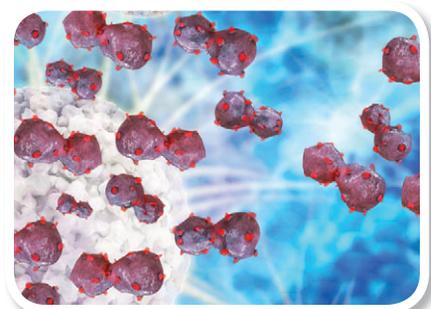
4 BOOST BRAIN DOPAMINE LEVELS

Dopamine is a “feel-good” neurotransmitter involved in preserving cognitive function, positive emotions, *and* longevity. Once we pass 45 years, **dopamine** levels begin a steady decline that manifests as impaired neurological function and loss of enthusiasm. The main cause of **dopamine** decline is an enzyme called **MAO-B**. Scientists have discovered a **wild green oat extract** that inhibits **MAO-B**, resulting in improvements in measurements of cognitive ability and cerebral circulation.



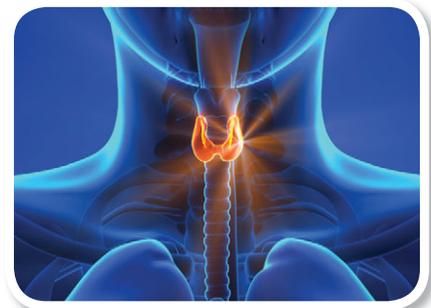
20 PURGE DESTRUCTIVE SENILE CELLS

As cells age, they can degenerate into a tired, dysfunctional state (senescence) that fosters **inflammation** and organ malfunction. Scientists have discovered that the low-cost nutrient **quercetin** can *selectively remove* old cells without harm to normal, youthful cells. Studies suggest quercetin may slow aging and reduce the risk of degenerative processes.



38 ARE YOU SUFFERING FROM SUBOPTIMAL THYROID FUNCTION?

Maturing women and men often experience vague symptoms that include fatigue, weight gain, feeling cold, depression, and dry skin. The cause may be **suboptimal thyroid function**, which is often overlooked by conventional physicians. Researchers have discovered natural ways to boost thyroid hormone activity to help restore youthful balance.



52 WHY DIGESTIVE ENZYMES ARE SO POPULAR

Each year, people spend almost **\$10 billion** on medications to relieve digestive distress. While these drugs may provide temporary relief of after-meal gas, bloating, and incomplete digestion, they do not solve the underlying problem. Proper use of **digestive enzymes** and **probiotics** can enable older adults to maintain digestive health with less abdominal stress and greater retention of nutrients.



Annual Super Sale begins
November 16, 2015
To order, call 1-800-544-4440

Age Reversal Goes Live in 2015



Dear Life Extension Supporter,

For the first time, therapies to induce meaningful **age reversal** are being transformed into aggressive human research initiatives.

To put this into perspective, I have attended **anti-aging** scientific conferences since **1978**. The focus was on **disease prevention** and **slowing aging**.

The concept of systemic **age reversal** was discussed as a breakthrough that would occur “sometime in the future.”

That “future” arrived in **2015**.

Scientists are now pushing through **human** studies with the objective of biologically transforming old people into measurably younger individuals.

The motives of these scientists go beyond profit and intellectual curiosity. These experts firmly believe that many aspects of pathologic aging can be eradicated using novel approaches that are being incorporated into **human** clinical trials.

The fact we may be so close to demonstrating systemic **age reversal** makes it imperative that we remain healthy enough to benefit.

Feel Better While Living Longer

Long life with impairments that make us “**feel old**” is not an attractive option.

One reason we suffer **neurodegeneration** is a destructive **enzyme** in our brain called **MAO-B**. This enzyme increases as we age, but there are ways to stop it.

An adverse impact of the **MAO-B** enzyme is that it **degrades** the neurotransmitter **dopamine**, which plays a critical role in how we feel, think, and control our bodily functions.

When **MAO-B** is inhibited, there are marked increases in **life span** and **youthful** functions such as more frequent **sexual** activity in the animal model.

Numerous studies reveal that inhibiting **MAO-B** confers age-defying effects by protecting **neurons** while simultaneously boosting levels of “feel good” **dopamine**. One way sugary foods, ethanol, and illicit drugs produce “**feel-good**” effects are the surges of brain **dopamine** they induce.

A safer way of achieving consistent **dopamine** levels is to inhibit excess **MAO-B**.

A standardized **wild green oat extract** has demonstrated potent **MAO-B-inhibiting** properties. Human studies show improvements in **cerebral circulation, cognition**, and measures of **dopaminergic activity** in response to supplementation with this patented **green oat** plant.

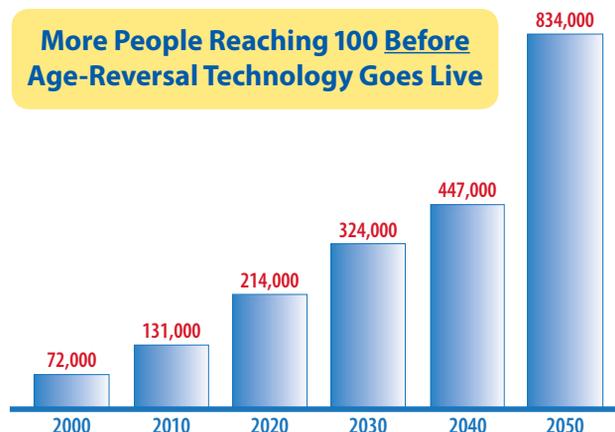
As we age past **45** years, the decline in our brain **dopamine** levels is one reason why we don’t “**feel**” as young as we used to be. There is now a natural way to reverse this trend.

Delay Aging With A Current Technology

We have long known that as cells age, they accumulate a population of poorly functioning **senile** (senescent) cells. These dysfunctional old cells emit persistent **inflammatory** signals that contribute to degeneration of our organs and greater susceptibility to chronic disease.

Scientists have discovered a simple approach to remove senescent cells without damaging healthy ones. It turns out that the plant nutrient **quercetin** has the unique ability to selectively remove old cells. This has the potential for extending life span by attacking aging through a novel mechanism.

More People Reaching 100 Before Age-Reversal Technology Goes Live



Even without access to emerging **age-reversal** therapies, there will be a **10-fold increase** in humans living to age 100 (centenarians). Will you stay healthy enough to be one of them?

Day, J. C., 1996, Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050, U.S. Bureau of the Census, Current Population Reports, P25-1130, U.S. Government Printing Office, Washington, DC.

Quercetin has been included in popular formulas used for years by our loyal supporters. Based on this new discovery, we've increased the **quercetin dose** at no extra cost so that stronger potencies can be obtained without adding an extra pill.

Combat Common Digestive Discomforts

Do you remember how easy it was in *youth* to consume big meals and suffer no unpleasant after effects?

One way we internally managed foods were the massive amounts of *digestive juices* we produced that efficiently broke down foods for healthy absorption.

Contrast this to the gas, bloating, cramping, and other digestive problems that many **adults** suffer through after meals. Almost **\$10 billion** a year is spent on over-the-counter drugs to relieve symptoms. Yet these drugs do not correct the underlying causes of such digestive distresses.

To simplify this widespread problem, a **full spectrum** of digestive enzymes and a special probiotic has been put into one formula to provide relief from the most common after-meal gastrointestinal discomforts.

Triple-Action Thyroid Support

A striking percentage of aging women and men suffer from insufficient output of vital **thyroid hormones**. Yet conventional doctors are failing to treat patients who fall within standard blood test "reference ranges."

As we've reported for decades, laboratory reference ranges are so broad that a patient can have a thyroid deficit, yet still be within the so-called "normal" range.

The outward effects of thyroid insufficiency are unwanted weight gain, fatigue, dry skin, depression, and difficulty in adapting to colder environments.

The internal consequences of inadequate thyroid hormone secretion are elevated cholesterol, diminished circulation, and cellular energy exhaustion.

Those with clinically diagnosed thyroid deficiency are prescribed thyroid hormone drugs, but there are safe ways to restore thyroid gland function so that more beneficial hormones naturally flow when needed.

A new **Triple Action Thyroid** formula has been designed to boost the health of the thyroid gland, which may be considered by those with suboptimal or clinically diagnosed thyroid deficit.

New Lower Prices On Premium Formulas

Unlike prescription **drugs** that are spiraling upwards in price, the cost of some premium-grade nutrients has come down this year, meaning lower retail prices for consumers.

The cost for comprehensive formulas like **Mitochondrial Energy Optimizer** and **Life Extension Mix™** has dropped, along with some popular individual nutrients.

It is now more **affordable** than ever to stay healthy and live better.

Annual Super Sale Savings!

Just once a year, we discount the price of ALL of our advanced formulas.

This enables consumers to obtain the latest versions of our premium nutrient blends at the **lowest prices**.

This is our 27th annual **Super Sale**. It begins November 16, 2015, and extends to February 1, 2016.

With the new **Your Healthy Rewards** loyalty program, the savings have never been greater.

To order the nutrients you need to preserve your health today, call **1-800-544-4440** (24 hours) or log on to **LifeExtension.com**.

For longer life,



William Faloon

Educational Mission Of Life Extension Magazine

Seven years before his death, **Antony van Leeuwenhoek** revealed why he devoted his life to making discoveries and disseminating his findings to the world:

"...my work, which I've done for a long time, was not pursued in order to gain the praise I now enjoy, but chiefly from a craving after knowledge, which I notice resides in me more than in most other men. And therewithal, whenever I found out anything remarkable, I have thought it my duty to put down my discovery on paper, so that all ingenious people might be informed thereof."

—Antony van Leeuwenhoek, "Father of Microbiology"
Letter of June 12, 1716





Restore Youthful COGNITION and Well-Being

Aging individuals suffer progressive frailty, cognitive dysfunction, and a diminished **sense of well-being**. These conditions correlate with declining dopamine levels in the aging brain.¹⁻³

Dopamine functions as a neurotransmitter, where it signals nerve cells to regulate **mood, cognition, and bodily function**.⁴

From the time a person is born, **dopamine** plays a major role in **reward behavior**.⁵ So much so that dopamine response can dictate **cravings** for sugary foods, recreational drugs, ethanol, tobacco, gambling, and/or sex.⁶

All of these behaviors can prompt a **dopamine** release in the brain that creates individualistic pleasure addictions.⁷⁻¹³

The dilemma is that as we age, dopamine **depletion** causes us to lose neurological functions that enable us to enjoy and function in everyday life.

Restoring **dopamine** to more **youthful** ranges is vital for healthy longevity.

Role of Dopamine in Addictive Behaviors

Narcotics like **cocaine** have long been associated with intense dopamine-fueled euphoria.¹⁴ Less recognized is the impact that alcohol, nicotine, and activities like gambling play in the brain's *dopamine release*.

This can be seen in the form of "*binge drinking*," where ethanol initially prompts dopamine release, which motivates the drinker to imbibe increasing quantities of ethanol to enhance their dopamine high.¹⁵

Compulsive **gamblers** feel a surge of dopamine every time a card is flipped, causing gambling binges to go on for days in some cases without regard to sleep or food. This is especially true when gambling is combined with nicotine, which prompts even greater flows of euphoric dopamine.

Perhaps one of the most common dopamine-fueled cravings people have today is for **sugary** foods. Despite knowing the toxic effect of glucose overload, people excessively consume sweets because of the **dopamine release** it generates in the brain.

Activities that promote the rapid release of **dopamine** are often dangerous and addicting.¹⁶ Yet some very intelligent people succumb to these *euphoric* effects even though their lives are adversely impacted.

Clearly, safer methods are needed to restore brain dopamine to a more youthful "*feel-good*" range.



Dopamine and Brain Aging

Dopamine levels decline as we age past 45 years.¹⁷ When this happens, people no longer "feel" as young as they used to. This sometimes manifests as clinical depression.^{18,19} For the most part, however, aging people find that their motivation, their cognitive function, and their ability to enjoy pleasurable events all diminish.

Loss of dopamine also causes people to lose their sense of well-being, i.e. they don't **feel** the same as they once did.²⁰ This is often accompanied by reduced bodily coordination that may progress to **frailty**.^{21,22}

If we did not know what caused the age-related decline in brain **dopamine**, this would be a depressing situation for us all.

How to Boost Brain Dopamine

Fortunately, a prime reason for dopamine depletion was long ago discovered. It involves a dopamine-degrading *enzyme* in the brain called **MAO-B**, which stands for *monoamine oxidase-B*.

In youth, **MAO-B** is crucial in regulating just the right amount of **dopamine** in the brain.²³ As humans age, however, **MAO-B** levels increase too much.^{24,25} The result of excess MAO-B is a dopamine deficit.

A natural method has been discovered to inhibit excess **MAO-B** in the brain. Placebo-controlled human studies show meaningful improvements in response to this novel **dopamine** restoration approach.

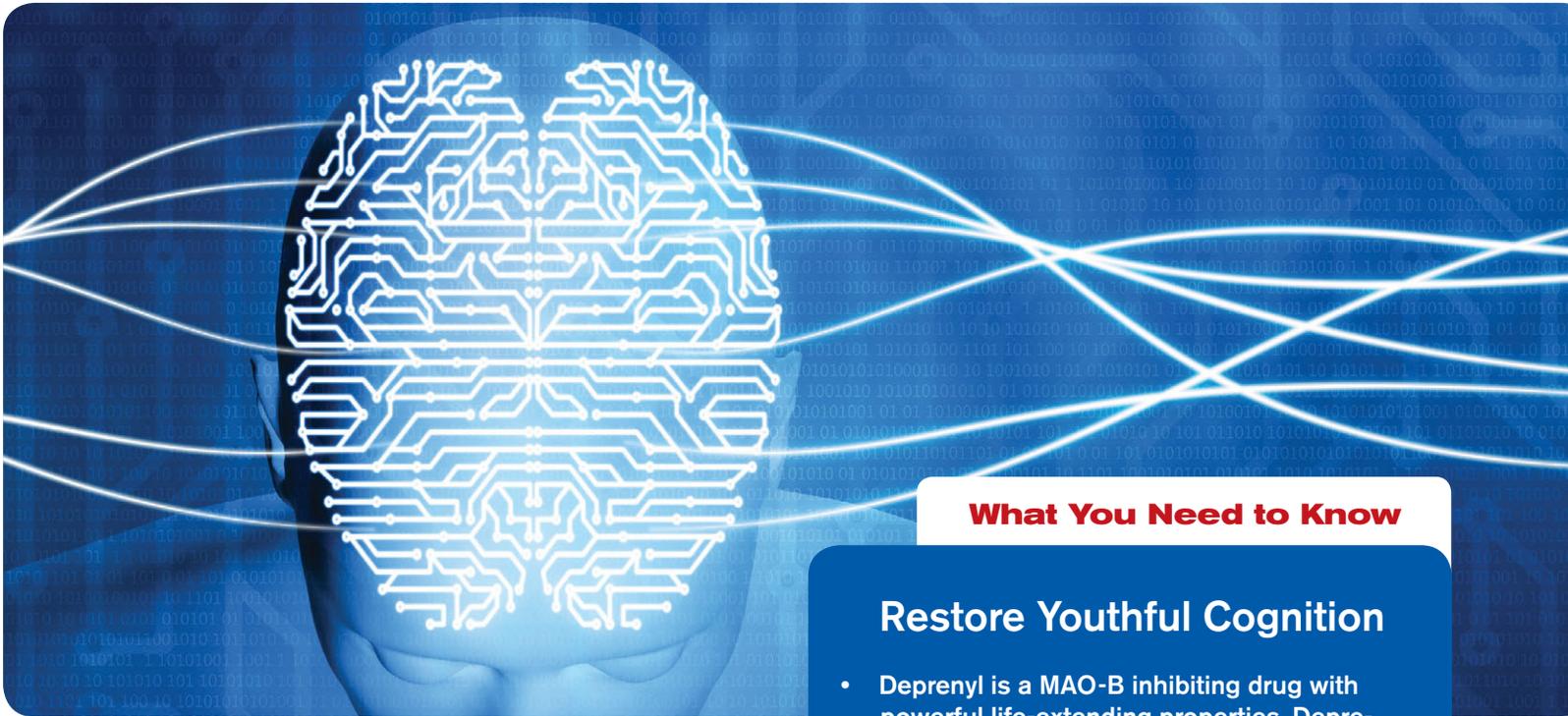
Dopamine is known as the "feel-good" neurotransmitter and it is a key factor in preserving a range of cognitive functions *and* promoting longevity.²⁶⁻²⁹

By age 45, the brain's levels of **dopamine** begin to diminish.²⁸ This not only makes people feel older, but is also involved in accelerated **brain aging**.

Dopamine depletion is largely caused by rising levels of the **MAO-B** enzyme. The ensuing dopamine deficiency strikes the brain's signaling system. The tragic result is cognitive decline, destruction of brain cells, reduction of youthful vigor/sexual desire, progression toward Parkinson's/neurological disorders, and a decrease in life span.^{25,30-34}

Laboratory studies have shown that the *inhibition* of MAO-B not only preserves brain function by *protecting* dopamine, but it also has longevity benefits.³⁴

In a search for a safe method to block the insidious MAO-B enzyme, scientists have identified a bioactive extract of **wild green oat** that not only inhibits MAO-B and the resulting breakdown of dopamine, but **enhances** dopaminergic neurotransmission that normally declines with aging. These protective actions enable more dopamine availability for use by brain cells.



What You Need to Know

Restore Youthful Cognition

- Deprenyl is a MAO-B inhibiting drug with powerful life-extending properties. Deprenyl has been well known and thoroughly researched for more than 30 years.
- Studies reveal that deprenyl extends life span in animal models by as much as 34%.
- Antiquated regulations in the United States have kept this potential life span-enhancer from the American public.
- Only people who already show symptoms of Parkinson's disease are permitted access to deprenyl and its benefits.
- Innovative researchers have, however, discovered a safe and natural alternative that operates by the same mechanism as deprenyl—inhibition of the dopamine-degrading MAO-B enzyme.
- Studies with the extract of a wild green oat strain show both MAO-B-inhibition and the improvements in brain activity and function that such inhibition produces.
- Human studies with wild green oat extract confirm superior cognitive and memory function in both healthy people and those with early loss of cognition.
- There is reason to anticipate that longer life spans may arise from this modest MAO-B inhibition, as has been shown with deprenyl.

In human studies, the effects of *wild green oat extract* resulted in increased focus and concentration, processing speed, executive function, and working memory as well as other parameters of enhanced dopaminergic transmission.^{35,36}

The discovery of the specific actions of *wild green oat extract* represents a significant advance in the technology of age management. It provides a method for halting some of the most destructive aspects of neurological aging, thus helping improve cognitive function and enhancing the quality of life.³⁷

A Drug that Safely Inhibits MAO-B

Until recently, one of the best solutions to combat *dopamine depletion* was a prescription drug called **deprenyl**. Discovered in Hungary, deprenyl boosts dopamine levels by decreasing the damaging **MAO-B** enzyme while increasing life span in animals by a stunning 34%.³⁸⁻⁴²

For the past **27 years**, Life Extension® has been reporting on the longevity benefits of **deprenyl**.

Despite impressive laboratory and clinical data, deprenyl has been denied to the general public due to **FDA** restrictions that limit deprenyl prescriptions only for those afflicted with Parkinson's disease. The tragedy of this restriction is that people over age 45 are deprived of this drug's unique anti-aging mechanisms.⁴³ Deprenyl is the only drug compound ever discovered that *both* prolongs life and preserves cognition in higher animals.^{42,44,45}

How Dopamine is Formed and Regulated

Dopaminergic Neurons
(Substantia Nigra Cells)



Produce Dopamine



MAO-B Regulates Dopamine Levels



Optimal Dopamine Levels Enable Youthful Cognition, Motor Control, and Mood

Searching for an alternative **MAO-B inhibitor** that could be made available without prescription, researchers identified a patented extract from **wild green oat** that works along the same pathways as deprenyl.

Unlike the commercial oats that are eaten for breakfast, **wild green oat extract** is derived from the green, unripe part of the oat plant. Like deprenyl, **wild green oat extract** inhibits the damaging MAO-B enzyme.⁴⁶

In a series of human studies, this special variety of **green oat extract** significantly improved concentration and cognitive functions, both in healthy people and in those whose brains are just beginning to fail.^{35,36} By preserving the “feel-good” aspects of **dopamine**, green oat extract also shows evidence of effectiveness as a tool in **smoking cessation**, consistent with the role that dopamine plays in addictive behaviors.⁴⁷

MAO-B in the Aging Brain

Brain cells communicate with one another and with those in the rest of the body through the use of chemical signals called **neurotransmitters**.⁴⁸

Dopamine is one of the brain’s most important neurotransmitters. Dopamine is the signal your brain uses to transmit information related to movement control, cognition, concentration, and rewards (such as those involved in accomplishments, sexual activity, and addictions).⁴⁹

Sadly, dopamine levels in the human brain begin to diminish between the ages of 45 and 60.⁵⁰⁻⁵² This produces many of the subtle early changes seen in cognitive dysfunction. If left unchecked, this can eventually lead to dementia and early death by Parkinson’s disease.^{50,53}

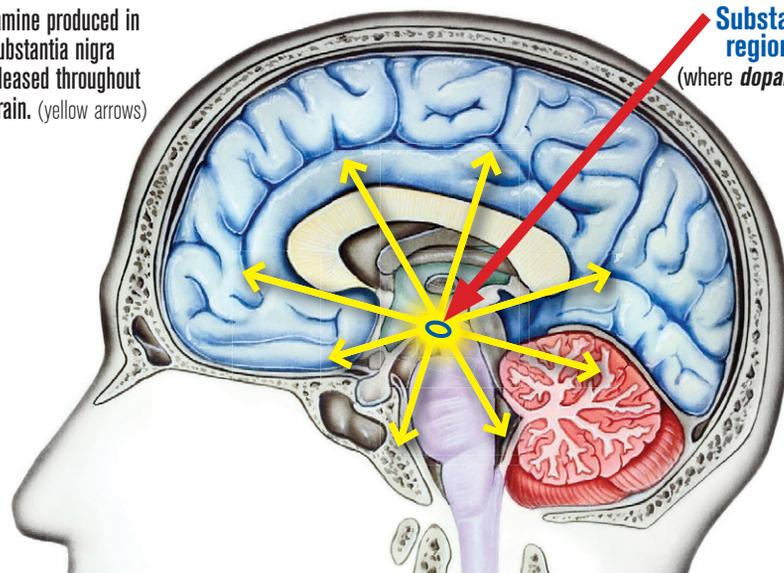
Why do we lose dopamine as we age?

Part of the answer lays in mitochondrial damage that occurs in the region of the brain (*substantia nigra*) that produces dopamine.^{54,55} **Life Extension** consumers long ago gained mitochondrial protection by using nutrients like **coenzyme Q10** and **PQQ** (pyrroloquinoline quinone).

A more insidious cause of dopamine depletion are rising levels of MAO-B in the aging brain. Excess **MAO-B** enzyme activity relentlessly destroys dopamine with advancing age, causing a progressive dopamine loss that falls dramatically over age 60.^{50-52,56,57}

The age-related increase in **MAO-B** occurs in key areas throughout the brain, which explains why a “dopamine deficiency” manifests as so many different outward symptoms such as frailty, cognitive impairment, and loss of youthful sense of well-being. Collectively, this decline of dopamine contributes to **cerebral senescence**.

Dopamine produced in substantia nigra is released throughout the brain. (yellow arrows)



Substantia nigra region of brain
(where *dopamine* is produced)

Deprenyl Extends Life Span via MAO-B Inhibition



Deprenyl has been intensely studied from 1988 to the present, with particular focus on its long-term effects in animals.²⁸ A surprising outcome of these studies has been the observation that, time after time, in a wide range of animal models, deprenyl is not only *neuroprotective*, but significantly increases life span, when given at the proper dose level.

To date, deprenyl remains the only drug that has been shown to increase longevity in at least four different mammalian species.^{41,42}

In rats, deprenyl treatment:

- Extended **average** life span to **198** weeks. This is remarkable in that this average exceeds the estimated **maximum** age at death of a normal rat, **182** weeks.^{91,92} In this study, the *longest-living control rat* died at **164** weeks, while the longest-living deprenyl-treated rat lived to **226** weeks. That's a nearly **25%** increase over the typical maximum age at death.
- Extended average life spans by up to **34%** when started at **24** months (late middle age for a rat).^{40,93}
- Extended life span significantly even when started late (at **23** to **25** months of age).⁹⁴
- Restored sexual activity in 64 of 66 2-year-old (elderly) rats (Untreated animals did not have full scale sexual activity past age 2).⁹²
- Decreased brain MAO-B activity by **85%**.⁹⁵

In mice, deprenyl treatment increased survival in immunocompromised animals by about **200%** compared with controls,^{96,97} while in hamsters, deprenyl produced a three-month delay in the onset of long-term memory impairment, compared with controls.⁹⁸

And in elderly dogs, deprenyl treatment started while the animals were in late mid-life led to **80%** survival of treated animals to the end of a 26-month study, while just **39%** of placebo dogs were alive. Interestingly, when the first dopamine-treated dog died, **12.2%** of the placebo animals had already succumbed.⁷⁸

Age-related symptoms of dopamine deficit include high rates of depression, loss of sexual vigor, and motor control problems resembling (and sometimes progressing to) Parkinson's disease.⁵⁰

Rising levels of MAO-B also increase mitochondrial damage and destruction of brain cells.^{25,58} That's because in addition to MAO-B breaking down dopamine, it also produces **hydrogen peroxide**, an unstable molecule that is a massive source of destructive oxygen free radicals.^{59,60} Because the MAO-B molecule resides on the membranes of mitochondria, the outflow of reactive oxygen species can directly damage mitochondrial membranes, leading to inefficient energy use, additional cellular damage, and eventually, death of the cell.^{61,62}

The Vicious Cycle of Increasing Levels of MAO-B

As the MAO-B enzyme begins to invade our brain and devour our precious reserves of dopamine, our life span begins to shorten.^{50,63-66} Why?

It turns out that excess MAO-B not only destroys functioning brain cells, but replaces these healthy cells with non-neuronal "zombie cells" (called glia cells) that continue to manufacture even more MAO-B.^{25,67,68}

You can see that once started, this becomes a vicious cycle that increasingly depletes dopamine production and destroys functioning brain cells and progressively leads to a shortened life span. Without intervention, the aggression of the MAO-B enzyme can result in an early death.



Wild Green Oat Extract Inhibits MAO-B

A patented extract from *wild green oat* has shown potent **MAO-B-inhibiting** properties. A series of human studies have demonstrated *neurological-enhancing* effects.

Wild green oats are younger plants (different) than those used for cereal grains. They have a long history of traditional therapeutic use in supporting mental health and cognitive function.^{47,69} Extracts of this “oat herb” are now widely used for indications that include anxiety, tension, stress, excitation, and other neurological problems.⁶⁹

Given the brain protective and longevity benefits of *deprenyl*, European scientists turned to wild green oats in search of a natural MAO-B inhibitor. A patented extract of **wild green oat** was developed after researchers screened 36 different varieties of wild oats for their ability to inhibit MAO-B.⁴⁶

Once scientists identified the specific strain of wild green oat with the most potent biological activity, laboratory assays were conducted using various concentrations of the extract (based on *standardized* concentrations of *isovitexin*, a bioactive flavone molecule).

What they found was a **50% inhibition** of the MAO-B enzyme by wild green oat extract at small concentrations.⁴⁶ These findings show that this specific strain of wild green oat extract, by inhibiting the MAO-B enzyme, could have the potential of raising **dopamine** levels in the brain.



Demonstration of significant MAO-B inhibition by wild green oat extract would not only be a safe and inexpensive means to improve cognitive function in aging adults, it would also be likely to have favorable impacts on life span itself.

Wild Green Oat Extract in Lab Studies

Once the potency of *wild green oat extract* had been standardized, a study of laboratory rats was conducted to examine actual changes in behavior as a result of **MAO-B inhibition** from ingestion of the extract.

Animals were fed for seven weeks with either a normal diet or one supplemented with two different dosages (low and high) of the wild green oat extract. All three groups then underwent a series of behavioral tests.⁶⁹

In this study, the animals showed impressive gains in learning and memory formation. Animals supplemented with the lower dose made significantly fewer mistakes in learning, learned tasks faster, and demonstrated accelerated memory formation, compared with either control or high-dose rats. As an important added benefit, low-dose supplemented rats showed increased social interest in other animals and improvement of their reactions to social signals from others.

This response highlights the essential value of raising the “feel-good” aspects of dopamine levels by properly inhibiting MAO-B. These results are consistent with findings in the literature on the use of pharmaceutical MAO-B inhibitors in Parkinson’s disease patients.⁶⁹

In another study in rats, scientists used an electroencephalogram (EEG) to evaluate the impact of wild green oat extract supplementation on *specific areas* of brain activity. The researchers were looking to measure changes in neurotransmitters as a result of ingesting wild green oat extract.⁷⁰ These changes can be “mapped” and compared to those produced by known drugs that would produce similar behavioral outcomes.

Within the first hour of oral administration, the supplemented animals demonstrated positive changes in their electrical brain activity.⁷⁰ The most impressive changes were seen in electrical frequencies that are known to be controlled by **dopamine**.

This confirmed previous studies showing that the *wild green oat extract* activates the dopamine-signaling system. In fact, the EEG signatures induced by the extract closely resembled those of known anti-dementia drugs.

Human Study Reveals Similar Finding

Scaling up from the animal studies, a similar investigation into **EEG** changes resulting from ingestion of **wild green oat extract** has now been conducted on humans. This enabled researchers to further validate the dopamine-promoting effects of wild green oat extract.³⁶

In a human study testing concentration skills, a group of healthy males and females, aged 30 to 60 years, took a *single* dose of wild green oat extract at **1,250** or **2,500 mg** or placebo. Using a specialized EEG brain mapping, positive changes were shown in the green oat groups during concentration tests in an area of the brain essential for cognitive function (the left frontotemporal lobe).

This EEG brain mapping also showed significant increases in the power of **theta** brainwaves that are involved in focusing attention and detection of signals.⁷¹

Signal detection, as measured by theta wave power, is an essential component of the process by which we recognize familiar faces and objects, skills that are all too often lost to neurodegenerative diseases.^{72,73} Theta brain activity is an important marker of cognitive health. It is well known that Alzheimer's patients have heartbreaking difficulties recognizing the faces of loved ones.^{74,75}

Wild Green Oat Reduces Mental Errors

A study was conducted among a group of elderly people, some of whom showed signs of **mild cognitive impairment** while others in the group showed no cognitive impairment. The researchers wanted to look for measurements of cognitive performance after taking **wild green oat**.³⁵

Subjects were randomly assigned to receive single doses of the oat extract once a week. The three doses in the study were **0 mg** (control group), **1,600 mg**, or **2,400 mg**. This was a "crossover" design, so that each subject was rotated through all three dosages and received each treatment arm on separate occasions, allowing each participant to function as a control.

Using the **Stroop Color-Word Test**, subjects were tested for a range of cognitive functions including memory, executive function, catching errors, appropriate response, and attention. It focuses on two key areas of the brain's cortex. In the test, participants must look at a card covered with words that name colors. The difficulty is that each word is printed in a color that does not match the word (e.g., the word "RED" printed in blue). They are first asked to read all the words as quickly and accurately as possible. They are then asked to name the color of each word,



disregarding the word name itself.^{76,77} While the test sounds simple, it is highly diagnostic with regard to cognitive abilities and brain health.

In this study, those not given the **wild green oat extract** made an average of **3.39** errors on the test. The study subjects receiving **1,600 mg** of **wild green oat extract** group made only **1.2 errors**, a significant improvement of **65%**.

In the group of subjects that had no diagnosis of **mild cognitive impairment**, the improvement was even more dramatic, with patients taking the **wild green oat extract** averaging just **0.55** errors compared to placebo recipients, who averaged **2.13** errors. This represented a significant **74% improvement** in this test of mental acuity for those taking **wild green oat extract**.

In this study, even those patients with **mild cognitive impairment** had a **26% reduction** in a score that measured how distraction affects mental performance and the ability to concentrate (lower scores reflect better performance).

The conclusion from this study is analogous to lab experiments involving **deprenyl** that suggest that the *earlier* MAO-B inhibition is initiated the better chances of preserving brain function during aging.⁷⁸

Interestingly, the higher dose (**2,400 mg**) of green oat extract did not show this cognitive improvement, indicating that excessively suppressing MAO-B does not elicit desired effects.⁷⁶ This is analogous to deprenyl, where lower doses are shown to be more beneficial in some studies.⁷⁹

Boosting Cognitive Function

Wild green oat extract has been associated with improving mental processing time and speed.

In a soon-to-be published study, 42 healthy middle-to-older aged adults (mean age 59), with self-reported age-related cognitive decline, were given a single dose (**800 mg**) of wild green oat extract. Before and after the dose, they were given a battery of neuro-cognitive tests administered by computer.⁸⁰

Supplemented subjects showed significantly faster responses to stimuli compared with placebo recipients, taking less time to plan and complete specific tasks. Supplemented subjects also performed significantly better on memory-related tasks, making fewer errors in recalling words after a delay, and achieving greater accuracy in remembering spatial arrangements of objects.

Those who were given **wild green oat extract** showed a **180% increase** in speed in the “global speed of performance test” compared to those given only the placebo.

These human trials represent a promising advance in the preservation of brain health.

Improved Blood Flow to the Brain

Wild green oat extract has demonstrated improvements in tests of **systemic endothelial function** and **cerebral vascular responsiveness**, as shown in a recent **human** study.

The study evaluated healthy adults older than 60 years, providing them with **1,500 mg** a day of **wild green oat extract** or placebo.⁸¹

By the end of the 12-week study period, the group receiving **wild green oat** extract had a significant **41% increase** in measurement of **flow mediated dilation**, indicating an improvement in **endothelial function**.

The study also showed that **cerebral vascular responsiveness** **increased** significantly by **42%**, suggesting the middle cerebral artery’s ability to dilate in response to stress increased.

The ability of **wild green oat extract** to improve **endothelial function** as well as **cerebral vasodilator function** is a property that should capture the attention of anyone wishing to protect and improve their brain health and cognitive function.

“This is the first study in humans to show sustained improvement of cerebral vasodilator function following a chronic dietary supplementation,” researchers state.

Impairments of **blood flow** to the **heart** and **brain** are common ailments of aging.^{82,83}

Compromised **cerebral vasodilator function** has been reported as an independent predictor of **stroke** and **transient ischemic attack**.⁸⁴



MAO-B and Brain Disease



Both **Parkinson’s** and **Alzheimer’s** diseases have now been found to be associated with **elevated MAO-B** activity, even greater than those found in healthy people of the same age. This suggests a potential causative effect, due to the decreased dopamine availability, or the increased oxidant stress caused by MAO-B or both.^{53,60,68}

One study found that MAO-B activity in Alzheimer’s patients was higher than in controls in all brain regions studied: up to **70%** higher in white matter, and **20-50%** higher in gray matter regions.⁹⁹ Another study showed that Alzheimer’s brains had up to **3-fold increased** MAO-B activity compared with controls, with the bulk of the excess located in precisely the areas of greatest loss to Alzheimer’s patients, areas concerned with emotional processing, cognition, and personality.¹⁰⁰

Aging people even without clear-cut diagnoses of neurodegenerative diseases also show evidence of substantial loss of brain cells, which may contribute to loss of cognitive performance and premature mortality.¹⁰¹⁻¹⁰⁴ Given the cell-killing effects of excessive MAO-B, it seems likely that this brain shrinkage is related to increased activity of that enzyme, suggesting a potential mechanism for the life span-increasing effects of compounds that inhibit MAO-B.¹⁰⁵⁻¹⁰⁷

Impaired **endothelial function** is a well-established biomarker for future **cardiovascular disease** and cardiac events.⁸⁵⁻⁸⁷

The tests used in this study assessed **blood flow** markers to the brain and other parts of the body. **Wild green oat extract** supplementation improved outcomes in both of these tests of vascular function.

Green Oats and Smoking Cessation

Dopamine controls our sense of accomplishment and the cycle of addiction.

When a tobacco user smokes or ingests nicotine, it binds to brain receptors that results in the release of dopamine, producing a satisfying, even euphoric, initial sensation.^{47,88,89}

But once the stimulus goes away, the user is left with a relative dopamine deficiency, which produces cravings and eventually dependence on yet another dose of nicotine.^{88,90}

Japanese scientists realized that this sequence of events was ripe for intervention with a product that worked along dopamine pathways. **Wild green oat extract** was selected as a test product.⁴⁷

A group of male smokers, who all used different cigarette brands, was given **300 mg** wild green oat extract taken after each meal (**900 mg** per day) for 28 days. Average cigarette consumption prior to supplementation was almost **20** cigarettes (one pack) per day, but after the end of the study, average consumption fell to just **8.9** cigarettes per day. This was an astounding **54%** decrease in tobacco intake versus baseline.

Scientists are aware that **dopamine** is involved in both addiction and reward stimulus in the brain. This study demonstrated how **wild green oat extract** could significantly reduce smoking by improving dopaminergic transmission.

The discovery that the **dopamine-enhancing** effects of **wild green oat extract** can reduce cigarette consumption may be a revolutionary advance in the science of smoking cessation.

Summary

Aging exposes our brain to increased **MAO-B**, which results in dopamine deficit, loss of brain cells, cognitive decline, and risk for early death.

Deprenyl, a selective inhibitor of MAO-B, has been proven to ameliorate dopamine deficiency and improve cognitive functions. Numerous animal studies demonstrate that regular deprenyl administration produces increases in life span.

The FDA does not allow Americans the use of deprenyl for the treatment of any longevity-related disease, or any disease for that matter except for Parkinson's.

Fortunately, diligent research has yielded an exciting alternative. An extract from a specific strain of **wild green oat** has demonstrated **MAO-B-inhibiting** activity. Animal studies have established improvements in dopamine-related behavior and brain activity.

Human studies confirm significantly better performance on tasks of cognition and memory in response to this **wild green oat extract**, as would be expected from an **MAO-B-inhibiting** compound.

Improved indicators of **blood flow** to the brain and other parts of the body, along with a reduction in **addictive behavior** are among the **quality-of-life** enhancing properties of this natural extract from select **wild green oats**. ●

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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The addition of **Alaskan-derived** fish oil to the **Super Omega-3** supplement group enables the same high-potency **EPA/DHA** to fit into slightly smaller softgels for easier swallowing.

International Fish Oil Association "Five-Star Rating"

The **International Fish Oil Association** (IFOS) is an independent organization that tests oils to determine their overall safety and quality. A **Five-Star Rating** indicates fish oils have been tested to meet very strict standards of quality as determined by EPA and DHA content, and for purity to rule out contamination with heavy metals, radiation, oxidation, and organic pollutants such as PCBs and dioxin.

Alaskan-derived fish oil enjoys the same **Five-Star Rating** mandated for all fish oils contained in the **Super Omega-3** family of supplements.

Benefits of a Mediterranean Diet

The most popular **Super Omega-3** formula provides the following potencies in just four smaller softgels:

Alaskan Wild Fish Oil Concentrate	4,000 mg
Providing:	
Omega-3s	2,400 mg
EPA	1,400 mg
DHA	1,000 mg
.....	
Polyphen-Oil™ Olive extract (fruit and leaf)	600 mg
.....	
Sesame seed lignan extract	20 mg

Fish Oil+Olive Fruit Extract= Greater Efficacy

Research findings indicate that a combination of **fish oil** and **olive oil** can support a healthy inflammatory response better than fish oil alone.¹ **Super Omega-3** incorporates the benefits of both fish oil and olive fruit extract into a single novel formula. A four-softgel serving provides the equivalent polyphenol content of **8 to 12** tablespoons of **extra virgin olive oil**.

Sesame Lignans Enhance Fish Oil Efficacy

Studies show that when **sesame lignans** are added to **fish oil**, there is a greater safeguard against **oxidation** along with the EPA/DHA fatty acids being directed toward pathways that help with inflammatory reactions.²

Comprehensive Protective Benefits

There are hundreds of fish oil supplements on the market. Only **one** incorporates lifesaving findings to provide **omega-3** and **olive fruit** extracts, along with **sesame lignans**, in a family of formulas called **Super Omega-3**.

Super Omega-3

Item #01982 • 120 softgels

	Retail Price	Super Sale Price
1 bottle	\$32	\$21.60
.....		
4 bottles		\$18.90 each
.....		
10 bottles		\$15.35 each

Non-GMO

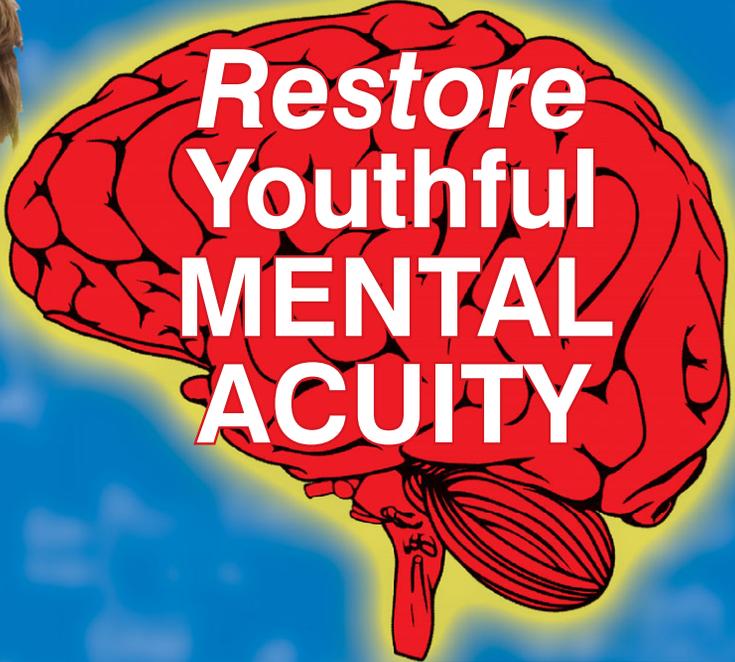
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To order **Super Omega-3**, call
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Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease.



Restore Youthful MENTAL ACUITY

Replenish Youthful Dopamine

Dopa-Mind™ is a standardized **wild green oat extract** for aging individuals who wish to maintain more youthful cognitive health and performance.

With age, our brain's levels of **dopamine**—which regulates mood and cognition—begin to diminish,^{1,2} leading to a corresponding decline in mental performance.³

This dopamine depletion is largely caused by rising levels of an *enzyme* called **monoamine oxidase-B (MAO-B)**.

Published studies show that by inhibiting **MAO-B**, this bio-active **wild green oat extract** promotes healthy **dopamine** levels. This MAO-B inhibiting mechanism has been shown to support mental acuity and longevity.⁴

In a double-blind, randomized, placebo-controlled trial in aging volunteers, researchers demonstrated that **1,600 mg** of the same **wild green oat extract** found in **Dopa-Mind™** produced a **74%** improvement on a standard test of mental acuity.⁴ In soon-to-be published research, **800 mg** of the same extract supported mental processing time and speed.⁵ In other research, this extract exhibited support for cerebral vasodilator function, as well as endothelial function—both of which play roles in brain health.⁶

The **wild green oat extract** in **Dopa-Mind™** has been shown to promote more youthful cognitive performance and may support longevity. The suggested dose is one tablet of **Dopa-Mind™** daily for the first month. If desired results do not manifest, increase the dose to two tablets daily.

References

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Non-GMO

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Dopa-Mind™

Item #02006 • 60 vegetarian tablets

	Retail Price	Super Sale Price
1 bottle	\$48	\$32.40
4 bottles		\$28.80 each



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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 **Earn 2% LE Dollars**

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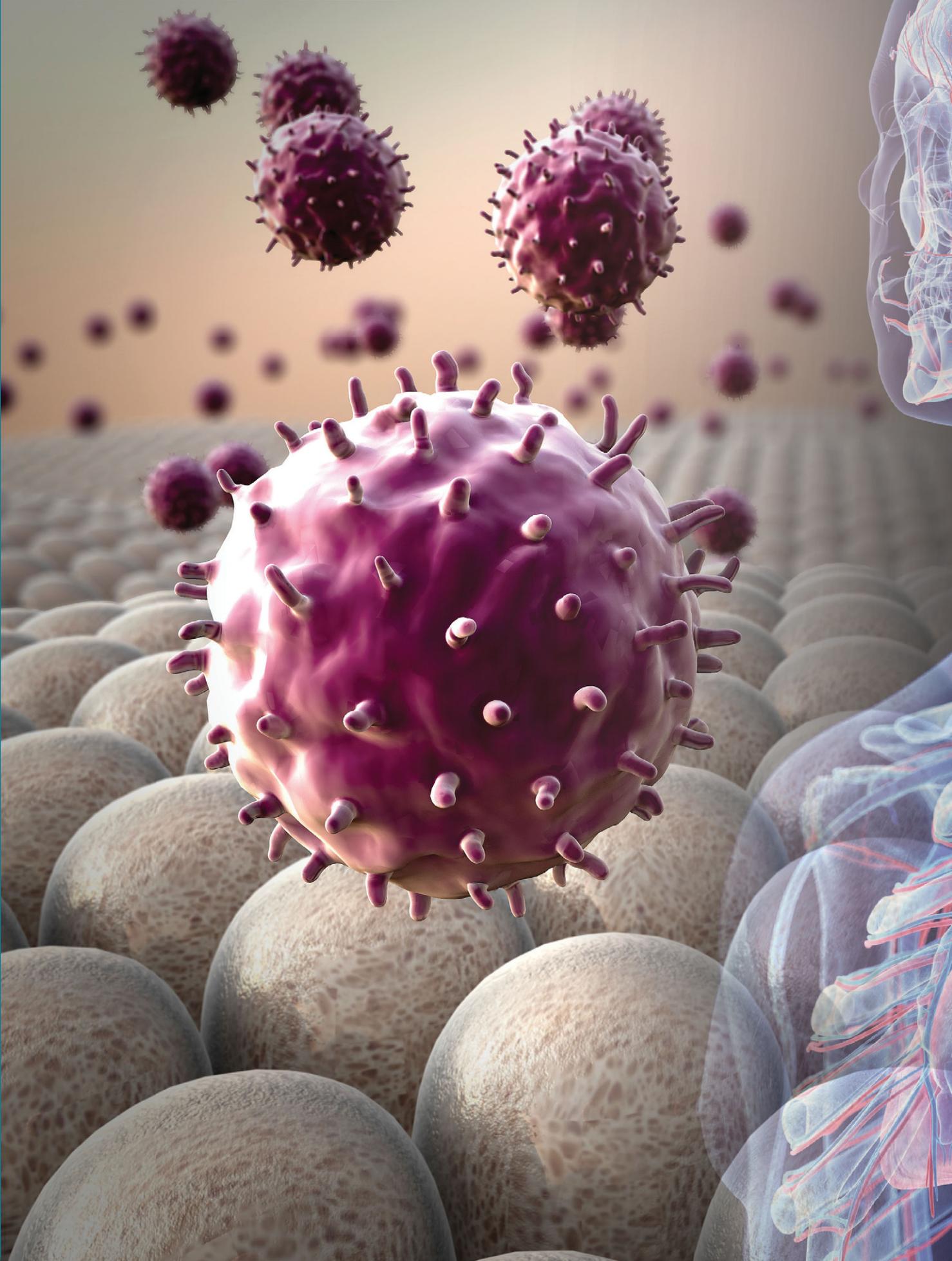
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Stay Healthy, Live Better

SWEEP AWAY SENILE CELLS



Sweep Away SENILE CELLS

If someone told you that taking a certain nutrient or drug could kill some of your cells, you might think it was a bad idea.

What few people understand is that as cells age, some of them degenerate into a population of poorly functioning **senescent cells** that accumulate throughout their body.^{1,2}

There is no value to retaining these lingering senile cells. Their continued presence underlies a myriad of degenerative disorders. Senescent cells should be **purged** from the body!

The buildup of these dysfunctional senile cells contributes to decay of individual organs and greater susceptibility to disorders related to chronic **inflammation**.^{3,4}

Pharmaceutical companies are developing technologies to remove or neutralize senile cells. They view this as a lucrative target of anti-aging research.^{6,7} The objective is to selectively remove senescent cells without damaging healthy cells.

Rather than wait for expensive drugs, scientists have discovered that the plant flavonoid **quercetin** has the unique ability to selectively remove **old cells** without harm to normal, actively dividing cells.⁸ This has the obvious potential for extending health span.

A number of studies suggest that low-cost **quercetin** may slow aging and reduce the risk of many age-accelerating processes—both by clearing **senescent cells** and via other beneficial mechanisms.^{9,10}

Aging Cells, Aging Organs, Aging Body

It might seem logical that our cells age at the same time as our body as a whole, but that is not the case.

Cells have varying life spans. Some cells live only briefly and replace themselves frequently, while others have longer life spans and are replaced only after weeks, months, or even years.^{11,12} The exact frequency of cell renewal depends on the tissue in which the cells are found.

In the presence of various detrimental stimuli (such as ultraviolet radiation, oxidation, and environmental toxins), some cells undergo changes to their DNA that results in old cells that won't die when they're supposed to.^{13,14} Scientists refer to these as **senescent** (senile) cells.

Senescent cells pose a significant health problem because many of them produce **pro-inflammatory** signaling molecules and **protein-digesting** enzymes that contribute to acceleration of age-related diseases.^{7,15}

A healthy **immune system** can help **remove senescent cells** as part of its normal cellular housekeeping. This process is important in cancer prevention.^{7,16} As bodies age, the immune system itself begins to age via a process known as **immune senescence**. As a result, removal of senescent cells begins to fail. This leads to an **acceleration of aging**, and ultimately, an increase in the risk of most age-associated conditions, including cancer.¹⁶

By selectively eliminating **senescent cells** so that they do not “clog up” our body's processes, it is possible to support or even regain youthful function in every organ and tissue. This was shown in a compelling fashion in a **2011** study from the **Mayo Clinic**, using a mouse model of rapidly accelerated aging similar to the disease **progeria** in humans.¹⁷

Progeria is a rare disease of **accelerated** aging. It is the result of a gene mutation that produces premature accumulation of senescent cells, and causes young children to age so rapidly that most die before age 15, commonly of atherosclerosis or other age-related processes.^{18,19}



The Mayo researchers transplanted into the rapidly aging mouse model a specialized gene that selectively eliminated senescent cells.¹⁷ They found that, by removing senescent cells in tissues such as fat, skeletal muscles, and the eye, they could significantly delay onset of age-related disorders in those tissues. These included muscle loss, cataracts, and depletion of subcutaneous (under-the-skin) fat. Perhaps still more exciting, clearance of senescent cells even in late life slowed the progression of age-related disorders already in progress.

This study opened the door to the idea of senolytic (or “age-busting”) drugs. Testing this kind of **gene transplantation** therapy in humans is fraught with risks. A better, safer, and simpler solution was discovered in early **2015** by another group of scientists from several institutions, including the Mayo Clinic.⁸

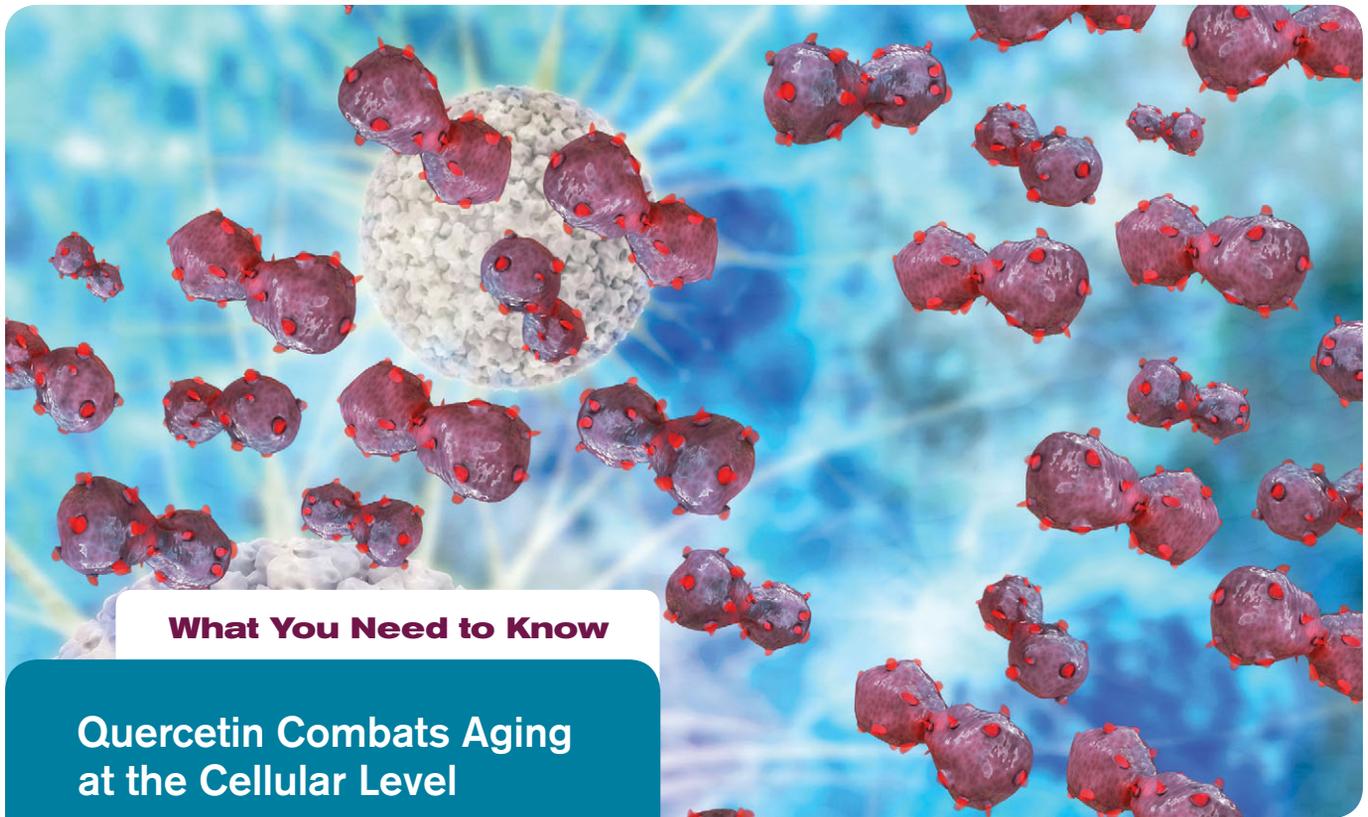
Delete Senescent Cells with Quercetin

The second Mayo study was carried out by researchers who recognized the threat of senescent cell accumulation. These scientists sought to correct this pathology in a simpler and safer way than gene transfers. They knew, from past research, that clearing away just **30% of senescent cells** produced profound **improvement** in age-related signs and symptoms.⁸

The researchers turned to several compounds known to induce cellular suicide (known technically as **apoptosis**) preferentially in senescent cells, while leaving healthy cells untouched. They tested 46 different drugs and nutrients, and ended up with two candidates: a chemotherapy drug called **dasatinib** and **quercetin**, a well-studied nutrient found naturally in apples, onions, and other vegetables.²⁰ Both compounds powerfully affect the cellular regulation systems that produce beneficial **apoptosis**, but dasatinib, unlike quercetin, has a wide range of serious toxic side effects.²¹⁻²⁴

When human cell cultures were treated with either quercetin or dasatinib, the researchers found a sharp **reduction** in numbers of **senescent cells**. In this study, **quercetin** caused about a **50% reduction** at the lowest two doses, with no effect on healthy cells.⁸ Dasatinib had similar effects when used alone.

In an animal study, the combination of the two compounds was still more effective. When administered to age-accelerated mice, the combination caused a significant reduction in a score of age-related symptoms, including hunched back, poor muscle function, tremors, loss of grip strength, gait abnormalities, urinary incontinence, and poor body condition. These effects were interpreted as an extension of the **health span** of the mice, both because of the delay in symptom onset and the reduction of their severity.⁸



What You Need to Know

Quercetin Combats Aging at the Cellular Level

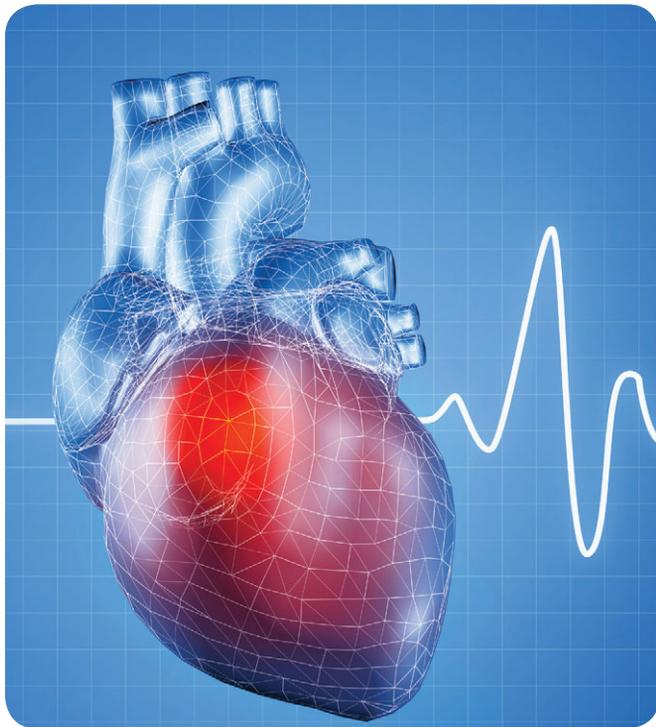
- Scientists have identified a group of pro-inflammatory, aging cells (senescent cells) in various tissues and organs.
- Certain kinds of these cells actively secrete substances that generate inflammation and accelerate aging of organs, which results in aging of the entire body and susceptibility to chronic, age-related disorders.
- Quercetin, a naturally occurring nutrient, was recently shown to selectively “delete” dangerous senescent cells in laboratory studies, without harm to healthy, youthful cells.
- This finding may help to explain quercetin’s known age-decelerating properties, which have contributed to reduction in diseases from the brain to the heart and lungs, to the intestinal tract and bones.
- A true life-extending supplement regimen should include regular quercetin doses of 150 to over 500 mg per day. A dose of 150 mg may be sufficient for most people. One strategy might involve taking the higher dose range of quercetin (over 500 mg per day) for several months and then dropping back to a maintenance dose of 150 mg each day.

Of course, no one is proposing that **dasatinib**, a powerful chemotherapy drug, be used to prevent human aging. This study shows that **quercetin** alone is just as effective at deleting dangerous senescent cells as the drug dasatinib, and that such deletion delays aging and promotes a longer health span.⁸

Like most natural supplements, quercetin appears to achieve its effects by multiple pathways. For example, quercetin activates a well-researched enzyme known as **SIRT1**, which is also activated by **resveratrol**.²⁵ Recent studies show that activated SIRT1 can suppress the pro-inflammatory signaling of senescent cells, thereby reducing their toxicity and potentially slowing aging.²⁶ Numerous experiments have demonstrated that animals with experimentally increased SIRT1 activation live longer and experience fewer age-related disorders.^{27,28}

Previous animal studies have shown that **quercetin** can extend life span. In one often-used model of aging using the roundworm *Caenorhabditis elegans*, quercetin treatment has been shown to prolong the mean life span by **16 to 23%**.²⁹⁻³²

A wealth of evidence shows that quercetin acts by several mechanisms to delay aging, is safe, and is absorbed from the gastrointestinal tract after an oral dose.^{33,34} It is reasonable to examine quercetin’s effects as an age-decelerator in the human tissues most affected by aging, as we’ll now see.



Quercetin Slows Cardiovascular Aging

Cardiovascular disease (heart attacks, congestive heart failure, and stroke) is the leading cause of death among older Americans.³⁵ Finding a way to slow aging of the heart and blood vessels is a vital factor when seeking to significantly prolong human life. Quercetin has numerous properties that help to combat various factors involved in heart disease.

First, quercetin has the ability to relax blood vessels, an action that reduces the risk of heart attack and stroke.³⁶ Scientists believe this is due in part to quercetin's ability to fight oxidation. Oxidation in cells that line blood vessels reduces their ability to produce and respond to **nitric oxide**, a vital signaling molecule that helps control blood pressure by telling cells to dilate and relax.

Secondly, quercetin has been found to increase levels of an important enzyme called **paraoxonase-2** (PON2).³⁴ Scientists now believe that this potent enzyme protects fat molecules from dangerous oxidation that can lead to atherosclerotic plaque formation and decreased blood flow.³⁴ Indeed, animal studies demonstrate that supplementation with quercetin reduces markers of oxidation, while increasing heart weight (an indicator of good function in healthy animals), potentially improving the animals' long-term health.³⁷

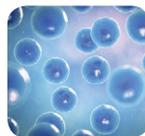
The third way quercetin helps protect against heart disease is by counteracting the pro-clotting effect of platelets, a leading contributor to arterial blockage in

the presence of plaque. In a study of healthy human volunteers, doses of a quercetin supplement at both **150** and **300 mg** were shown to decrease the clotting of platelets. This action has the potential to reduce the risk of stroke and heart attacks.²⁰

Finally, quercetin directly opposes major components of **metabolic syndrome** (the combination of obesity, hypertension, glucose intolerance, insulin resistance, and lipid disturbances), a condition that vastly increases cardiovascular risk. When a group of overweight or obese subjects with features of metabolic syndrome received a daily **150 mg** dose of quercetin for six weeks, mean fasting quercetin blood levels were boosted by nearly **4-fold**.³⁸ In this study, quercetin lowered systolic (top number) blood pressure and reduced levels of **oxidized LDL** (bad) cholesterol, a contributor to atherosclerosis.

Another study evaluated healthy men who had a genetic variant that increases cardiovascular risk. A quercetin dose of **150 mg** per day was used. After eight weeks, there were reductions in waist circumference, after-meal systolic blood pressure, and triglyceride levels. Beneficial increases in HDL (good) cholesterol were found in these men taking just **150 mg** per day of **quercetin**.³⁶

Synergistic Benefits of Quercetin + Resveratrol



Polyphenols are versatile molecules found throughout the plant world, where they offer protection against the stresses imposed by extreme environments, UV radiation, and other factors.⁶² Recent studies have focused especially on the polyphenols **quercetin** and **resveratrol**, and on their synergistic effects when used together.

Resveratrol has important impacts on energy metabolism, and functioning of the tiny intracellular powerhouses called mitochondria.⁶³⁻⁶⁵ Resveratrol's molecular effects are in some ways similar to those of profound **calorie restriction**, which has been found to extend life span in virtually every animal system in which it has been tested.^{66,67}

Combining **quercetin** with **resveratrol** has been shown to have **synergistic effects**, meaning that the combination provides benefits that are greater than the simple sum of each nutrient's effects together. Studies show that quercetin and resveratrol work together by multiple, complementary mechanisms.⁶⁸⁻⁷⁰

Quercetin Protects Brain Cells

Scientists have determined that senescent, inflammation-generating cells accumulate in the brain during “normal” aging. This discovery has opened a new door to therapies aimed at preventing the decline associated with neurodegenerative diseases like Parkinson’s and Alzheimer’s. With quercetin’s ability to selectively delete senile cells in the brain, we can expect further advances in preventive neurology from this impressive natural flavonoid.

A great deal has already been discovered about quercetin’s ability to reduce the memory deficits and other features of neurodegenerative disorders by protecting brain cells’ structure and function.³⁹

Studies show, for instance, that quercetin is absorbed in the blood after oral dosing, and is detectable soon thereafter in brain tissue.⁴⁰ As a result, quercetin has been shown to help protect the brains of rats subjected to a high-stress environment.

In a study published in *Free Radical Biology and Medicine*, the rats initially developed oxidative stress in vital memory and movement centers of their brains as a result of the high-stress environment.⁴⁰ However, when those same rats were supplemented with quercetin, the cognitive deficits they had experienced were reduced.

Oxidative stress and senescent cells are significant contributors to the gradual development of Alzheimer’s and Parkinson’s diseases, two common neurodegenerative consequences of aging.⁴¹⁻⁴³ Quercetin has been shown to help battle both of these underlying issues.

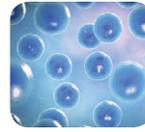
In a rat model of Parkinson’s disease, **quercetin** or **fish oil** demonstrated valuable brain-protective properties. However, the combination of quercetin and fish oil produced even more protective benefits such as reducing behavioral impairment, improving production of the neurotransmitter dopamine, and rescuing ailing mitochondria.⁴⁴

Protection Against Environmental Toxins

Environmental toxins play a significant role in the development of neurodegenerative diseases. Parkinson’s disease, for example, is known to be promoted by exposure to PCBs (polychlorinated biphenyls, a class of environmental chemical toxins).^{45,46} PCBs damage brain cells that produce the neurotransmitter **dopamine**, which is deficient in Parkinson’s disease.⁴⁷⁻⁴⁹ Brain dopamine levels steadily decline as humans age past 45 years.⁵⁰

One study demonstrated that quercetin reduces damage to dopamine-producing brain cells after rats are exposed to PCBs.³⁹ Subsequent experiments demonstrated that quercetin protected the dopamine-producing cells by scavenging the destructive oxygen-free radicals induced by the toxin.³⁹

How Quercetin Enhances Efficacy of Resveratrol

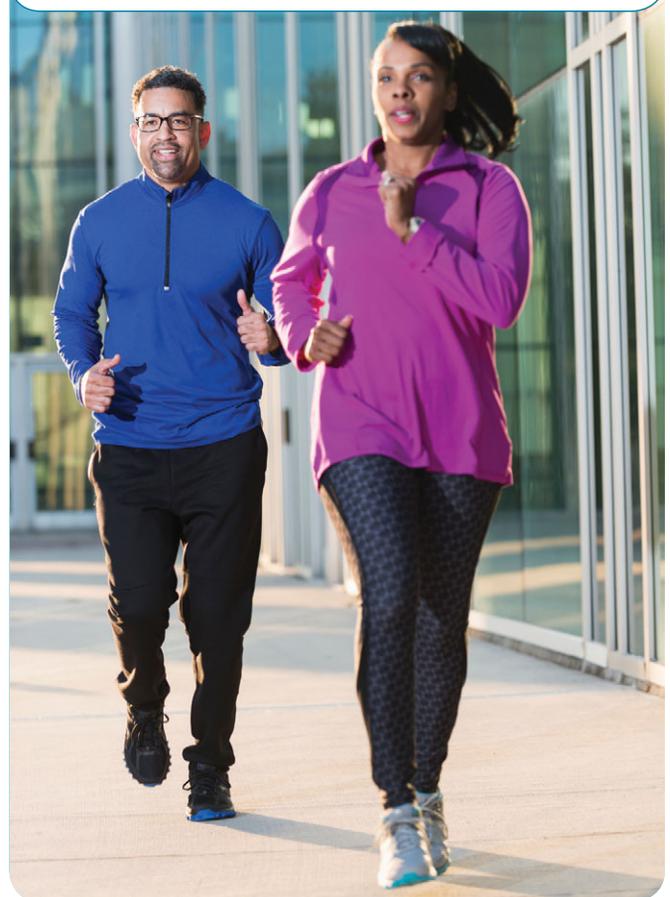


Resveratrol has become a popular “anti-aging” supplement because of its beneficial effect on **gene expression**.^{71,72}

Quercetin has been shown to make more resveratrol available to the body. It does this by reducing the rate of resveratrol degradation (sulfation) in the liver and enhancing its bioavailability.

When resveratrol is ingested, about **70%** of it is absorbed from the intestine into the blood.⁷³ The absorbed resveratrol is then transported to the liver. When the liver adds sulfate groups, there is some deactivation of the resveratrol.⁷⁴

Since quercetin has favorable influences on the bioavailability of resveratrol, it makes sense to take these two nutrients together.⁷⁵ Interestingly, while red wine is known to contain small amounts of resveratrol, it usually contains even more quercetin, meaning the health benefits associated with red wine may be due to both its resveratrol and quercetin content (along with other polyphenols).^{75,76}



In addition to memory loss, animals exposed to PCB also developed signs of anxiety. A separate study found that quercetin supplementation was able to reverse both the brain changes and the neurological deficits associated with PCB-induced anxiety.⁵¹

Further supporting quercetin's ability to protect the brain from damaging toxins, a study published in *Toxicology and Industrial Health* found that supplementation with the nutrient reversed changes in the brains of rats previously exposed to a common industrial solvent called *toluene*. When the researchers examined microscopic evidence of the animals' brains, they found that quercetin supplementation in fact led to structural improvements in brain architecture that had been damaged by the chemical. Amazingly, these improvements occurred even when quercetin was administered after the brain damage was done.⁵²

Exposure to PCB weakens the blood-brain barrier, which allows PCB and other damaging toxins to leak

into brain cells.⁵³ However, researchers found that quercetin can protect brain cells against environmental toxins by stopping them from ever reaching the brain in the first place.⁵³

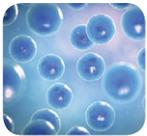
Summary

The accumulation of pro-inflammatory **senescent cells** in the maturing body is an underlying factor behind premature aging. Research into this scientific arena provides a real-world opportunity to combat this degenerative mechanism.

Quercetin is a flavonoid found in many fruits and vegetables. It has recently been shown to remove dysfunctional cells without harming healthy ones.

Studies in animals and humans show that quercetin fights oxidative stress and inflammation, while beneficially modulating **genes** known to be involved in the aging process. ●

How Senescent Cells Impact the Entire Body



Troublesome senescent cells can be found throughout the body.¹⁷ Wherever those cells build up, they cause damage to that part of the body. These “retired cells” are responsible for increasing malfunctions in a once-vibrant body. For example:

- In the **immune system**, senescent T cells have been found built up in the lymph nodes of older animals.⁵⁴ These older cells are rich in memories of older threats, but are unable to “learn” about new threats, making them less effective, for example, against next year’s flu virus.⁵⁵
- Senescent cells also affect **skin integrity**. The impaired skin and wound healing so commonly associated with aging may be related to an accumulation of senescent fibroblasts,⁵⁶ which are all-purpose cells in the skin that are essential for producing new skin tissue.⁵⁷
- The most common form of arthritis, **osteoarthritis**, is due in part to the accumulation of old cartilage-producing cells (chondrocytes) in the joints.⁵⁸ Joint stresses, such as overuse, produce chronic oxidative stress, which has been shown to hasten chondrocyte aging and accumulation of senescent cells.⁵⁹
- Senescent cells are also being explored as important targets for treating age-related brain disorders such as **Alzheimer’s** and **Parkinson’s diseases**.⁷ Brains of older animals have been shown to contain senescent cells that secrete highly inflammatory cytokines, and may contribute to growth of the age-associated brain tumor called **glioma**.⁶⁰
- **Heart tissue** from people with cardiovascular disease contains more senescent, rapidly aging cells than tissue from healthier, or younger, people. Interestingly, studies also show that, at least in heart tissue, some people may be born with a tendency for their cells to age more rapidly. In theory, this could explain why some people appear to be at higher risk for cardiovascular disease and death than others, despite having similar backgrounds in other ways.⁵
- Smoking and air pollution promote **chronic obstructive pulmonary disease (COPD)**. Senescent cells secreting highly inflammatory substances have recently been discovered in the lungs of smokers with chronic obstructive pulmonary disease, and are thought to promote the condition.¹⁶
- Finally, senescent cells accumulating in liver tissue hasten loss of liver function.⁶¹ In addition, because these cells progress to form scar tissue, they may be involved in the advance of life-threatening liver cirrhosis from milder, earlier conditions such as non-alcoholic fatty liver disease (NAFLD).⁶

Clearly, senescent cells contribute to aging and disease in organs and tissues throughout the entire body. Fortunately, scientists have discovered a nutrient that selectively eliminates many such senescent cells. By doing so, it may be possible to support or even regain youthful function in every organ and tissue in the body.

Quercetin Dosing Suggestions

Quercetin is a low-cost dietary supplement that has health-promoting properties in the heart, brain, and other systems. Doses of **150 mg** per day have demonstrated significant benefits in human studies and might be a good maintenance dose. Furthermore, higher dose amounts of **500 to 1,000 mg** per day are generally recognized as safe based upon current data, especially over the short term, and thus higher dosing in this range may be considered based upon individual health needs. At the current time, little safety evidence exists to confidently support chronic daily dosing higher than **1,000 mg**.

A prudent course to follow might be to take **500-800 mg** per day of **quercetin** for three months to purge accumulated senile cells and then stay with a maintenance dose of **150 mg** each day thereafter.

Note: For those individuals taking warfarin, please check with your physician if concomitantly taking high doses of quercetin.

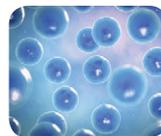
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Suppressing Herpes in the Brain



Infection with herpes simplex virus 1 (HSV-1) is widespread and typically manifests outwardly as cold sore outbreaks on the mouth and/or lips.⁷⁸

What many people don't know is that in approximately **70%** of the population over 50 years old, the virus enters the brain and infects neurons.² It is not known how many recurrent HSV-1 reactivation episodes occur in neurons before infection (Herpes Simplex Encephalitis) develops.^{79,80}

A fascinating study published in **2015** reveals how quercetin or resveratrol may reduce viral propagation and/or counteract the effects of neuronal herpes infection.⁷⁹

The scientists analyzed viral replication, neuronal viability, and neurodegenerative events during HSV-1 infection.

In this study, pretreatment of neurons with **resveratrol** or **quercetin** significantly reduced markers of damage associated with HSV-1 infection. The scientists concluded that their results could be potentially useful in reducing the risk of HSV-1 infection in neurons and the cellular damage associated with reactivation episodes.

The age-accelerating effects from chronic infections with herpes viruses such as cytomegalovirus (CMV), herpes simplex I and II, herpes zoster and Epstein-Barr are increasingly being recognized, especially as it relates to disease.^{81,82}

Chronic viral infection creates a sustained inflammatory response that is thought to contribute to increased cognitive impairment seen in preclinical and clinical Alzheimer's disease.⁸³⁻⁸⁶ It is not yet possible to completely eradicate these chronic viruses, but this new study indicates that **resveratrol** or **quercetin** may at least mitigate their pathological impact.

Purging Senescent Cells: Science's New Anti-Aging Strategy



Scientists have now confirmed that an innovative life extension strategy of safely purging worn-out—or **senescent**—cells can increase longevity.

As we age, our bodies' cells divide a finite number of times and eventually enter the state of senescence. These dysfunctional senescent cells cannot be turned back into functional, dividing cells, nor do they die, and appear to have some built-in survival mechanism. But the longer they hang around in the body the more they become deformed and chemically altered, pumping out destructive proteins that create inflammation. "We've seen them in every organ we've looked at," says Judith Campisi, PhD, at the Buck Institute for Research on Aging.

Virtually all age-related diseases involve inflammation, and over time, the result of senescence-driven inflammation is a litany of disabling and deadly diseases.

Evidence now shows that it is possible to eliminate these nonfunctioning cells from the body, which can prevent or even reverse age-related diseases. In fact, Darren Baker, PhD, at the Mayo Clinic and colleagues have accomplished this in mice.

The Mayo team genetically engineered mice so that senescing cells would carry a tag marking them as targets for a drug capable of destroying them. By selectively removing the senescent cells, even at an advanced age, the drug delayed aging, inhibited muscle wasting, produced more youthful skin, and stalled onset of age-related diseases.

Dr. Campisi and her team have managed to stop senescent cells from producing pro-inflammatory toxins by using an existing drug known as rapamycin, which boosts life span in mice by **10%**. But it weakens the immune system and raises the risk of diabetes. Campisi and other research groups are now seeking safer alternatives.

This raises another challenge. Any treatment targeting the inflammatory chemicals pumped out by senescent cells would need to be taken regularly, something difficult to justify in otherwise healthy people, no matter how safe the drug. A better option may be to clear out senescent cells altogether—but only periodically.

"Senescent cells accumulate slowly over time," says Campisi. "You could take a drug to wipe them out every five years, for example." Treatments could begin around age 50, which is when accumulated senescent cells start causing problems.

Earlier this year, a study on cells published in *Aging Cell* illustrated the effectiveness of two drugs, as well as **quercetin**, in removing senescent cells from different types of human cells. In this study, led by James Kirkland of the Mayo Clinic, senescent cells were essentially forced to commit suicide.

Scientists working specifically on the problem of senescent cells now believe that this approach may reverse multiple conditions of aging with just one senescent cell-purging agent, efficiently striking down every age-related disease with a single blow. "That's the dream," says Campisi. "It would revolutionize the way medicine is practiced."

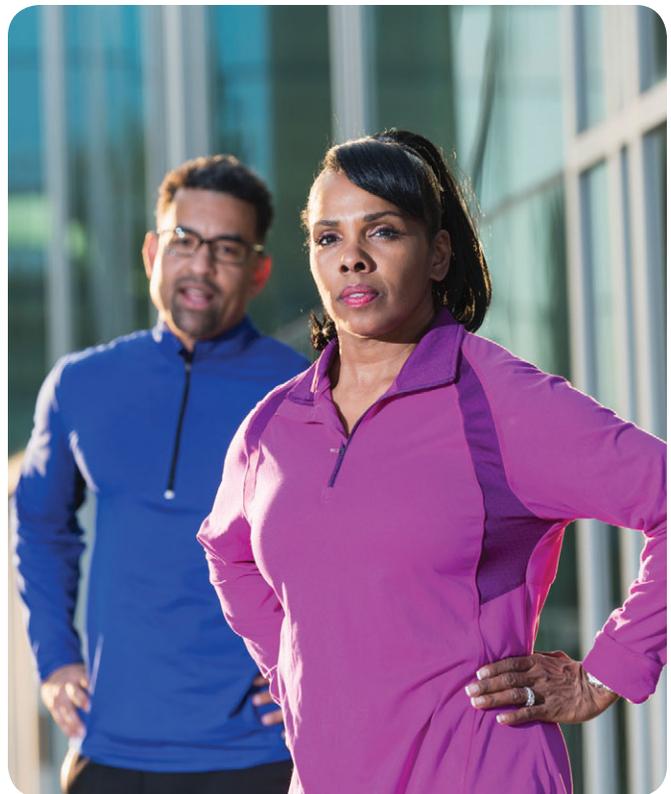
Animal studies show increased longevity with senescent cell removal. However, Campisi agrees that few scientists believe aging is caused entirely by senescent cells. But removing dangerous and inflammation-powering senescent cells from the body could translate into a state of slowed aging with none of the usual diseases linked to aging itself, diseases such as diabetes, cancer, mild cognitive impairment, Parkinson's disease, heart problems, and osteoarthritis.



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Sample Ingredient Comparison	Centrum® Silver® Adults 50+	Life Extension® Two-Per-Day
Vitamin A (as beta-carotene)	1,000 IU	4,500 IU
Vitamin A (preformed)	1,500 IU	500 IU
Vitamin C	60 mg	500 mg
Vitamin D3	1,000 IU	2,000 IU
Vitamin B1	1.5 mg	75 mg
Vitamin B2	1.7 mg	50 mg
Vitamin B6	3 mg	75 mg
Vitamin B12	25 mcg (cyanocobalamin)	300 mcg (methylcobalamin)
Niacin	20 mg	50 mg
Pantothenic acid	10 mg	100 mg
Vitamin E	50 IU (synthetic)	100 IU (natural)
Folate	400 mcg (folic acid, synthetic)	400 mcg (L-5-MTHF, active)
Zinc	11 mg	30 mg
Selenium	19 mcg (one form)	200 mcg (three forms)
Lutein	250 mcg	5,000 mcg
Lycopene	300 mcg	1,000 mcg
Biotin	30 mcg	300 mcg
Chromium	50 mcg	200 mcg
Molybdenum	45 mcg	100 mcg
Magnesium	50 mg	100 mg
Manganese	2.3 mg	2 mg
Iodine	150 mcg	150 mcg
Potassium	80 mg	25 mg
Choline	(none)	20 mg
Boron	(none)	3 mg
Inositol	(none)	50 mg
Alpha Lipoic Acid	(none)	25 mg
Natural Mixed Tocopherols (providing gamma, delta, alpha, and beta tocopherols)*	(none)	20 mg
NIAGEN® Nicotinamide Riboside**	(none)	1 mg

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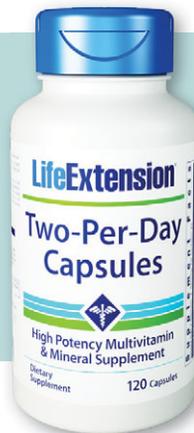
-
- 50 times more vitamin B1**
-
- 12 times more vitamin B12**
-
- 25 times more vitamin B6**
-
- 10 times more biotin**
-
- 10 times more selenium**
-
- 8 times more vitamin C**
-
- 2 times more vitamin D**
-
- 2 times as much vitamin E**
-
- 2.5 times as much vitamin B3**
-
- 3 times as much zinc**
-

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Hundreds of published studies validate the neurological properties of the individual ingredients contained in **Cognitex**®.

Scientists wondered what would happen if these cognitive-enhancing nutrients were combined into one formula. An open label study was performed to assess the effects of **Cognitex**® on the brain health of elderly human subjects.

Here is a summary from a study that was published in the *Journal of Dietary Supplements* in June 2011:

Study design: 26 elderly participants with memory complaints completed the study. Participants were given three capsules daily of **Cognitex**® for 12 weeks with assessments at two weeks and 12 weeks.

Memory at two weeks:

- Recall: +11.15 points vs. baseline—a **15%** improvement
- Recognition: +8.68 points vs. baseline—a **11%** improvement
- Spatial short-term memory: +19.85 points vs. baseline—a **42%** improvement

Attention (sustained and focused) at two weeks:

- Sustained attention: +9.46 points vs. baseline—a **12%** improvement
- Focused attention: +3.77 points vs. baseline—a **4%** improvement

Visuospatial learning at two weeks:

- +17.31 points vs. baseline—a **33%** improvement

Activities of daily living (executive functions and mental flexibility) scores at two weeks:

- Executive functions: +9.45 points vs. baseline—a **14%** improvement
- Mental flexibility: +9.92 points vs. baseline—a **15%** improvement

After **10 additional weeks** of **Cognitex**® supplementation, further statistically significant improvements in **activities of daily living** (executive functions and mental flexibility) were observed:

- Executive function: +9.15 points vs. two-week scores—a **12%** improvement
- Mental flexibility: +9.73 points vs. two-week scores—a **13%** improvement

Cognitex® is designed to improve cerebral performance and protect against neurological problems over the long term. This study evaluated the effects of **Cognitex**® on boosting brain function over a short-term period.

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Phosphatidylserine (from Sharp-PS® Green)	100 mg
Brain Shield® (Gastrodin)	50 mg
Vinpocetine	20 mg
Leucoselect® Grape Extract (seed)	150 mg
Sensoril® Ashwagandha Extract	125 mg
BlueActiv™ Wild Blueberry Extract	150 mg
Uridine-5'-Monophosphate (disodium)	50 mg
Proprietary NeuroProtection Complex Blend Perlunan® Hops extract, Rosemary standardized extract	125 mg
Pregnenolone	50 mg

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In aging individuals, the accumulation of **nonfunctional cells** parallels a decline in natural immune function, which is linked to problematic outcomes in normal aging.¹

Scientists have found that the flavonol **quercetin** supports the body’s normal ability to perform “cellular housekeeping” to selectively break down these nonfunctional cells—promoting their removal.²

Optimized Resveratrol with Nicotinamide Riboside now includes **150 mg** of **quercetin**, which is **2.5 times** the previous amount.

Quercetin supports cell-regulating systems that produce beneficial apoptosis (cell death) in aged, dysfunctional cells.² It also supports immune response by inhibiting inflammation-causing substances.³

Optimized Resveratrol with Nicotinamide Riboside is a complex of key *cellular support* ingredients formulated to promote the body’s longevity mechanisms:

- **Resveratrol** favorably alters genes that help slow the aging process and triggers some of the same beneficial youthful gene expression activated by calorie restriction.⁵
- **Quercetin** enhances the longevity-supporting enzyme SIRT1, which is also activated by both resveratrol⁴ and nicotinamide riboside.⁶
- **NIAGEN® nicotinamide riboside** supports mitochondrial health and promotes longevity pathways.⁵
- **Pterostilbene** and **fisetin**, specific compounds found in berries, work together with resveratrol to “turn on” the body’s own longevity genes.^{7,8}

Just one vegetarian capsule of **Optimized Resveratrol** provides:

Trans-Resveratrol (most biologically active form)	250 mg
Quercetin	150 mg
NIAGEN® Nicotinamide Riboside	100 mg
Red grape (fruit) and wild blueberry (fruit) blend	40 mg
Fisetin	10 mg
Trans-Pterostilbene	0.5 mg

Optimized Resveratrol with Nicotinamide Riboside

Item #02031 • 30 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$42	\$28.35
4 bottles		\$24.30 each



For Those Who Want Higher Dose Quercetin

The new **Optimized Resveratrol with Nicotinamide Ribosome** (described above) provides an ideal daily maintenance dose (**150 mg**) of **quercetin**. (Item #02031)

For those seeking to sweep away excess accumulated senescent cells, additional potencies of quercetin may be considered for a two- to four-month period. **Optimized Quercetin** provides **250 mg** of a quercetin food blend from apples, onion, and buckwheat. One to two capsules of **Optimized Quercetin** a day may be taken in addition to the Optimized Resveratrol formula over a two- to four-month month period.

Optimized Quercetin

Item #01309 • 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$22	\$14.85
4 bottle		\$13.50 each



To order **Optimized Resveratrol with Nicotinamide Riboside** or **Optimized Quercetin**, call **1-800-544-4440** or visit **www.LifeExtension.com**

References

1. *Immun Ageing*. 2010;7:7.
2. *Aging Cell*. 2015 Aug;14(4):644-58.
3. *Arch Pharm Res*. 2008 Oct;31(10):1303-11.
4. *Genes Nutr*. 2010 Mar;5(1):55-60.
5. *Cell Metab*. 2011 Nov 2;14(5):612-22.
6. *Cell Metab*. 2012 Jun 6;15(6):838-47.
7. *Neurobiol Aging*. 2012 Sep;33(9):2062-71.
8. *Aging Cell*. 2011 Oct;10(5):908-11.

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OBTAINING THE LOWEST PRICES ON YOUR SUPPLEMENTS

We are pleased to announce our 27th annual **SUPER SALE**. During this special event, customers can buy our most advanced formulas at **extra discounted** prices. When consumers purchase products from **Life Extension**[®], they can rest assured that the **quality** of the product is backed by our **commitment** to achieving indefinitely extended life spans.

During Super Sale, **premium-quality** nutrients are available at prices below those charged by commercial companies. This enables health enthusiasts to obtain nutrients they can **trust** at discounted prices. While Life Extension[®] loyalists always receive a **25% discount** off the retail price, far **greater** savings occur when multiple bottles are purchased during **Super Sale**.

This year, Life Extension introduced the **Your Healthy Rewards** program, which provides even **more money-saving** benefits. This new program allows customers to earn **reward dollars** on every purchase they make that can then be applied to future purchases. Customers also have the choice of joining the **Premier Healthy Rewards** program for just \$49.95 a year, which doubles reward dollars, provides free shipping, and includes a **\$50 reward bonus** to use on any product or blood test. (Current members automatically obtain **double** reward dollars.)

Not only do **Life Extension** customers save substantial dollars, they also gain access to the most technologically advanced nutrient formulations in the world. This **special edition** of **Life Extension**[®] magazine introduces exciting new products as well as enhancements to existing formulations.

For example, in aging adults, a declining level of **dopamine** results in cognitive decline and a diminished sense of well-being. A standardized **wild green oat extract** promotes healthy **dopamine** levels that can result in increased cognitive function and improved quality of life.

The production of digestive enzymes, essential to the body's absorption of vital nutrients, decreases with age. Five enzymes—**amylase, protease, lipase, cellulase, and lactase**—have been formulated to optimize digestion and nutrient absorption. The addition of a **probiotic** creates a protective shield and suppresses less beneficial bacteria to further improve digestive comfort.

For those looking to boost brain function, the upgraded **Mitochondrial Energy Optimizer with BioPQQ**[®] now contains **taurine**, a free amino acid that increases new brain cell formation in the area of the brain connected to learning and memory. Last year's retail price was \$94. The new, **lower** retail price for this improved product is \$72—and only **\$48.60** during **Super Sale**. (When four bottles of **Mitochondrial Energy Optimizer** are purchased during Super Sale, the price is reduced to **\$43.20** per bottle.) (Item #01868)

Optimized Resveratrol with Nicotinamide Riboside is an advanced formulation of nutrient concentrates that have been shown to "turn on" beneficial **longevity genes**. It now includes **2.5 times** as much **quercetin** to support beneficial removal of aged, dysfunctional cells.

Even More Super Savings on the NEW Life Extension Mix™

The high-potency multi-nutrient **Life Extension Mix™** is vastly superior to commercial multivitamins because it provides a remarkably broad array of **fruit** and **vegetable extracts**. Packed into this blend are extracts of fruits ranging from grape and maqui to pomegranate and tart cherry. Its vegetable extracts range from olive to broccoli and artichoke.

Life Extension Mix™ provides an exhaustive list of **water- and fat-soluble vitamins, minerals, amino acids, and more**.

Since its introduction over three decades ago, the **Life Extension Mix™** formula has been upgraded **dozens of times** to reflect new research found in the scientific literature. The upgraded **Life Extension Mix™** formula now contains **5-methyltetrahydrofolate (5-MTHF)**, the biologically active form of folate that is up to **7 times** more bioavailable than folic acid.

Life Extension Mix™ has always been a bargain because the cost of taking all these individual nutrients separately would be **astronomical**. We are pleased to announce that the price of **Life Extension Mix™** has been reduced by up to **21%**, and customers can obtain the full dose for as little as **\$1.12** a day if they buy during **Super Sale!** On a cost-per-milligram basis, **Life Extension Mix™** provides far **more potency** for far **less money** than commercial formulas.

Here's how customers can obtain **Life Extension Mix™** at **substantial savings**:

The retail price of a five-week supply of the new **Life Extension Mix™** (315 tablets) is **\$80**. The price for one bottle during **Super Sale** is **\$54**. (Item #02055) If a customer buys four bottles, the price is reduced to **\$46.80** per bottle. When a customer buys 10 bottles during **Super Sale**, the price goes down to just **\$39.38 per bottle**. Since each bottle lasts for **five weeks**, that means that 10 bottles will last for almost a **full year!**

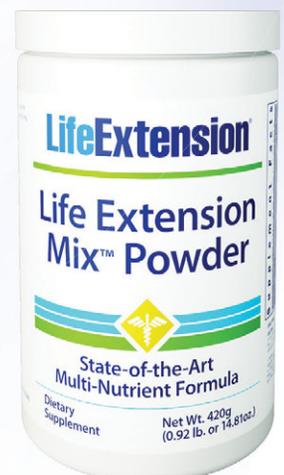
This year's **Super Sale** begins **November 16, 2015**.



Item #02054



Item #02055



Item #02056

NEW LOWER PRICES!

LIFE EXTENSION MIX™

Tablets, Capsules, or Powder...Your Choice!

Numerous 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 food to protect against common age-related decline, and commercial multivitamins do not provide all of the vital plant components needed to maintain good health.^{1,3}

Life Extension Mix™ is vastly superior to other multivitamins on the market today—partly because it provides a remarkably broad array of **fruit** and **vegetable extracts**. Packed into this blend are extracts of fruits ranging from grape and maqui to bilberry and tart cherry. Its standardized vegetable extracts range from olive to broccoli and tomato.

Rounding out the superiority of **Life Extension Mix™** is its exhaustive list of **water-** and **fat-soluble vitamins, minerals, amino acids,** and more. This formula contains **5-methyltetrahydrofolate (5-MTHF)**, the biologically active form of folate. 5-MTHF is up to **7 times** more bioavailable than folic acid. This greater bioavailability is especially important in people who have a genetic enzyme deficiency since it requires no conversion to become metabolically active.

Life Extension Mix™ is the most *comprehensive*, high-potency daily multivitamin anywhere.

When the original **Life Extension Mix™** was introduced in **1983**, people lined up to purchase it because it provided the most efficient way to affordably obtain a broad-array of beneficial nutrients.

Since its introduction **32 years ago**, the **Life Extension Mix™** formula has been upgraded **dozens of times** to reflect new findings in the scientific literature.

Life Extension Mix™ has always been a bargain because the cost of taking the individual nutrients separately would be much **higher** than its retail price. We are pleased to announce that the price of **Life Extension Mix™** has been reduced by up to **21%**.

Life Extension Mix™ is the most comprehensive, high-potency daily multivitamin anywhere. During **Super Sale**, the full daily dose can be obtained for as little as **\$1.12** a day!

Each Bottle Provides a 5-Week Supply!

(Turn this page to review the entire Life Extension Mix™ formula.)



LIFE EXTENSION MIX™
315 TABLETS • ITEM #02055

	RETAIL PRICE EACH BOTTLE	SUPER SALE EACH BOTTLE
1 BOTTLE	\$80.00	\$54.00
4 BOTTLES		\$46.80
10 BOTTLES		\$39.38

The regular tablet version of Life Extension Mix™ used by most customers contains **70 mg** of niacin and **1 mg** of copper. There is an extra-niacin version that provides **336 mg** of niacin at no additional charge (02057). Niacin is used to help maintain healthy cholesterol, triglyceride, and fibrinogen levels in those within normal ranges. Some people find the niacin “flush” unpleasant. Those with underlying liver disease sometimes cannot tolerate any niacin. The suggested dose is 9 tablets per day in divided doses with meals.



LIFE EXTENSION MIX™
490 CAPSULES • ITEM #02054

	RETAIL PRICE EACH BOTTLE	SUPER SALE EACH BOTTLE
1 BOTTLE	\$90.00	\$60.75
4 BOTTLES		\$52.20
10 BOTTLES		\$42.75

The encapsulated version of Life Extension Mix™ used by many customers provides **1 mg** of copper. These capsules are also available without copper (02064). The suggested dosage is 14 capsules per day in divided doses with meals. Capsules are easier to swallow for some people than tablets.



LIFE EXTENSION MIX™
14.81 OZ POWDER • ITEM #02056

	RETAIL PRICE EACH BOTTLE	SUPER SALE EACH BOTTLE
1 BOTTLE	\$80.00	\$54.00
4 BOTTLES		\$46.80
10 BOTTLES		\$39.38

The powder version of Life Extension Mix™ contains **1 mg** of copper. This powder version is also available without copper (02066). The suggested dose is three scoops per day in divided doses with meals. Because there are so many different ingredients, the powder can be difficult for some people to easily mix. Some people use a blender to combine the Life Extension Mix™ powder with whey protein and other powdered supplements.

To order your supply of LIFE EXTENSION MIX™, call 1-800-544-4440 or visit www.LifeExtension.com

References 1. *Stroke*. 2004 Sep;35(9):2014-9. 2. *Mutat Res*. 1999 Jul 16;428(1-2):329-38. 3. *J Am Diet Assoc*. 1996 Oct;96(10):1027-39.

Contains soybeans.

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.

NEW LOWER PRICES!

UPGRADED LIFE EXTENSION MIX™

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

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-1b**. 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.

Bilberry extracts have antioxidative properties that not only are **neuroprotective**, but they also help suppress photooxidative processes and have been shown to improve microcapillary circulation.

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

Pterostilbene is a compound naturally found in blueberries and grapes that has been shown to have beneficial, anti-aging effects on gene expression and to promote healthy cognitive function.

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

Unlike folic acid, **5-MTHF**—which is **more bioavailable**—is able to cross the blood-brain barrier. This is especially important for people with cognitive difficulties to enhance the synthesis of acetylcholine in the brain, the neurotransmitter associated with memory. It also better facilitates maintenance of healthy homocysteine levels.



9 tablets, 14 capsules, or three scoops of powder provide:

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 (<i>Aristotelia chilensis</i>) 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)	200 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 (<i>Prunus cerasus</i>) proanthocyanidin extract	85 mg
Delphinidins (from Delphinol® Maqui berry [<i>Aristotelia chilensis</i>] extract)	2 mg

Water-Soluble Vitamins and Enzymatic Activators

Vitamin C (ascorbic acid, calcium, magnesium & niacinamide ascorbates, ascorbyl palmitate, acerola extract)	2,000 mg
Folate (as L-5- methyltetrahydrofolate calcium salt)	400 mcg
Biotin	3,000 mcg
Trimethylglycine (TMG)	100 mg
Vitamin B1 (thiamine HCl)	125 mg
Vitamin B2 (riboflavin, riboflavin-5-phosphate) supplying: riboflavin 5'-phosphate	50 mg 2 mg
Vitamin B3 (niacinamide, niacin, niacinamide ascorbate) supplying: vitamin b3 (niacin)	190 mg 70 mg
Vitamin B5 (D-calcium pantothenate) supplying: pantethine	600 mg 5 mg
Vitamin B6 (as pyridoxal 5'-phosphate, pyridoxine HCl) supplying: pyridoxal 5'-phosphate	105 mg 100 mg
Vitamin B12 (methylcobalamin)	600 mcg
Nicotinamide Riboside (NIAGEN®)	2 mg

NEW LOWER PRICES!

THE MOST COMPLETE MULTIVITAMIN AVAILABLE TODAY

Life Extension Mix™ provides a remarkably broad array of **fruit** and **vegetable extracts**.¹⁻³

Packed into this blend are extracts of fruits ranging from grape and maqui to bilberry and tart cherry. Its *standardized* vegetable extracts range from olive to broccoli and artichoke. All with known health benefits throughout the body.

Rounding out **Life Extension Mix™** is its extensive list of **water** and **fat soluble vitamins, minerals, amino acids**. Life Extension Mix provides *enzymatically-active* forms of B-vitamins like **pyridoxal-5-phosphate** that provide immediate anti-glycation benefits.

Life Extension Mix™ also contains **5-methyltetrahydrofolate (5-MTHF)**, the active form of folate that is **more bioavailable** than **folic acid**. This greater bioavailability is especially important in people who have a genetic deficiency since it requires no conversion to become metabolically active in the body.

Life Extension Mix™ is the most *comprehensive*, high-potency daily multivitamin anywhere. During **Super Sale**, the full daily dose can be obtained for as little as **\$1.12** a day!

Fat-Soluble Vitamins

Vitamin A (as beta-carotene and acetate)	5,000 IU
Vitamin D3 (cholecalciferol)	2,000 IU
Vitamin E (natural D-alpha tocopheryl succinate and D-alpha tocopherol)	100 IU
Natural mixed tocopherols (providing gamma, delta, alpha, and beta tocopherols)	60 mg

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, OptiZinc® as zinc monomethionine)	35 mg
Boron (Albion® bororganic glycine)	3 mg
Copper (as copper bisglycinate chelate TRAACS®)	1 mg
Chromium as Crominex® 3+ chromium stabilized with Capros® and PrimaVie® Shilajit)	500 mcg
Potassium (as potassium chloride)	35 mg
Molybdenum (as molybdenum glycinate chelate)	125 mcg
Manganese (as manganese gluconate, citrate)	1 mg
Iodine (potassium iodide)	150 mcg
Magnesium (as magnesium oxide, arginate, citrate, taurinate, glycinate, ascorbate)	400 mg

Cholinergic Complex

Choline (from bitartrate)	120 mg
Phosphatidylcholine (from soy)	150 mg
Inositol	250 mg

Fatty Acid Nutrition

Medium-chain triglycerides	80 mg
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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 often 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.

A healthy type of dietary fat, **medium-chain triglycerides** are easily absorbed intact and transported directly to the liver, where they are immediately used for energy.

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References

1. Stroke. 2004 Sep;35(9):2014-9.
2. Mutat Res. 1999 Jul 16;428(1-2):329-38.
3. J Am Diet Assoc. 1996 Oct;96(10):1027-39.

Contains soybeans.

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



Do You Suffer From Suboptimal THYROID Function?

Do you regularly experience any of the following symptoms?

- Unexplained fatigue
- Depression or anxiety
- Dry skin
- Feeling cold
- Brain fog
- Unexplained weight gain
- Low libido

These vague but troubling symptoms are often difficult to diagnose and are usually dismissed by physicians as “just getting older.” While this collection of symptoms affects women more than men, plenty of men experience this same feeling of being “run down” and “not themselves.”

These symptoms may be the warning signs of suboptimal thyroid function, a condition sometimes referred to as **subclinical hypothyroidism**.^{1,2}

Your doctor may have checked your thyroid using standard blood tests and declared you in the “normal” range. As you’ll learn in this article, too many people with suboptimal thyroid function are overlooked, and live with uncomfortable symptoms along with increased risks of common disorders.



Magnitude of Thyroid Deficit

More than 27 million Americans suffer from some form of thyroid condition, and nearly half of these, or about 13 million, remain undiagnosed.³

As a result, they agonize in silence with no apparent treatment for their underlying disorder. With age, the risk of having low thyroid function increases, especially in the elderly.^{3,4}

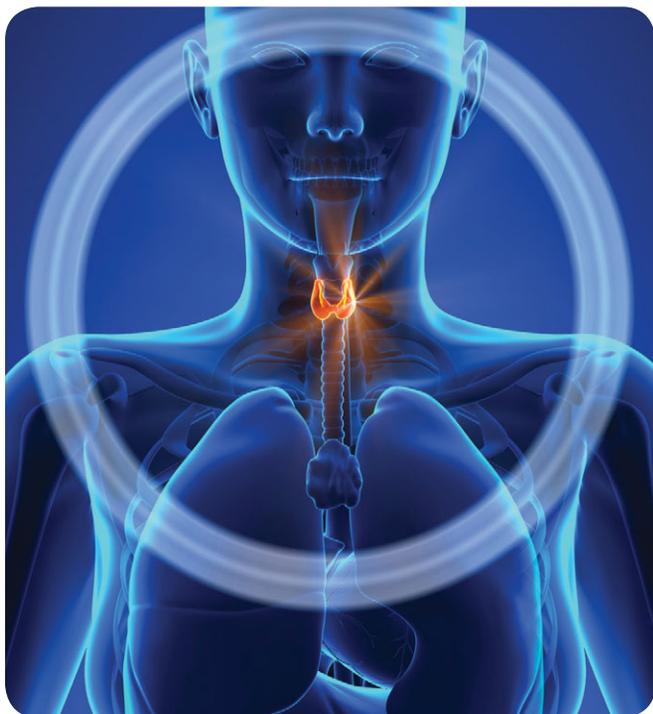
Mainstream medicine has largely been at a loss to recognize suboptimal thyroid function. Fortunately, several bioactive nutrients have been identified that address the main causes of suboptimal thyroid function.

Why Is the Thyroid Important?

The **thyroid gland** is part of the endocrine system that secretes hormones to regulate bodily functions such as burning fat for energy and maintaining proper blood lipid levels.

Daily stress, age, and poor diet can interfere with normal endocrine functioning. The thyroid hormones **T3** and **T4** play a major role in metabolism and energy regulation. Like all aspects of biology, balance of **T3** and **T4** hormones is essential.

When the thyroid is sluggish, production of thyroid hormones slows down, resulting in diminished metabolic activity. Classic symptoms of **suboptimal thyroid function** include unexplained fatigue, depression, weight gain, and feeling cold at room temperature.



Suboptimal thyroid function is often overlooked by mainstream physicians. This is because the “normal” range for levels of **thyroid stimulating hormone (TSH)** is very broad. As a result, it is easy to overlook a thyroid gland problem. If someone falls into this “normal” range, doctors are hesitant to consider a thyroid deficit despite the outward symptoms.

When doctors test **thyroid stimulating hormone** levels, a score above or towards the high end of “normal” indicates a deficit of thyroid hormone levels.

The reason that a high **TSH** blood level indicates low thyroid status is that when your pituitary gland senses a thyroid hormone deficiency, it secretes lots of TSH (thyroid stimulating hormone) in attempt to restore normal thyroid hormone balance. Your thyroid gland, however, may not be responding to the TSH.

Thus, someone whose TSH levels are at the higher end of the normal range and with T4 and T3 levels in the low-normal range would be told by most doctors they do not have a thyroid problem, when in fact they may be suffering *suboptimal thyroid dysfunction*.

The Dangers of Suboptimal Thyroid Function

Most of the signs and symptoms of suboptimal thyroid function are so common and often so vague that mainstream physicians are likely to write them off as simply “normal aging,” or mild anxiety and depression.⁵

That’s a potentially deadly mistake. Studies show that suboptimal thyroid function can be an early stage of progression towards full-blown hypothyroidism.¹ Research indicates measurements of **TSH** above **2.0 $\mu\text{IU/mL}$** increase the probability of developing hypothyroidism.⁶ And both hypothyroidism and suboptimal thyroid function are linked to many preventable age-related health problems.

Please understand that normal **TSH** blood levels are considered to be around **0.45-4.5 $\mu\text{IU/mL}$** , which is a very wide (**10-fold**) range. Studies show that people with elevated TSH levels (higher than **4.0 $\mu\text{IU/mL}$**) are at a higher risk of **coronary heart disease** than age-matched controls.⁷ Such patients also display other risk factors that include higher levels of triglycerides, “bad” LDL and VLDL cholesterol, and lower levels and protective function of HDL (“good”) cholesterol.^{1,8-10}

Those with suboptimal thyroid function would likely go unnoticed by conventional physicians unless their TSH reading was over **4.5**. Life Extension® recommends optimal TSH levels should be between **1.0-2.0 $\mu\text{IU/mL}$** . There is substantial evidence of a connection between suboptimal thyroid function and metabolic syndrome, insulin resistance, and chronic kidney disease.¹¹



What You Need to Know

Battle Suboptimal Thyroid Function

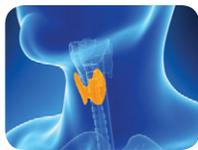
The connection between thyroid function and these conditions is logical: The thyroid gland governs metabolic rate and these conditions reflect reduced metabolism. This leads directly to obesity, as shown by studies linking increased body mass index (BMI) and waist circumference with elevated thyroid stimulating hormone (TSH).¹²

Once body fat begins to increase, metabolic syndrome is not far behind. In fact, four of the five metabolic syndrome components (increased waist circumference, elevated triglycerides, low HDL, and elevated glucose) have been associated with low-normal thyroid function, especially free T4 levels.¹³ Insulin resistance is a reflection of decreased transport of blood sugar into cells under the influence of insulin. Studies show that suboptimal thyroid function reduces cell membrane levels of the specific molecular glucose transporter that cells use to move that glucose inside.¹⁴

Chronic kidney disease arises when flow of blood through the kidneys becomes reduced enough to lower the amount of waste being filtered out and it is known to be associated with thyroid function.^{15,16} In a large population-based study of people in Norway with “normal” TSH levels, the higher the TSH (indicating lower thyroid function), the lower the kidney’s normal filtration rate.¹⁶ Those with TSH levels in the highest one-third of values were at a **31%** higher risk for advanced chronic kidney disease, compared with those in the lowest one-third.¹⁶

- Aging adults often suffer from a variety of vague complaints, such as fatigue, inexplicable weight gain, feeling cold, depression, and dry skin.
- A common explanation for such complaints is suboptimal thyroid function.
- Suboptimal thyroid function has three major causes: insufficient production of the important thyroid hormones T3 and T4, inadequate conversion of T4 into T3, and overproduction of reverse T3 (rT3), which blocks thyroid hormone receptors and degrades the natural effects of T3.
- All of these deficits can be addressed using natural approaches.
- Ashwagandha extract has been shown to enhance production of T3 and T4 in the thyroid.
- Guggul helps augment T4 to T3 conversion, boosting levels of the more active T3 hormone.
- Fermented Korean ginseng helps reduce concentrations of inactive, inhibitory rT3.
- These triple-acting ingredients are further supported by the addition of iodine and tyrosine, both essential parts of the final thyroid hormone molecule.

Thyroid Hormone Drugs



Those with persistently low levels of **T3** and **T4** can ask their doctor for a prescription thyroid hormone drug such as **Armour® Thyroid**, **Nature-throid®**, or **Westhroid™**. These prescription medications contain desiccated porcine thyroid gland.

Natural thyroid extracts have been used since 1892 and were approved by the Food and Drug Administration in 1939. They have the advantage of containing both **T4** and **T3** compared to the commonly used **Synthroid®** medication which is **T4** only. Those with problems converting **T4** to more metabolically active **T3** are less likely to benefit from a **T4**-only drug like Synthroid.

A starting dose is often **30 mg Armour® Thyroid** (about a half grain), with increments of **15 mg** every two to three weeks. However, it is important to dose it according to both lab work and symptoms discussed with your doctor. Thyroid hormone should never be dosed purely on lab numbers.

Major depression and bipolar disorder are other debilitating conditions that may be worsened by the presence of suboptimal thyroid function.¹⁷⁻¹⁹ One recent study found that women with the highest TSH levels (a sign that the thyroid is not keeping up) had an almost **124%** increased risk for major depression compared with those having the lowest levels.¹⁸

Making matters worse, studies have shown that people with major depression who *also* have suboptimal thyroid function are less likely to respond positively to antidepressant medications and are more likely to have anxiety in addition to depression.^{2,17} In a recent meta-analysis (a large study of data from numerous smaller studies), roughly **50%** of patients with difficult-to-treat depression had evidence of suboptimal thyroid function, while among patients who responded well to treatment, the prevalence was only **8% to 17%**.²

Women are not only more likely to have suboptimal thyroid function,²⁰ but also take the brunt of some of its other health threats, including amenorrhea (loss of menstrual periods)²¹ and bone fractures.²²



Naturally Boost Thyroid Production

There are three main underlying causes of suboptimal thyroid function:

- Insufficient production of the thyroid hormone **T4**
- Decreased conversion of **T4** to **T3** (**T3** is the most active form)
- Increased production of inhibitory **rT3** (reverse **T3**) that blocks normal thyroid function

A multifaceted problem requires treatment or prevention with multitargeted therapies.

Scientists have found that a combination of nutrients can address the three main contributors to suboptimal thyroid function with a *triple-action* approach. Preclinical and clinical research indicates:

1. **Ashwagandha** increases levels of the thyroid hormones **T3** and **T4**.²³⁻²⁶
2. **Guggul**, an extract of *Commiphora mukul*, enhances conversion of **T4** to **T3**.^{27,28}
3. An extract of **Korean ginseng** reduces concentrations of inactive, thyroid hormone-inhibiting **rT3**.²⁹

Ashwagandha Boosts T3 and T4

Ashwagandha, a shrub grown in India, has a long medicinal history as an “adaptogenic” herb. Adaptogens have been utilized by traditional medicine to restore balance to the body.³⁰

Modern scientific techniques are revealing some of ashwagandha’s benefits that specifically apply to improving thyroid function. Ashwagandha supports thyroid function, in part, because it contains *glyco-withanolide* bioactive compounds that reduce stress and cortisol levels. Along with reducing stress hormones, the root extract of ashwagandha has been shown in preclinical studies to *increase* serum concentrations of **T3** and **T4**.^{25,26}

In an early animal study, mice were given ashwagandha root extract orally and their thyroid hormone levels were monitored. This treatment increased T3 by **18%** and T4 by **111%**, after just 20 days.³¹

Human studies are supporting this finding. In one study, a subset of patients (10 of the 60 subjects) showed evidence of **suboptimal thyroid function** along with bipolar disorder at the baseline start of the study.³² The patients were treated with **500 mg** daily of **ashwagandha**. At the end of the two-month treatment period, all of the patients receiving ashwagandha saw an improvement of TSH. Their T4 levels also increased from baseline by up to **24%**.³²

In the placebo subjects not supplemented with ashwagandha, T4 levels dropped from baseline by as much as **23%**, showing a significant decline in thyroid function. One unsupplemented patient's TSH rose into the *abnormal* range, suggesting a worsening of thyroid function.

This study indicated that ashwagandha therapy can be a factor in improving the thyroid hormone T4 along with adjusting TSH levels.³²

Another mechanism by which ashwagandha supports and restores healthy thyroid function may be through its reduction of the stress hormone **cortisol**.

People with thyroid diseases in general have elevated rates of depression and anxiety and other stress-related disorders. Elevations of cortisol and stress increase **reverse T3** (rT3), which interferes with T3's beneficial activities.³³

As an **adaptogen**, ashwagandha is particularly effective at combatting stress because of its ability to restore balance in metabolism and body functions.³⁴ A human study of people with known chronic stress demonstrated that daily supplementation with **300 mg** of ashwagandha (high-concentration, full-spectrum root extract), significantly lowered both scores on a stress assessment scale and serum cortisol levels. As the study's authors concluded, "*The findings of this study suggest that a high-concentration full-spectrum ashwagandha root extract safely and effectively improves an individual's resistance towards stress and thereby improves self-assessed quality of life.*"³⁴

Thyroid Hormone Blood Testing



Life Extension® offers a new **Thyroid Panel** that includes TSH, total T4, free T3, free T4, and reverse T3.

These tests can identify the most common reasons for thyroid insufficiency. There are other thyroid tests available, but for most people, the new **Thyroid Panel with Reverse T3** will detect the underlying causes of thyroid deficiency.

The retail price of this new **Thyroid Panel with Reverse T3** is **\$160**. Until February 1, 2016, the price has been reduced to **\$94**.

Those with outward symptoms of a thyroid deficiency might consider initiating a nutrient-based approach first, then having their blood drawn for this new thyroid panel within 45 days. This would enable the individual and their physician to ascertain if additional thyroid support measures are needed.

While you might wait until **January 2016** to have your blood drawn for this **Thyroid Panel with Reverse T3** panel, it is good to have the requisition and list of local blood draw stations on hand so you can have this test done at your convenience. To order this test today at more than **40% off** normal pricing, call **1-800-208-3444**.



Guggul Extract Increases T3 Hormone

Guggul (*Commiphora mukul*) is a natural extract of the sap from the Indian myrrh tree.

Scientists are discovering that guggul helps fight against suboptimal thyroid function by enhancing the conversion of **T4** to **T3**, which is the more potent form of the thyroid hormone.^{27,28}

Traditionally, guggul has been used for treating low metabolism, which is frequently seen in suboptimal thyroid function.³⁵

Guggul contains *ketosteroid* molecules, which have shown strong thyroid-stimulating properties. One study found that when rats were administered **guggul**, it increased iodine uptake by the thyroid gland and increased activity of vital thyroid enzymes. This resulted in increased oxygen consumption, demonstrating a true thyroid-enhancing metabolic effect.³⁶

A preclinical study helped explain how guggul enhances thyroid function. In the study published in *Life Sciences*, researchers found that guggul supplementation increased the blood concentration of the potent **T3** thyroid hormone. This was accomplished by improving the conversion of lower-potency **T4** to the more active **T3** hormone.²⁸

In yet a third study, guggul was found to increase the activity of the specific enzyme (*5'-deiodinase*) that converts T4 to T3.^{27,37}

Every cell in the body depends upon thyroid hormones for regulation of their metabolism. The normal thyroid gland produces about **80%** T4 and about **20%** T3. Most T3 is formed in the peripheral tissues by the conversion of T4 to T3 by the *5'-deiodinase* enzyme. T3 possesses about **four times** the hormone "strength" as T4.^{38,39}



COMMIPHORA MUKUL

Korean Ginseng Reduces rT3 Production

Korean ginseng, also an *adaptogen* like **ashwagandha**, contains properties known as *ginsenosides* that have been shown to support thyroid function through a unique pathway.

With age, we accumulate an unhealthy amount of a deleterious hormone known as **reverse T3** (rT3).

Reverse T3 is the *inactive* form of thyroid hormone or the reverse of the healthy T3 hormone. The problem with excess **reverse T3** is that it will bind to normally functioning T3 receptors and inhibit active T3, thereby reducing vital metabolic activity.^{40,41}

Traditional Asian practitioners discovered that Korean ginseng is an effective way to stop this action of **reverse T3** from destroying the body's healthy **T3** activity.

This finding led to the development of a novel fermented ginseng preparation that provides not only higher amounts of *ginsenoside* compounds but also enhanced absorption. Studies in humans reveal that, compared with standard ginseng extracts, a specialized form of fermented ginseng extract (called GS15-4) is absorbed **15.5 times** as much in 24 hours, achieves a **27-fold** higher peak concentration in blood, and reaches that peak in roughly a quarter of the time (3.29 hours versus 12.04 hours).⁴²

A human study of 54 adults with congestive heart failure demonstrated just how much of an impact ginsenosides from ginseng had on thyroid hormone levels.²⁹ At the outset of the study, all of the subjects with heart failure had *reduced* levels of **T3** and **T4** along with higher levels of inhibitory rT3. Treatment with the ginseng extract (by injection) resulted in improved clinical outcomes in all patients. What the researchers found was a healthy *increase* of **T3** and **T4** levels, and a significant *reduction* in the inhibitory **rT3** levels.²⁹

Another study looking at the application of Korean ginseng was evaluated to assess its effects on a classic symptom of **suboptimal thyroid function**, cold hands and feet. This symptom is more prevalent amongst women than men and is often a result of an imbalance of the thyroid hormones. Eighty female patients were given **500 mg** of Korean ginseng powder in capsule form for eight weeks. Using various forms of measurement, the researchers noted that those women who ingested the Korean ginseng during the study all had "**significantly higher skin temperature of the hands and feet.**"⁴³

Korean ginseng has also been found in randomized controlled trials to improve a lack of sexual arousal in women and reduce fatigue—both of which are common symptoms of low thyroid function.^{44,46}



KOREAN GINSENG

Additional Thyroid Support

Along with the traditional herbs of ashwagandha, guggul, and Korean ginseng, four compounds have been found to further strengthen thyroid function, including the two building blocks of T4 and T3.

These four thyroid-supporting nutrients are:

- **Iodine**, an absolute requirement for normal thyroid hormone function (each molecule of T3 has three iodine atoms attached, while each T4 has four)
- **Tyrosine**, the amino acid from which T3 and T4 are derived by the enzymatic addition of iodine atoms^{47,48}
- **Vitamin B12**, which is often deficient in patients with thyroid disease^{49,50}
- **Vitamin A**, which has been shown to improve serum TSH levels, in part by raising serum T3 levels, helping to reverse the state of suboptimal thyroid function.⁵¹ Low thyroid function can impair the conversion of beta carotene into vitamin A.⁵²

Summary

Suboptimal thyroid function is a major hidden threat, particularly among women and older Americans. It may explain many of the vague and difficult-to-pin-down symptoms that plague us all as we grow older.

Ignoring or waving away symptoms of suboptimal thyroid function is a dangerous approach because the condition is strongly associated with many chronic disorders of aging, especially cardiovascular disease and metabolic syndrome.

It can be difficult to recognize **suboptimal** thyroid function, particularly when those who have the condition may have laboratory results that fall within the conventional “normal” range. It is not difficult, however, to take steps aimed at resolving it.

If you have symptoms that might be attributable to suboptimal thyroid function, such as fatigue, dry skin, feeling cold, unexplained weight gain, or depression, consider supplementing with fermented Korean ginseng extract, ashwagandha, and guggul, along with vitamins and nutrients that support thyroid function.

Korean ginseng extract, ashwagandha, and guggul target three important mechanisms that contribute to suboptimal thyroid function: They raise circulating levels of the thyroid hormones T4 and T3, boost activity of the enzyme responsible for converting T4 to active T3, and reduce thyroid-hormone-blocking reverse T3 (rT3).

If you suffer from any of the many complaints that can arise from suboptimal thyroid function, you may find surprising relief from using nutrients that boost thyroid function by directly reversing the three major processes that degrade thyroid function and leave you vulnerable. ●

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-30

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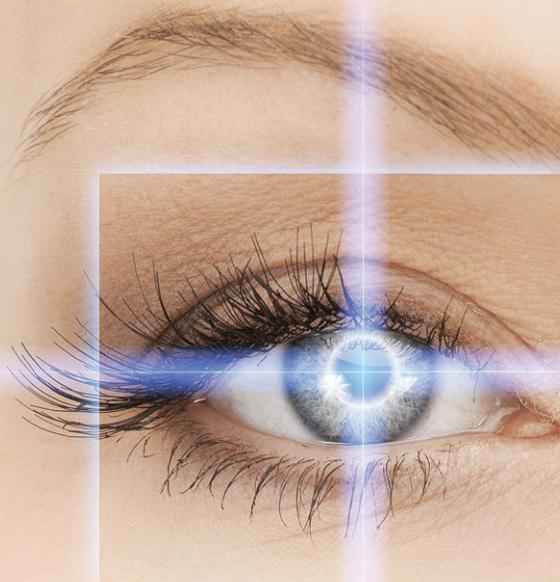
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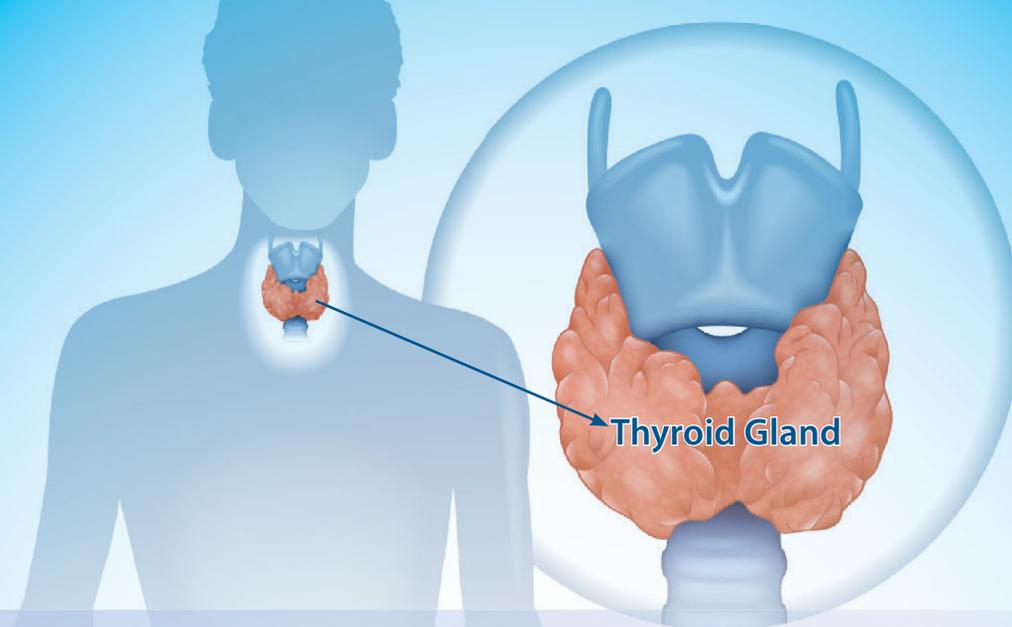
Suggested dose is one softgel daily with or without food. Each bottle of **MacuGuard** provides a **two-month** supply.

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- **Korean ginseng**, found in one study to reduce levels of the inactive, thyroid hormone-inhibiting **reverse T3** (rT3) and support healthy **T3** and **T4** levels.³

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The following *additional* nutrients are included in **Triple Action Thyroid** to further enhance benefits:

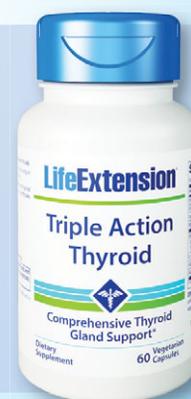
- **Iodine** and **tyrosine**, which are required for thyroid hormone production,⁴
- **Vitamin B12**, a sufficient level of which is needed for healthy thyroid activity,⁵
- **Vitamin A**, an important nutrient for supporting healthy serum **T3** (active) levels.^{6,7}

The suggested dose of **Triple Action Thyroid** is one capsule twice daily. If blood testing for thyroid function reveals less than optimal hormone levels, consult your physician for further evaluation.

Triple Action Thyroid

Item #02003 - 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$36	\$24.30
4 bottles		\$21.60 each



Due to the source of kelp, this product may contain fish and shellfish.

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<p>Super Omega-3 EPA/DHA with Sesame Lignans & Olive Extract • 120 softgels, Item #01982 A highly refined fish oil blend derived from pristine waters off the coast of Alaska is formulated to remain exceptionally fresh. This purified EPA/DHA from Alaskan Pollock, plus sesame lignans and potent olive (fruit plus leaves) extract, provide essential components of the Mediterranean diet clearly differentiating this omega-3 formula from commercial fish oil.</p>	\$32	\$18.90 (four-bottle purchase) \$15.35 (ten-bottle purchase)
<p>Two-Per-Day • 120 tablets, Item #02015 Compared to commercial multivitamin/multi-nutrient products like Centrum®, Two-Per-Day has up to 50 times the potency of specific nutrients, as well as unique ingredients. The newly formulated product now contains 5-MTHF, the biologically active form of folate, which is up to 7 times more bioavailable than folic acid. (Also available in capsule form at a slightly higher price.)</p>	\$20	\$12.15 (four-bottle purchase)
<p>Health Booster • 60 softgels, Item #01981 Just <u>one</u> softgel (formerly called Super Booster) contains a variety of valuable nutrients, including vitamins K1 and K2, blueberry extract, gamma tocopherol, sesame lignans, chlorophyllin, lycopene, and a carotenoid phospholipid blend that contains <i>trans</i>-zeaxanthin, <i>meso</i>-zeaxanthin, and lutein. Taken individually these ingredients would cost 2 to 3 times more!</p>	\$52	\$32.40 (four-bottle purchase)
<p>FlorAssist® Probiotic Liquid • 30 liquid vegetarian capsules, Item #01825 Dual-encapsulation technology delivers potent doses of the <u>six</u> most important probiotic strains.</p>	\$32	\$18.90 (four-bottle purchase)
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<p>Vitamin D3 • 5,000 IU, 60 softgels, Item #01713 High-potency vitamin D in a softgel to provide greater absorption into the bloodstream.</p>	\$10	\$5.85 (four-bottle purchase)
<p>Ultra Natural Prostate • 60 softgels, Item #01898 Comprehensive support for an aging prostate gland utilizing standardized lignans, plus boron and phospholipids for enhanced absorption.</p>	\$38	\$21.60 (ten-bottle purchase)
<p>MacuGuard® Ocular Support • 60 softgels, Item #01885 Offers triple eye protection with <i>meso</i>-zeaxanthin, lutein, and <i>trans</i>-zeaxanthin. This product is not needed by those already taking Health Booster, which contains these same ingredients.</p>	\$22	\$13.37 (four-bottle purchase)

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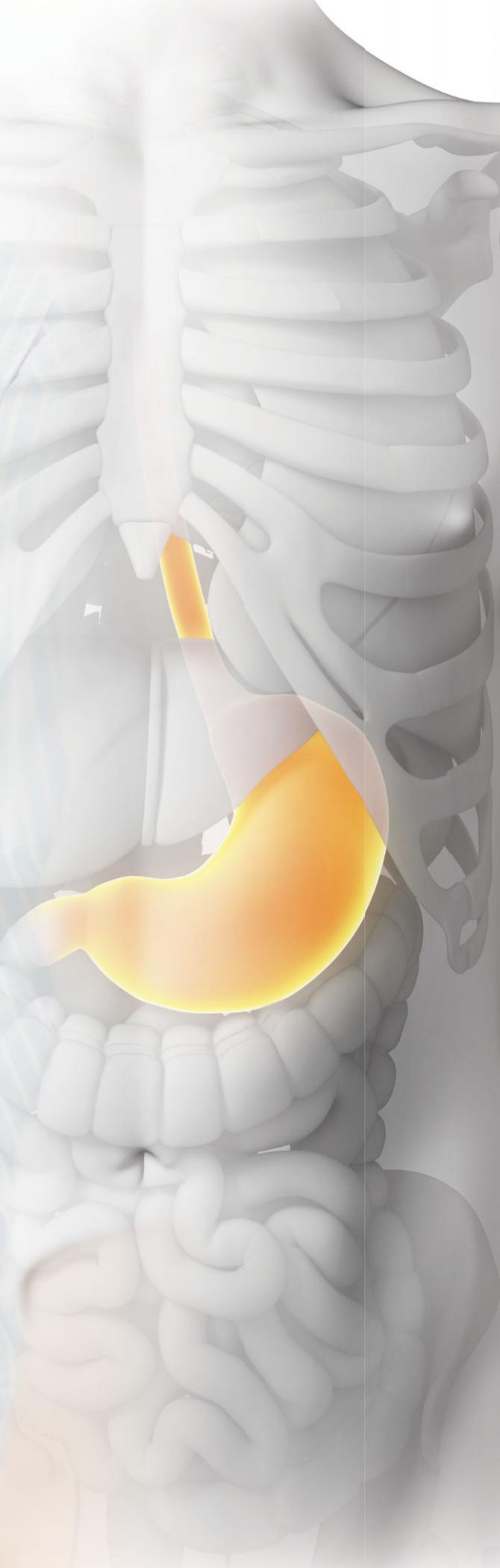
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SUPER SALE
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Enhanced Super Digestive Enzymes with Probiotics • 60 vegetarian capsules, Item #02022 Contains amylase, protease, lipase, cellulase, and lactase to break down protein, starch and short sugar chains, fat, cellulose, and lactose. It has the added benefit of the probiotic <i>Bacillus coagulans</i> , which creates a coating that resists digestion in the stomach, allowing it to fully colonize in the intestines.	\$28	\$16.20 (four-bottle purchase)
Immune Senescence Protection Formula™ • 60 vegetarian tablets, Item #02005 Standardized full-spectrum Reishi mushroom extract with Cistanche and Pu-Erh tea extracts to help restore youthful immune balance.	\$40	\$24.30 (four-bottle purchase)
Triple Action Thyroid • 60 vegetarian capsules, Item #02003 A combination of ashwagandha, guggul, and Korean ginseng extract work in synergy to combat many of the ailments arising from a poorly functioning, suboptimal thyroid.	\$36	\$21.60 (four-bottle purchase)
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ArthroMax® Advanced with UC-II® and AprèsFlex® • 60 capsules, Item #01618 Promotes joint health and may promote comfortable joint structure and function.	\$36	\$21.60 (four-bottle purchase)
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Relief from Common DIGESTIVE DISTRESS

Do you remember how easy it was in youth to consume a high-calorie meal and suffer no unpleasant aftereffects?

One reason we internally managed foods so easily back in those days were the massive amounts of **digestive juices** we produced that efficiently broke down foods for healthy absorption.

Contrast this to what many **adults** take after meals, such as over-the-counter drugs like Alka-Seltzer® and Pepto-Bismol® to relieve gas, bloating, cramping, and other digestive problems. These drugs can provide temporary relief, but they don't treat the underlying cause of the problem.

Over-the-counter drugs are a huge business.^{1,2} In the United States alone, people with digestive discomfort spend **\$9.5 billion** on over-the-counter stomach remedies, and studies show that people taking such medications commonly report not thinking that their problem was serious enough to seek medical attention.²⁻⁴

A national survey in 2013 demonstrated that **72%** of respondents experienced one or more symptoms such as diarrhea, gas, bloating, stomach pain, frequent bowel movements, unexplained weight loss, or nonspecific abdominal discomfort and **74%** of those surveyed reported living with their symptoms for more than six months.⁴

Unfortunately, over-the-counter drugs could be masking a more serious issue.

After-meal abdominal symptoms often represent poor digestion of complex foods, causing one to be unable to fully absorb nutrients needed for optimal health. This can lead to chronic low-level malnutrition and/or stomach distress after most meals.^{5,6}

A common cause of these widespread digestive problems is the age-related decline of active **enzymes** that help break down foods into absorbable nutrients.⁷⁻⁹

A second major cause of abdominal symptoms in older adults is the chronic imbalance of the trillions of beneficial organisms that populate our gastrointestinal (GI) tract. Such disturbances contribute to nutrient malabsorption, while also producing inflammation that can weaken the intestinal barrier and allow bacteria and toxins into the circulation where they may aggravate food allergies and sensitivities.¹⁰⁻¹³



Fortunately, studies show that it is possible to address both of these underlying causes of gastro-intestinal distresses. By properly supplementing with **digestive enzymes** and **probiotics**, healthy older adults can take meaningful steps to maintain good digestive health. The result can be better digestion, less abdominal stress, and greater retention of nutrients.

Why Digestive Enzymes Are so Important

In order for the food we eat to be absorbed into our bloodstream, the actions of powerful **enzymes** are required to break down the food in order to extract vital nutrients. Each of the three major food groups—**carbohydrates, proteins, and fats**—must be broken down by specific enzymes before being **absorbed** by cells in the digestive tract.

When the digestive tract is in good working order, food is almost completely broken down by the time it reaches the end of our small intestine, leaving few undigested food molecules to pass into the colon. The result is a well-nourished body that continuously renews itself, and a comfortable sensation following a meal.

With age, the production of normal digestive enzymes begins to fall off, leaving significant amounts of all three major food groups (fats, proteins, and carbohydrates) to pass undigested into the large intestine, or colon.^{8,9,14}

This can lead to bloating, gas, diarrhea, and cramping—and even worse, can contribute to the malnutrition that threatens older people as a result of lost appetite and changes in muscle and fat stores.^{15,16} That's why the proper complement of healthy enzymes is crucial not just for healthy digestion—but for good health in general.

Improving Digestive Comfort and Function

A natural solution to declining levels of digestive enzymes is to supplement with **digestive enzymes** that cover the major needs of the body to break down all classes of food, including starch, proteins, fats, cellulose, and milk.

For optimal digestion, it is important to include these major digestive enzymes:

- **Amylase** to break down starch and short sugar chains called *oligosaccharides*,
- **Protease** to help break down proteins,
- **Lipase** to break down fats,
- **Cellulase** to break down the indigestible polysaccharide in dietary cellulose, and
- **Lactase** to break down lactose (milk sugar).



What You Need to Know

Enzymes and Probiotics for Healthy Digestion

- Research indicates over **70%** of Americans report feeling discomfort, bloating, gas, cramps, or urgency to defecate following a meal.
- This problem is especially prevalent in older adults, whose natural production of digestive enzymes dwindles with age.
- Loss of normal balance of beneficial gastrointestinal microbes further exacerbates symptoms.
- Supplementation with digestive enzymes that break down starches, protein, fats, and fiber is a proven method to reduce symptoms and improve nutritional status.
- Supplementation with *B. coagulans*, a beneficial probiotic microbe, can further improve comfort and reduce symptoms by balancing your population of intestinal organisms.
- If you suffer from any degree of discomfort following what should be a pleasant and fulfilling meal, it's time to add digestive enzymes and sustainable probiotic bacteria to your regimen.

People suffering from pancreatic insufficiency as a result of cystic fibrosis, pancreatic surgery, or trauma have long used supplemental digestive enzymes.¹⁷ But researchers have recognized that the addition of digestive enzymes is beneficial to healthy individuals as well.

In various studies, each of these major enzymes has shown specific benefits in digesting food.

Animal studies have repeatedly demonstrated that when supplemental digestive enzymes are added to the normal food supply, they can significantly improve digestibility of dietary foods, improve nutrient absorption, reduce gas production, and, in at least one case, reduce food intake, as a result of improved nutritional status.^{5,18,19} Furthermore, in stressed or aged animals, a mix of pancreatic digestive enzymes improved muscle wasting in addition to the other benefits.⁵

Human studies are now revealing similarly impressive results for supplemental digestive enzymes. In a study of adults with chronic pancreatic insufficiency, in which the subjects were unable to fully digest and absorb fats and proteins, researchers tested two pancreatic enzyme replacement products. A supplement with **bromelain** proved significantly more effective at improving both protein and fat digestion and absorption.²⁰

Pancreatic **lipase** (the fat-digesting enzyme) has been routinely used for years in people with pancreatic insufficiency to assist with digestion.²¹ A study in healthy volunteers demonstrated that the use of this enzyme could be beneficial in others as well.

For the study, subjects ate **185 grams** (about **6 ounces**) of cookies containing 1,196 calories and **72 grams** (about **2.5 ounces**) of fat, along with capsules of **lipase** or a placebo.²² They were then followed for up to 17 hours. Compared to placebo patients, patients supplemented with **lipase** showed significant reductions in bloating over the entire period, with significant reductions in bloating, gas, and fullness later in the day.

Lactase, the enzyme that breaks down lactose, or “milk sugar,” is sharply reduced in adults from everywhere except Northern Europe, and both human and animal studies demonstrate that this lactase deficiency increases with advancing age.^{8,23} Deficiency of **lactase** produces a condition known as *lactose intolerance*, characterized by cramps, bloating, gas, and often diarrhea following consumption of milk products. Lactose intolerance is known to be a significant problem in the elderly, and can lead to insufficient calcium intake, resulting in greater risks of osteoporosis and subsequent fractures.^{9,24,25} Thus, it is especially important in older adults to be capable of comfortably consuming milk products to help avoid osteoporosis.

Studies show that supplementation with **lactase** produces a significant reduction in excretion of hydrogen in the breath (a marker of improved lactose digestion), while also significantly reducing symptoms of abdominal cramping, belching, flatulence, bloating, and diarrhea.²⁶

Consuming these specific digestive enzymes would provide comprehensive assistance to one’s ability to digest foods in a more youthful and tolerant fashion—and would also help relieve discomforts after eating, as well as improve your overall nutritional status.

Intestinal Microbes

In addition to having reduced levels of digestive enzymes, another cause of digestive malfunction and after-meal discomfort occurs when the normal microbial populations become imbalanced.²⁷

The body relies heavily on the teeming communities of bacteria that live in the large intestine, or colon. Like any community, this group of microbes, collectively known as the **intestinal microbiome**, functions best when its occupants are richly diverse and respect one another’s boundaries. If those properties are not present, symptoms of indigestion may arise.^{28,29}

When colonic bacteria move out of the colon and into the small intestine, a condition called **small intestinal bacterial overgrowth**, develops.³⁰ Small intestinal bacterial overgrowth is associated with carbohydrate malabsorption and may also result in intestinal inflammation. This inflammatory response can then cause the normally tight intestinal barrier to leak, permitting bacteria and toxins to enter the bloodstream, where they may contribute to symptoms of food allergy and food sensitivity.¹⁰⁻¹²





The Five Most Prevalent Digestive Enzymes



Each major food group has a specific type of enzyme responsible for its breakdown. Deficiency in any of these enzymes can lead to a wide range of common intestinal troubles.

There are five major digestive enzymes that need to be at healthy levels for the digestion of food without painful or embarrassing side effects. These include **amylase, protease, lipase, cellulase, and lactase.**

Carbohydrates and starches are digested by the enzyme **amylase**. A deficiency in amylases causes undigested carbohydrate molecules to pass on to the colon, where gut organisms break them down, literally fermenting them to produce carbon dioxide and water that lead to cramping, flatulence, and diarrhea.^{41,42,43}

Proteins are digested by the **protease** enzymes. A deficiency in proteases leaves protein molecules or fragments undigested. Again, these pass on to the colon, in this case giving rise to a host of unpleasant-smelling and potentially toxic molecules.⁴⁴⁻⁴⁷ Undigested protein in the colon has also been associated with colon cancer initiation, though the exact mechanisms are still under investigation.⁴⁸

Fats are digested by the **lipase** enzymes. A deficiency in lipases leaves long-chain fats undigested. Undigested fats cannot be absorbed anywhere in the body and are typically passed on through the GI tract to produce greasy, fatty stools, cramping, and even malnutrition when fat-soluble vitamins are lost.¹⁷

Though several different digestive system organs produce some digestive enzymes, the pancreas makes all three of these essential digestive enzymes.⁴⁹ Loss of pancreatic function is therefore a common cause of after-meal indigestion and other symptoms. Pancreatic insufficiency was long thought to be found only in patients with disorders of the pancreas itself, such as cystic fibrosis, pancreatitis, or pancreatic tumors. However, it is now recognized as being associated with aging.^{9,17,50,51} One recent study found pancreatic insufficiency in more than **7%** of a large group of patients with general abdominal pain and discomfort.³²

Cellulase is the enzyme that breaks down cellulose, the indigestible polysaccharide in dietary fiber.⁵² Fiber is increasingly recognized as vital for healthy digestion because, though humans cannot break it down, it feeds the beneficial organisms in our colons, which use it to produce beneficial short-chain fatty acids that nourish our colonic cells and help to prevent cancer.⁵³ But, precisely because we cannot digest fiber ourselves, it can produce symptoms of bloating, flatulence, diarrhea, and constipation when broken down by our intestinal tenants.⁵⁴

Lastly, **lactase** is the enzyme that breaks down milk sugar (lactose).⁵⁵ A deficiency in lactase can prevent the body from breaking down lactose, leading to lactose intolerance, which can lead to abdominal cramping, belching, flatulence, diarrhea, and bloating.⁵⁶

A related condition is *intestinal dysbiosis*, in which the natural balance of beneficial bacteria living in the gut becomes disturbed.³¹ This is a huge and growing area of medical research, as researchers learn that it does not take a true pathogen (disease-causing organism) to produce abdominal symptoms and increase the risk for a host of life-shortening disorders.

In fact, simply having the wrong mix of bacteria in your intestines can set the stage for obesity, cardiovascular disease, and many other chronic, age-associated conditions.^{32,33} Studies show that as many as **73%** of people with abdominal complaints have some form of dysbiosis.³²

In addition to causing GI discomfort and related symptoms, all of these problems can contribute to malnutrition, a serious and growing problem in older adults—one that exacerbates their frailty and vulnerability to falls, fractures, and infections.³⁴

Fortunately, supplementing with probiotic bacteria can help alleviate the digestive issues that can occur as a result of microbial imbalance.

Easing Abdominal Symptoms with Probiotic Bacteria

Beneficial bacteria are essential for maintaining proper balance among the trillions of organisms living in the intestines. Low growth of the “good guys” can lead to overgrowth and imbalance of organisms less directly beneficial (and some directly harmful) to the body’s health.

Studies show that probiotic organisms (which are cultures of living beneficial bacteria) can help reduce abdominal symptoms and promote healthy intestinal function by promoting their own and other beneficial organisms’ growth and suppressing that of less useful bacteria.^{35,36}

The MTCC 5856 strain of *Bacillus coagulans* (formerly known as *Lactobacillus sporogenes*) is especially beneficial because it is coated in a tough outer layer that resists digestion in the stomach and small intestine.^{35,37} This allows it to be delivered intact to the large intestine, where it can then “hatch” out to set up new colonies in a sustainable fashion.^{35,37,38}

It takes an estimated four hours from ingestion to germination in the intestine. However, over time, it is gradually excreted and needs to be replenished with fresh supplementation.^{36,37}

Once established, *B. coagulans* produces lactic acid, which is a useful chemical that helps suppress the growth of disease-causing bacteria and promotes its own growth.^{35,37,38} Lactic acid bacteria are commonly used as “starter cultures,” in fermented foods

such as yogurt, kimchi, sauerkraut, kefir, sourdough bread, pickles, and many other healthful foods.³⁵ Furthermore, production of lactic acid is the result of the presence of lactase, the digestive enzyme that breaks down lactose, and is missing in so many adults.^{37,39}

B. coagulans also produces *bacteriocins*, which are compounds that help maintain a healthy balance of bacteria by limiting the growth of less desirable bacteria.^{35,37}

Human Studies

The value of this resilient *B. coagulans* strain of bacteria has been shown in studies of people with gastrointestinal issues, such as chronic constipation, chronic diarrhea, and irritable bowel syndrome.

A study of people with chronic constipation showed that **70%** of subjects had improvement in abdominal distension and normalization of stools following supplementation with **300 to 750 million** spores of *B. coagulans* per day for up to 10 days.³⁷



A study of patients with acute or chronic diarrhea demonstrated, in a randomized fashion, that probiotic supplementation with either *B. coagulans* or another commonly used organism called *Bifidobacterium longum* produced good relief from symptoms.

Irritable bowel syndrome (IBS) is a common and difficult-to-treat condition that can cause diarrhea and constipation, along with significant abdominal discomfort, gas, and bloating. In a multi-center, randomized, double-blind controlled study of IBS patients, daily supplementation with tablets containing 2 billion spores of *B. coagulans* was found to significantly reduce symptom scores, abdominal discomfort scores, stool quality, and physicians' overall assessment scores.⁴⁰ Additionally, the patients receiving the probiotic bacteria showed improvement in bloating, vomiting, diarrhea, abdominal pain, and stool frequency, compared with control subjects.

Summary

The digestive tract changes with age. The amounts of digestive enzymes the body produces decline over time, leaving undigested food molecules free to pass into the colon where they ferment and produce noxious gas, bloating, cramping, and diarrhea.

Adding to this challenge, the body's normally helpful tenants, the microbes living in the colon, become disruptive and imbalanced, potentially invading the small intestine where they can produce inflammation and poor digestion.

In human studies, supplemental digestive enzymes have provided increased digestive comfort and reduction in common symptoms of indigestion. And supplementation with probiotic *B. coagulans* bacteria not only boosts the population of good bacteria, but also results in production of natural bacterial compounds that suppress less beneficial, or even overtly harmful, bacteria. These changes have been demonstrated to improve after-meal comfort while restoring the natural balance of organisms in the intestinal tract.

For those troubled by bloating, cramps, gas, loose stools, or other digestive symptoms following a normal meal, restoring normal enzymes and intestinal microbial population could help alleviate after-meal distress. ●

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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Revitalize Hair, Skin, and Nail Beauty from Within

The quickest way to betray age is through tired, unhealthy hair, skin, and nails.

Working from the inside out, orally ingested nutrients are demonstrating clearly visible outward benefits. Clinical studies reveal these nutrients promote the structural proteins of collagen and keratin that keep hair, skin, and nails looking vibrant.

Here are the nutrients contained in a novel rejuvenation formula:

- **Cynatine® HNS Plus:** This ingredient combination provides solubilized **keratin**, zinc, vitamins B3, B5, and B6, copper, and biotin—the raw materials needed for keratin formation for strong hair, skin, and nails. Clinical studies using **Cynatine®** showed an impressive **11.5% reduction** in the appearance of wrinkles and a marked **improvement** of almost **50%** in hair brightness and luster.^{1,2}
- **VERISOL® Bioactive Collagen Peptides®:** This patented bioavailable composition of bioactive **collagen** peptides supports the skin extracellular matrix by stimulating the formation of new collagen and elastin to promote the suppleness and elasticity of aging skin.³ Clinical studies on women demonstrated an average **20% reduction** in eye wrinkle volume after just eight weeks, an **18% increase** in elastin,³ and a **7% increase** in skin elasticity⁴—an effect even more pronounced in women over 50.⁴
- **Biotin:** Biotin is an essential co-factor in the synthesis of fat and **protein** molecules that are prominent in skin, hair, and nails.⁵ Studies demonstrate that biotin supplementation supports strength, hardness, and integrity of the nail.⁶
- **Silicon:** Silicon is required for the formation of the protein cross-links that hold **collagen** and **keratin** molecules in their unique, functional shapes.⁷

Hair, Skin & Nails Rejuvenation Formula with VERISOL®
Item #02002 • 90 tablets

	Retail Price	Super Sale Price
1 bottle	\$32	\$21.60
4 bottles		\$19.80 each

References

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To order **Hair, Skin & Nails Rejuvenation Formula with VERISOL®**, call **1-800-544-4440** or visit **www.LifeExtension.com**

MAGNESIUM BOOSTS BRAIN HEALTH

Profound shrinkage of **synaptic connections** between nerve cells is one of the major hallmarks associated with brain aging. **Magnesium** is a critical factor in controlling **synaptic density** in the brain.¹

An innovative form of magnesium called **Neuro-Mag®** has been shown to specifically target multiple areas of the aging brain. In fact, preclinical models show that the **magnesium-L-threonate** contained in **Neuro-Mag®** boosted levels of magnesium in spinal fluid by **15%** versus no increase from conventional magnesium.² This means that this **form** of **magnesium** is passing through the blood-brain barrier for assimilation into the **brain**.

Comprehensive Cognitive Benefits

Scientists continue to uncover **magnesium's** comprehensive benefits for cognitive function.^{1,3} Studies using **magnesium-L-threonate** show this unique form of magnesium maintains the quantity of **synaptic** connections between brain cells and inhibits the dysregulation of signaling pathways.¹

Neuro-Mag...Capsules Or Powder

The suggested daily dose of three **Neuro-Mag®** capsules provides **2,000 mg** of **Magnesium-L-Threonate**. While supplying a modest **144 mg** of elemental magnesium, its superior absorption into the bloodstream and nervous system make it a preferred choice for maturing individuals to supplement with.

This same brain-health supporting magnesium is also available in a powder called **Neuro-Mag® Magnesium-L-Threonate with Calcium and Vitamin D3**. In addition to its fresh lemon flavor, the one-scoop-per-day serving supplies the same amount of magnesium as the capsules, plus **500 mg** of highly soluble calcium and **1,000 IU** of vitamin D3.

References

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Non-GMO

Neuro-Mag® Magnesium-L-Threonate
Item #01603 • 90 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$40	\$27
4 bottles		\$24.30 each



Neuro-Mag® Magnesium-L-Threonate with Calcium and Vitamin D3 Powder
Item #01602 • 225 grams of powder

	Retail Price	Super Sale Price
1 jar	\$40	\$27
4 jars		\$24.30 each



To order **Neuro-Mag® Magnesium L-Threonate Capsules or Powder**
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.

OPTIMIZE DIGESTION

— and —

INTESTINAL BALANCE

Digestive enzymes are essential to the body's **absorption** and optimal utilization of food and all its nutrients.^{1,2}

Normal aging and related health issues can decrease production of digestive enzymes,^{3,4} resulting in a **bloated** feeling and other discomforts after eating a large meal.

Enhanced Super Digestive Enzymes provides specific **enzymes** required to support the natural reactions that break down food—demonstrated to optimize digestion and nutrient absorption.⁵⁻⁸ Here is the broad array of **enzymes** contained in this formula:

- **Protease** to help break down proteins,
- **Amylase** to break down starch and short sugar chains called oligosaccharides,
- **Lipase** to break down fats,
- **Cellulase** to break down the indigestible polysaccharide in dietary cellulose, and
- **Lactase** to break down lactose.

Enhanced Super Digestive Enzymes with Probiotics provides the same enzymes that are in **Enhanced Super Digestive Enzymes**—but with the added benefits of the **probiotic** *B. coagulans*.

This **probiotic** creates a natural protective shield that resists digestion in the stomach allowing it to fully colonize in the intestines.⁹ Probiotics such as *B. coagulans* support digestive health and suppress less beneficial bacteria to improve digestive comfort.⁹⁻¹⁰

To order **Enhanced Super Digestive Enzymes** or **Enhanced Super Digestive Enzymes with Probiotics**, call 1-800-544-4440 or visit www.LifeExtension.com



Enhanced Super Digestive Enzymes

Item #02021 • 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$22	\$14.85
4 bottles		\$13.50 each



Enhanced Super Digestive Enzymes with Probiotics

Item #02022 • 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$28	\$18.90
4 bottles		\$16.20 each



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Non GMO. Lactospore® is a registered trademark of Sabinsa Corp.

Promote Oral Health with Targeted Probiotic Blend

Regular brushing and flossing is often not enough to achieve optimal oral health. Since the mouth is the major gateway to the body, maintaining good oral hygiene is important for overall health.¹

Researchers have developed an innovative approach to achieving maximum oral health. The beneficial bacteria in **FLORASSIST® Oral Hygiene** helps inhibit harmful bacteria that develop in the mouth and can affect the health of your teeth and gums. **FLORASSIST® Oral Hygiene** complements any oral care program.

FLORASSIST® Oral Hygiene contains a unique blend of two powerful oral probiotics:

- The beneficial probiotic strain—*S. salivarius* BLIS M18™
- An additional healthy probiotic—*B. coagulans* GanedenBC³⁰®

FLORASSIST® Oral Hygiene provides healthy bacteria that colonize the mouth and inhibit the growth of problematic mouth bacteria.²⁻⁴ This helps create a healthy environment in the oral cavity.

Because **FLORASSIST® Oral Hygiene** comes in *lozenge* form, it quickly provides healthy, targeted probiotics to the oral cavity.

Dissolving one *lozenge* of **FLORASSIST® Oral Hygiene** in your mouth daily can maximize your oral health by optimizing oral pH, easing inflammation, and supporting healthy bacterial colonization throughout the mouth.⁴⁻⁶



FLORASSIST® Oral Hygiene

Item #02011 • 30 lozenges

	Retail Price	Super Sale Price
1 bottle	\$20	\$13.50
4 bottles		\$12.15 each

References

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Contains milk.

BLIS M18™ (*S. salivarius*) is the trademark of BLIS Technologies Limited.

GanedenBC³⁰® is a registered trademark of Ganeden Biotech, Inc.

To order **FLORASSIST® Oral Hygiene**, call 1-800-544-4440 or visit www.LifeExtension.com

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PROMOTE HEALTHY ARTERIAL BLOOD FLOW

As one ages, lipids in combination with inflammatory cells, cellular waste products, and calcium build up within the walls of the blood vessels to form **arterial plaque**.

If this plaque becomes unstable, it can rupture, potentially affect the vascular endothelium.

The extracts in **Arterial Protect** have been documented to support the body's ability to control plaque formation. This plaque can become unstable, potentially affecting the *vascular endothelium*.¹

Patented and clinically tested, **Arterial Protect** is a combination of **Pycnogenol**® French maritime pine bark extract and **Centellicum**® Gotu Kola leaf extract.

- **Pycnogenol**® has been demonstrated in controlled research to improve endothelial function and arterial blood flow.² It also significantly reduces oxidative stress. Additionally, Pycnogenol® is known to help modulate healthy inflammation and to help inhibit platelet aggregation.³

- **Gotu Kola** has been shown in placebo-controlled studies to result in enhanced stability of arterial plaque.^{4,5} Gotu Kola modulates production of collagen, which is found in the composition of the cap holding plaque in place.^{4,5} It also supports free radical defense mechanisms and helps promote healthy inflammation levels.

When human volunteers were supplemented with *both* Pycnogenol® and Gotu Kola—the two ingredients in **Arterial Protect**—progression of arterial plaque was substantially reduced, and this was associated with a reduction in oxidative stress.¹

For those seeking enhanced arterial protection, take just one vegetarian capsule daily of **Arterial Protect** to naturally stabilize endothelial plaque and promote healthy blood flow.

References

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To order **Arterial Protect**,
call **1-800-544-4440** or
visit **www.LifeExtension.com**



Arterial Protect

Item #02004 • 30 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$48	\$32.40
4 bottles		\$29.70 each

Non-GMO

Pycnogenol® and Centellicum® are registered trademarks of Horphag Research and the use of this product is protected by international patents.

THE MOST COMPLETE PROSTATE PROTECTION

Ultra Natural Prostate formula provides the latest scientifically validated botanical extracts shown to promote healthy prostate function.

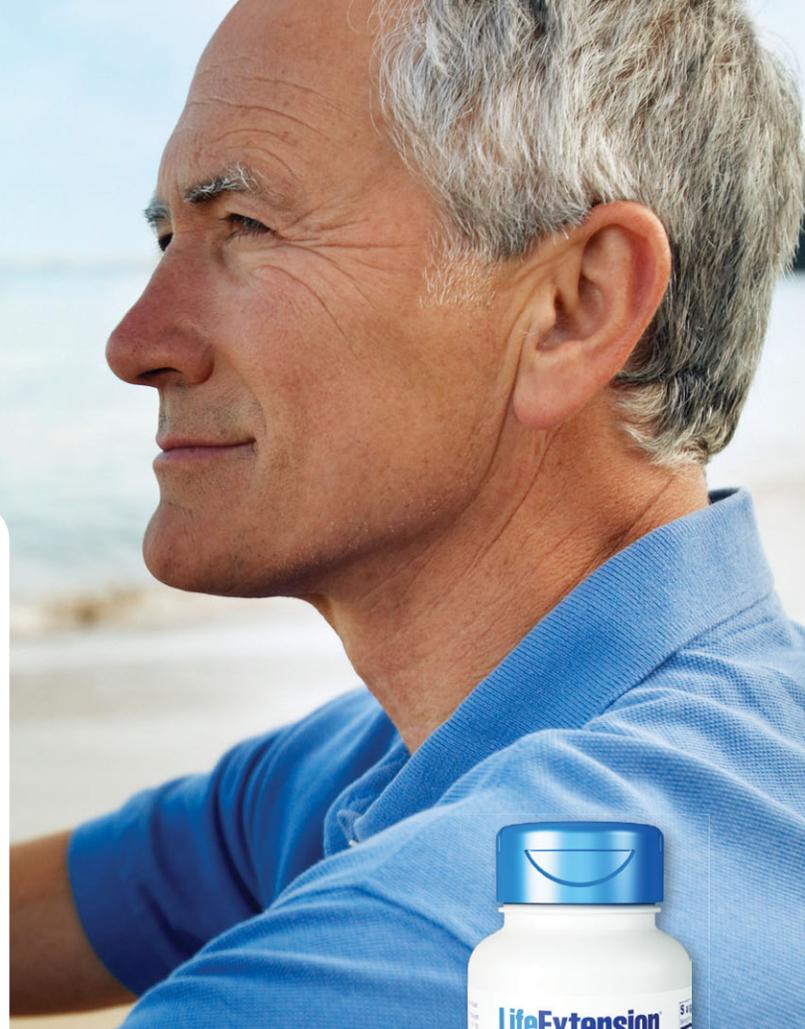
No other prostate protection formula provides such a broad array of nutrients to support the multiple factors involved in the health of the aging prostate gland. **Ultra Natural Prostate** contains:

- **Standardized lignans** provide support for prostate cells against excess estrogen levels.¹⁻³
- **AprèsFlex®** supports normal inhibition of 5-lipoxygenase or 5-LOX, an enzyme associated with undesirable cell division changes.^{4,5}
- **Stinging and Dwarf nettle root extracts** help support prostate cells against excess estrogen levels.^{6,7}
- **Saw Palmetto CO₂ extract** helps inhibit dihydrotestosterone (DHT) activity in the prostate, helps support normal urinary flow, and helps regulate inflammatory reactions in the prostate.⁸⁻¹¹
- **Pygeum extract** helps suppress prostaglandin production in the prostate and supports healthy urination patterns.^{12,13}
- **Pumpkin seed oil**, enhances the composition of free fatty acids and augments saw palmetto's benefits.¹⁴⁻¹⁶
- **Beta-sitosterol** enhances the protective effects of other botanical extracts and helps improve quality of life.¹⁷⁻¹⁹
- **Graminex® Flower Pollen Extract™**, has been shown to help relax the smooth muscles of the urethra and help regulate inflammatory reactions.²⁰⁻²²
- **Boron** has been shown to slow elevation of prostate-specific antigen (PSA).²³⁻²⁵
- **Lycopene** supports efficient cellular communication, helps maintain healthy DNA, regulates hormonal metabolism, and promotes healthy prostate size and structure.²⁶⁻³²
- **Phospholipids** enhance absorption of active compounds.

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Contains soybeans.



Ultra Natural Prostate

Item #01898 • 60 softgels

	Retail Price	Super Sale Price
1 bottle	\$38	\$25.65
4 bottles		\$23.63 each

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

Saw Palmetto CO₂ extract (fruit) [providing 272 mg total fatty acids]	320 mg
Graminex® Flower Pollen Extract™ (from rye)	252 mg
Stinging and Dwarf nettle extracts (root)	240 mg
Beta-Sitosterol	180 mg
Phospholipids	160 mg
Pygeum extract (bark)	100 mg
Pumpkin seed oil [providing 170 mg total fatty acids]	200 mg
AprèsFlex® Indian frankincense (<i>Boswellia serrata</i>) extract (gum resin) [providing 14 mg AKBA*]	70 mg
Proprietary Enterolactone Precursors Blend [HMRlignan™ Norway spruce (<i>Picea abies</i>) (knot wood) and Flax (seed) lignan extracts]	20.15 mg
Lycopene [from natural tomato extract (fruit)]	10 mg
Boron (as Alibion® bororganic glycine)	3 mg

* 3-O-acetyl-11-keto-β-boswellic acid

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

AMPK ACTIVATOR

A PARADIGM IN CONTROLLING AGING

Found in every cell,^{1,2} **AMPK** promotes **longevity factors** that have been shown to extend life span in numerous organisms.^{3,4} Increasing AMPK signaling “turns off” many damaging effects of aging, thus enabling cells to return to their youthful vitality.⁵

Importance Of AMPK

Studies show **increased** AMPK activity supports reduced fat storage,⁶ new mitochondria production,⁷ and the promotion of healthy blood glucose and lipids already within normal range.⁴

Gynostemma Pentaphyllum

An extract of the plant *Gynostemma pentaphyllum* promotes **AMPK** activation!⁸⁻¹⁰ In one of many studies showing a wide variety of benefits, researchers documented a 1-inch reduction in **abdominal circumference** in overweight individuals who took **450 mg** daily of *G. pentaphyllum* extract for 12 weeks.¹¹

Trans-Tiliroside

Trans-tiliroside, extracted from plants such as **rose hips**, boosts **AMPK** activation, but triggers different downstream metabolic benefits than *G. pentaphyllum*.¹²⁻¹⁴ Among its many benefits, a low equivalent dose of **56 mg** daily *trans*-tiliroside has been shown by researchers in preclinical studies to promote healthy blood glucose levels and body weight already within normal range.¹⁵

Activate Your AMPK!

Over **7,500** published studies document the role that **AMPK** plays in protecting critical cellular functions. Those seeking healthy aging should prioritize **re-activating** their AMPK cellular enzyme.

AMPK Activator provides nutrients shown to significantly **boost** AMPK activity. The suggested daily dosage of **AMPK Activator** is to take **two** capsules with the first meal of the day and **one** capsule with the second meal. Three capsules provide:

ActivAMP®	
Gynostemma pentaphyllum extract	450 mg
Rose hip extract	1,119 mg
Standardized to 5% <i>trans</i> -tiliroside	56 mg

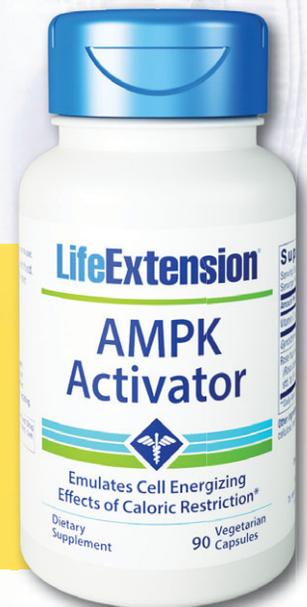
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Non-GMO

ActivAMP® is a registered trademark of Gencor.

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



AMPK Activator

Item #01907 • 90 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$48	\$32.40
4 bottles		\$29.70 each

To order **AMPK Activator**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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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 Customers:

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.

Blood Testing The Ultimate Information

MOST POPULAR PANELS

All of the blood test prices you see here are 25% off retail.

- COMPREHENSIVE PANELS**

○ MALE LIFE EXTENSION PANEL (LC322582) \$269
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**, **DHEA-S**, **Homocysteine**, **TSH for thyroid function**, **Free Testosterone**, **Estradiol**, **Total Testosterone**, **Vitamin D 25-hydroxy**, **PSA (prostate-specific antigen)**, **Hemoglobin A1c**
- FEMALE LIFE EXTENSION PANEL (LC322535) \$269**
Chemistry Profile includes glucose, cholesterol, LDL, HDL, triglycerides, liver and-kidney function tests PLUS 20 additional tests. **CBC** includes immune (white) cell count, red blood cell count and platelet count. Also includes: **C-Reactive Protein**, **DHEA-S**, **Homocysteine**, **TSH for thyroid function**, **Free Testosterone**, **Estradiol**, **Total Testosterone**, **Progesterone**, **Vitamin D 25-hydroxy**, **Hemoglobin A1c**
- WEIGHT LOSS PANEL-COMPREHENSIVE (LC100028) \$275**
CBC/Chemistry profile (see description at right), **DHEA-S**, free and total Testosterone, Estradiol, Progesterone, Cortisol, TSH, Free T3, Free T4, Reverse T3, Insulin, Hemoglobin A1c, Vitamin D 25-hydroxy, C-Reactive Protein (high sensitivity), and Ferritin.
- MALE ELITE PANEL* (LC100016) \$575**
Chem/CBC profile, Free and Total Testosterone, Total Estrogens, Estradiol, DHEA-S, Progesterone, Pregnenolone, DHT, FSH, LH, TSH, Free T3, Free T4, Reverse T3, Free and Total PSA, IGF-1, SHBG, Vitamin D 25-OH, hs-CRP, Ferritin, Homocysteine
- FEMALE ELITE PANEL* (LC100017) \$575**
Chem/CBC profile, Free and Total Testosterone, Total Estrogens, Estradiol, Estrone, DHEA-S, Progesterone, Pregnenolone, DHT, FSH, LH, TSH, Free T3, Free T4, Reverse T3, IGF-1, SHBG, Vitamin D 25-OH, hs-CRP, Ferritin, Homocysteine
- MALE HORMONE ADD-ON PANEL (LCADDM)* \$120**
Pregnenolone and Dihydrotestosterone (DHT)
 To provide an even more in-depth analysis of a man's hormone status, Life Extension has created this panel as an addition to the Male Life Extension Panel. This panel provides valuable information about a testosterone metabolite that can affect the prostate, and the mother hormone that acts as a precursor to all other hormones.
- FEMALE HORMONE ADD-ON PANEL (LCADDF)* \$125**
Pregnenolone and Total Estrogens
 To provide an even more in-depth analysis of a woman's hormone status, Life Extension has created this panel as an addition to the Female Life Extension Panel. This panel provides valuable information about total estrogen status, and the mother hormone that acts as a precursor to all other hormones.
- COMPREHENSIVE THYROID PANEL (LC100018) \$199**
TSH, T4, Free T4, Free T3, Reverse T3, TPO, ATA
- LIFE EXTENSION THYROID PANEL (LC304131) \$75**
TSH, T4, Free T3, Free T4.
- THYROID PANEL WITH REVERSE T3 (LC100044) \$94**
TSH, T4, Free T3, Free T4, Reverse T3
- MALE COMPREHENSIVE HORMONE PANEL* (LC100010) \$299**
CBC/Chemistry Profile (see description above right), **DHEA-S**, **Estradiol**, **DHT**, **PSA**, **Pregnenolone**, **Total and Free Testosterone**, **SHBG**, **TSH**, **Free T3**, **Free T4**, **Cortisol**.
- THE CBC/CHEMISTRY PROFILE (LC381822) \$35**
Note: This CBC/Chemistry Profile is included in many Life Extension panels. Please check panel descriptions.
CARDIOVASCULAR RISK PROFILE
Total Cholesterol Cholesterol/HDL Ratio
HDL Cholesterol Estimated CHD Risk
LDL Cholesterol Glucose
Triglycerides Iron

LIVER FUNCTION PANEL
AST (SGOT) Total Bilirubin
ALT (SGPT) Alkaline Phosphatase
LDH

KIDNEY FUNCTION PANEL
BUN BUN/Creatinine Ratio
Creatinine Uric Acid

BLOOD PROTEIN LEVELS
Total Protein Globulin
Albumin Albumin/Globulin Ratio

BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE
Red Blood Cell Count Monocytes
White Blood Cell Count Lymphocytes
Eosinophils Platelet Count
Basophils Hemoglobin
Polys (Absolute) Hematocrit
Lymphs (Absolute) MCV
Monocytes (Absolute) MCH
Eos (Absolute) MCHC
Baso (Absolute) Polynucleated Cells
RDW

BLOOD MINERAL PANEL
Calcium Sodium
Potassium Chloride
Phosphorus Iron
- FEMALE COMPREHENSIVE HORMONE PANEL* (LC100011) \$299**
CBC/Chemistry Profile (see description above right), **DHEA-S**, **Estradiol**, **Total Estrogens**, **Progesterone**, **Pregnenolone**, **Total and Free Testosterone**, **SHBG**, **TSH**, **Free T3**, **Free T4**, **Cortisol**.
- FOOD SAFE ALLERGY TEST** (LCM73001) \$198**
 This test measures delayed (IgG) food allergies for 95 common foods.
- STRESS MANAGEMENT PROFILE (LC100043) \$125**
Cortisol AM/PM, **DHEA-S**, **Glucose**, **Insulin**, **Progesterone**, **Free T3**, **Lipid Panel**
- HEALTHY AGING PANEL-COMPREHENSIVE* (LC100026) \$249**
CBC/Chemistry profile (see description above), **C-Reactive Protein** (high sensitivity), **Vitamin B12**, **Folate**, **Homocysteine**, **Vitamin D 25-hydroxy**, **Hemoglobin A1c**, **TSH**, **Free T3**, **Free T4**, **Ferritin**, **Urinalysis**, **Fibrinogen**, and **Insulin**.
- HEALTHY AGING PANEL-BASIC* (LC100025) \$149**
CBC/Chemistry profile (see description above), **C-Reactive Protein** (high sensitivity), **Vitamin B12**, **Folate**, **Vitamin D 25-hydroxy**, **Hemoglobin A1c**, **TSH**, **Ferritin**, and **Insulin**.
- VAP™ TEST* (LC804500) \$90**
 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.

Special
OFFER
until
2/1/16



Other Popular Tests and Panels

- NUTRIENT PANEL* (LC100024)** **\$349**
 Vitamin B12, Folate, Vitamin D 25-hydroxy, Vitamin C, Vitamin A, Selenium, Zinc, CoQ10, and RBC Magnesium.
- CHRONIC FATIGUE PROFILE (LC100005)** **\$375**
 CBC/Chemistry Profile (see description previous page), Epstein –Barr Virus antibodies (IgG and IgM), Cytomegalovirus Antibodies (IgG and IgM), Ferritin, Total and Free Testosterone, DHEA-S, Free T3, Free T4, Cortisol, C-Reactive Protein (high sensitivity), Vitamin B12, Folate, Insulin.
- ANEMIA PANEL* (LC100006)** **\$79**
 CBC/Chemistry Profile (see description previous page), Ferritin, Total Iron Binding Capacity (TIBC), Vitamin B12, Folate
- AUTOIMMUNE DISEASE SCREEN* (L100041)** **\$199**
 ANA screen, hs-CRP, TNF, Immunoglobulins, IgA, IgG, IgM
- DIABETES MANAGEMENT PROFILE – COMPREHENSIVE (LC100040)** **\$129**
 Hemoglobin A1C, Glucose, Insulin, Lipid Panel, Glycomark
- DIABETES MANAGEMENT PROFILE – BASIC (LC100039)** **\$39**
 Hemoglobin A1C, Glucose, Insulin
- ADVANCED CARDIAC BIOMARKERS**
- ADVANCED OXIDIZED LDL PANEL* (LC100035)** **\$285**
 This panel looks at vascular inflammatory biomarkers, beginning with lifestyle choices to the development of metabolic as well as cardiovascular disease and the formation of vulnerable plaque. The panel contains the following tests: F2-Isoprostanes, Myeloperoxidase, and Oxidized LDL.
- OXIDIZED LDL PANEL* (LC100034)** **\$175**
 This panel looks at vascular inflammatory biomarkers, beginning with the development of metabolic as well as cardiovascular disease and the formation of vulnerable plaque. The panel contains the following tests: Myeloperoxidase and Oxidized LDL.
- OXIDIZED LDL* (LC817472)** **\$75**
 OxLDL is a powerful initiator of inflammatory changes in the artery wall, which eventually lead to the formation of plaque.
- 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.
- 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
- DIHYDROTESTOSTERONE (DHT)* (LC500142)** **\$50**
 Measures serum concentrations of DHT.
- ESTRADIOL (LC004515)** **\$33**
 For men and women. Determines the proper amount in the body.
- INSULIN FASTING (LC004333)** **\$29.90**
 Can predict those at risk of diabetes, obesity, 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) (LC082016)** **\$33**
 This test is used to monitor SHBG levels which are under the positive control of estrogens and thyroid hormones, and suppressed by androgens.
- GENERAL 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.
- FERRITIN (LC004598)** **\$28**
 Ferritin levels reflect your body's iron stores and is also a biomarker for insulin resistance.
- VITAMIN B12/FOLATE* (LC000810)** **\$39.68**
 Measurements of B12 and Folate help evaluate your general health and nutritional status since the B vitamins are important for cardiac health as well as energy production.
- PSA (PROSTATE SPECIFIC ANTIGEN) (LC010322)** **\$31**
 Screening test for prostate disorders and possible cancer.



With Your Healthy Rewards, you earn **LE Dollars** back on every purchase you make — including blood tests!

See www.LifeExtension.com/Rewards for details.

Blood tests available in the continental United States only. Restrictions apply in NY, NJ, PA, RI, and MA. Not available in Maryland.

This is NOT a complete listing of LE blood test services. Call 1-800-208-3444 for additional information.

ORDER LIFE SAVING BLOOD TESTS FROM VIRTUALLY ANYWHERE IN THE US!

TERMS AND CONDITIONS

This blood test service is for informational purposes only and no specific medical advice will be provided. National Diagnostics, Inc., and Life Extension® contract with a physician who will order your test(s), but will not diagnose or treat you. Both the physician and the testing laboratory are independent contractors and neither National Diagnostics, Inc., nor Life Extension® will be liable for their acts or omissions. Always seek the advice of a trained health professional for medical advice, diagnosis, or treatment. When you purchase a blood test from Life Extension/National Diagnostics, Inc., you are doing so with the understanding that you are privately paying for these tests. There will be absolutely no billing to Medicare, Medicaid, or private insurance. I have read the above Terms and Conditions and understand and agree to them.

Signature _____

X _____

CUSTOMER NO.

Male Female

Name _____

Date of Birth (required) / /

Address _____

City _____

State _____

Zip _____

Phone _____

Credit Card No. _____

Expiration Date /

Mail your order form to:

LifeExtension®
National Diagnostics, Inc.

3600 West Commercial Boulevard
Fort Lauderdale, FL 33309

Phone your order to: 1-800-208-3444

Fax your order to: 1-866-728-1050

* This test requires samples to be shipped to the lab on dry ice for customers using a Blood Draw Kit and will incur an additional \$35 charge. If the customer is having blood drawn at a LabCorp facility, this extra charge does not apply.

** This test is packaged as a kit, requiring a finger stick performed at home.

Amino Acids

Arginine/L-Ornithine Capsules
 Arginine Ornithine Powder
 Branched Chain Amino Acids
 D,L-Phenylalanine Capsules
 L-Arginine Caps
 L-Carnitine
 L-Glutamine
 L-Glutamine Powder
 L-Lysine
 L-Taurine Powder
 L-Tyrosine Powder
 Super Carnosine
 Taurine

Blood Pressure & Vascular Support

Advanced Olive Leaf Vascular Support with Celery Seed Extract
 Arterial Protect
 Blood Pressure Monitor Arm Cuff
 Endothelial Defense™ with Full-Spectrum Pomegranate™ and CORDIART™
 Endothelial Defense™ with GliSODin®
 Full-Spectrum Pomegranate™
 Natural BP Management
 NitroVasc with CORDIART™
 Pomegranate Extract Capsules

Bone Health

Bone Restore
 Bone Restore with Vitamin K2
 Bone Strength Formula with KoAct®
 Bone-Up™
 Calcium Citrate with Vitamin D
 Dr. Strum's Intensive Bone Formula
 Strontium Caps

Brain Health

Acetyl-L-Carnitine
 Acetyl-L-Carnitine Arginate
 Blast
 Brain Shield® Gastrodin
 Cognitex® Basics
 Cognitex® with Brain Shield®
 Cognitex® with Pregnenolone & Brain Shield®
 Cognizin® CDP-Choline Caps
 DMAE Bitartrate (dimethylaminoethanol)
 Dopa-Mind™
 Ginkgo Biloba Certified Extract™
 Huperzine A
 Lecithin Granules
 Migra-Eeze™
 Migra-Mag with Brain Shield®
 Neuro-Mag® Magnesium L-Threonate
 Neuro-Mag® Magnesium L-Threonate with Calcium and Vitamin D3
 Optimized Ashwagandha Extract
 Prevagen™
 PS (Phosphatidylserine) Caps
 Super Ginkgo Extract 28/7
 Vinpocetine

Cholesterol Management

Advanced Lipid Control
 Cho-Less™
 CHOL-Support™
 Policosanol
 Red Yeast Rice
 Theaflavins Standardized Extract
 Vitamin B3 Niacin Capsules

Digestion Support

Artichoke Leaf Extract
 Carnosoothe with PicroProtect™
 Digest RC®
 Effervescent Vitamin C - Magnesium Crystals
 Enhanced Super Digestive Enzymes
 Enhanced Super Digestive Enzymes w/Probiotics
 Esophageal Guardian

Extraordinary Enzymes
 Fem Dophilus
 Ginger Force®
 Organic Golden Flax Seed
 Pancreatrin
 Regimint
 Tranquil Tract™
 TruFiber™
 WellBetX PGX plus Mulberry

Energy Management

Adrenal Energy Formula
 Asian Energy Boost
 D-Ribose Powder
 D-Ribose Tablets
 Forskolin
 Mitochondrial Basics with BioPQQ®
 Mitochondrial Energy Optimizer with BioPQQ®
 NAD+ Cell Regenerator™
 Peak ATP® with GlycoCam®
 PQQ Caps with BioPQQ®
 Rhodiola Extract
 RiboGen™ French Oak Wood Extract
 Triple Action Thyroid

Eye Health

Astaxanthin with Phospholipids
 Brite Eyes III
 Certified European Bilberry Extract
 Eye Pressure Support with Mirtogenol®
 MacuGuard® Ocular Support
 MacuGuard® Ocular Support with Astaxanthin
 Tear Support with MaquiBright®

Fish Oil & Omegas

Mega EPA/DHA
 Mega GLA with Sesame Lignans
 OMEGA FOUNDATIONS™ Super Omega-3 EPA/DHA with Sesame Lignans & Olive Extract
 OMEGA FOUNDATIONS™ Super Omega-3 Plus EPA/DHA with Sesame Lignans, Olive Extract, Krill & Astaxanthin
 Organic Golden Flax Seed
 Provinal® Purified Omega-7
 Vegetarian Sourced DHA

Food

Rich Rewards® Breakfast Blend
 Rich Rewards® Breakfast Blend Natural Mocha Flavor
 Rich Rewards® Breakfast Blend Natural Vanilla Flavor
 Rich Rewards® Breakfast Blend Whole Bean Coffee
 Rich Rewards® Decaf Roast
 Stevia Sweetener

Glucose Management

CinSulin® with InSea²® and Crominex® 3+
 CoffeeGenic® Green Coffee Extract
 Mega Benfotiamine
 Natural Glucose Absorption Control
 Tri Sugar Shield®

Heart Health

Aspirin (Enteric Coated)
 Cardio Peak™ with Standardized Hawthorn and Arjuna
 Fibrinogen Resist™ with Nattokinase
 Folate & Vitamin B12 Caps
 Optimized Carnitine with GlycoCam®
 Super Ubiquinol CoQ10
 Super Ubiquinol CoQ10 with BioPQQ®
 Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™
 Super-Absorbable CoQ10 Ubiquinone with α -Limonene
 TMG Powder
 TMG Liquid Capsules

Hormone Balance

DHEA (Dehydroepiandrosterone)
 Inner Power
 Pregnenolone
 Triple Action Cruciferous Vegetable Extract with Resveratrol
 Triple Action Cruciferous Vegetable Extract

Immune Support

AHCC®
 Echinacea Extract
 Enhanced Zinc Lozenges
 i26 Hyperimmune Egg
 Immune Modulator with Tinofend®
 Immune Protect with PARACTIN®
 Immune Senescence Protection Formula™
 Kinoko® Gold AHCC
 Kyolic® Garlic Formula 102
 Kyolic® Garlic Formula 105
 Kyolic® Reserve
 Lactoferrin (apolactoferrin) Caps
 NK Cell Activator™
 Optimized Garlic
 Optimized Quercetin
 Peony Immune
 ProBoost Thymic Protein A
 Reishi Extract Mushroom Complex
 Standardized Cistanche
 Ten Mushroom Formula®
 Zinc Lozenges

Inflammation Management

5-LOX Inhibitor with AprèsFlex®
 Advanced Bio-Curcumin® with Ginger & Turmerones
 Black Cumin Seed Oil with Bio-Curcumin®
 Black Cumin Seed Oil
 Boswellia
 Cytokine Suppress™ with EGCG
 Nervia®
 Serraflazyme
 Specially-Coated Bromelain
 Super Bio-Curcumin®
 Zylamend® Whole Body

Joint Support

Arthro-Immune Joint Support
 ArthroMax® Advanced with UC-II® & AprèsFlex®
 ArthroMax® with Theaflavins & AprèsFlex®
 Bio-Collagen with Patented UC-II®
 Fast-Acting Joint Formula
 Glucosamine/Chondroitin Capsules
 Krill Healthy Joint Formula
 MSM (Methylsulfonylmethane)

Kidney & Bladder Support

Cran-Max® Cranberry Whole Fruit Concentrate
 Optimized Cran-Max® with Ellirose™
 Water-Soluble Pumpkin Seed Extract

Liver Health & Detoxification

Anti-Alcohol Antioxidants with HepatoProtection Complex
 Calcium D-Glucarate
 Chlorella
 Chlorophyllin
 European Milk Thistle
 Glutathione, Cysteine & C
 HepatoPro
 Liver Efficiency Formula
 Mega L-Glutathione Capsules
 N-Acetyl-L-Cysteine
 PectaSol-C®
 Silymarin
 SODzyme® with GliSODin® & Wolfberry

Longevity & Wellness

AMPK Activator
 AppleWise Polyphenol Extract
 Berry Complete
 Blueberry Extract
 Blueberry Extract with Pomegranate

CR Mimetic Longevity Formula
 DNA Protection Formula
 Enhanced Berry Complete with Acai
 Essential Daily Nutrients
 GrapeSeed Extract with Resveratrol & Pterostilbene
 Mega Green Tea Extract (decaffeinated)
 Mega Green Tea Extract (lightly caffeinated)
 Optimized Fucoidan with Maritech® 926
 Optimized Resveratrol
 Optimized Resveratrol with Nicotinamide Riboside
 pTeroPure®
 Pycnogenol® French Maritime Pine Bark Extract
 Resveratrol with Pterostilbene
 RNA (Ribonucleic Acid)
 Super Alpha-Lipoic Acid
 Super R-Lipoic Acid

Men's Health

Mega Lycopene Extract
 PalmettoGuard® Saw Palmetto with Beta-Sitosterol
 PalmettoGuard® Saw Palmetto/Nettle Root Formula with Beta-Sitosterol
 Pomi-T®
 Prelox® Natural Sex for Men®
 Super MiraForte with Standardized Lignans
 Triple Strength ProstaPollen™
 Ultra Natural Prostate

Minerals

Boron
 Chromium Ultra
 Copper
 Iron Protein Plus
 Magnesium (Citrate)
 Magnesium Caps
 Only Trace Minerals
 Optimized Chromium with Crominex® 3+-Sea-Iodine™
 Se-Methyl L-Selenocysteine
 Super Selenium Complex
 Vanadyl Sulfate
 Zinc Caps

Miscellaneous

Advanced Iodine Complete
 Solarshield® Sunglasses
 X-R Shield

Mood & Stress Management

5 HTP
 L-Theanine
 Natural Stress Relief
 SAME (S-Adenosyl-Methionine)

Multivitamins

Children's Formula Life Extension Mix™
 Comprehensive Nutrient Packs ADVANCED
 Life Extension Mix™ Capsules without Copper
 Life Extension Mix™ Capsules
 Life Extension Mix™ Powder without Copper
 Life Extension Mix™ Powder
 Life Extension Mix™ Tablets with Extra Niacin
 Life Extension Mix™ Tablets without Copper
 Life Extension Mix™ Tablets
 Once-Daily Health Booster
 One-Per-Day Tablets
 Two-Per-Day Capsules
 Two-Per-Day Tablets

Personal Care

Anti-Aging Rejuvenating Scalp Serum
 Biosil
 Dr. Proctor's Advanced Hair Formula
 Dr. Proctor's Shampoo
 European Leg Solution Featuring Certified Diosmin 95
 Face Master Platinum
 Facial Toning System
 Hair, Skin & Nail Rejuvenation Formula w/VERISOL®

Hair Suppress Formula
 Life Extension Toothpaste
 Sinus Cleanser
 Venotone
 Xyliwhite Mouthwash

Pet Care

Cat Mix
 Dog Mix

Probiotics

Bifido GI Balance
 BroccoMax®
 FlorAssist® Heart Health Probiotic
 FlorAssist® Oral Hygiene
 FlorAssist® Probiotic
 FlorAssist® Throat Health
 Jarro-Dophilus EPS®
 Theralac® Probiotics
 TruFlora® Probiotics

Skin Care

Advanced Anti-Glycation Peptide Serum
 Advanced Lightening Cream
 Advanced Peptide Hand Therapy
 Advanced Triple Peptide Serum
 Advanced Under Eye Serum with Stem Cells
 Amber Self MicroDermAbrasion
 Anti-Aging Face Oil
 Anti-Aging Mask
 Anti-Aging Rejuvenating Face Cream
 Anti-Glycation Serum with Blueberry & Pomegranate Extracts
 Antioxidant Facial Mist
 Anti-Oxidant Rejuvenating Foot Cream
 Anti-Oxidant Rejuvenating Foot Scrub
 Anti-Oxidant Rejuvenating Hand Cream
 Anti-Redness & Adult Blemish Lotion
 Bioflavonoid Cream
 Broccoli Sprout Cream
 Collagen Boosting Peptide Serum
 Corrective Clearing Mask
 DNA Repair Cream
 Dual-Action MicroDermAbrasion
 Enhanced FernBlock® with Red Orange Complex
 Essential Plant Lipids Reparative Serum
 Face Rejuvenating Anti-Oxidant Cream
 Fine Line-Less
 Healing Formula
 Healing Mask
 Healing Vitamin K Cream
 Hyaluronic Facial Moisturizer
 Hyaluronic Oil-Free Facial Moisturizer
 Hydrating Anti-Oxidant Facial Mist
 Hydroderm
 Lifting & Tightening Complex
 Lycopene Cream
 Melatonin Cream
 Mild Facial Cleanser
 Multi Stem Cell Skin Tightening Complex
 Neck Rejuvenating Anti-Oxidant Cream
 Pigment Correcting Cream
 Rejuvenating Serum
 Rejuvenex® Body Lotion
 Rejuvenex® Factor Firming Serum
 Renewing Eye Cream
 Resveratrol Anti-Oxidant Serum
 Skin Lightening Serum
 Skin Restoring Phytoceramides with Lipowheat®
 Skin Stem Cell Serum
 Stem Cell Cream with Alpine Rose
 Tightening & Firming Neck Cream
 Ultra Lip Plumper
 Ultra Rejuvenex®
 Ultra RejuveNight®
 Ultra Wrinkle Relaxer
 Under Eye Refining Serum
 Under Eye Rescue Cream
 Vitamin C Serum
 Vitamin D Lotion
 Vitamin E-ssential Cream
 Youth Serum

Sleep

Bioactive Milk Peptides
 Enhanced Natural Sleep® with Melatonin
 Enhanced Natural Sleep® without Melatonin
 Fast-Acting Liquid Melatonin
 Glycine
 L-Tryptophan
 Melatonin
 Optimized Tryptophan Plus

Sports Performance

Creatine Capsules
 Creatine Whey Glutamine Powder (Vanilla Flavor)
 DMG (N, N-dimethylglycine)
 New Zealand Whey Protein Concentrate, (Natural Chocolate and Vanilla Flavor)
 Pure Plant Protein
 Tart Cherry Extract
 Whey Protein Isolate (Chocolate and Vanilla Flavor)

Vitamins

Ascorbyl Palmitate
 Benfotiamine with Thiamine
 Beta-Carotene
 Biotin
 Buffered Vitamin C Powder
 Complete B-Complex
 Daily C+
 Fast-C® with Dihydroquercetin
 Gamma E Tocopherol with Sesame Lignans
 Gamma E Tocopherol/Tocotrienols
 High Potency Optimized Folate
 Inositol Caps
 Liquid Emulsified Vitamin D3
 Liquid Vitamin D3
 Low-Dose Vitamin K2
 Methylcobalamin
 MK-7
 Natural Vitamin E
 No Flush Niacin
 Optimized Folate (L-Methylfolate)
 Pantothenic Acid (Vitamin B-5)
 Pyridoxal 5'-Phosphate Caps
 Super Absorbable Tocotrienols
 Super Ascorbate C Capsules
 Super Ascorbate C Powder
 Super K with Advanced K2 Complex
 Vitamin B12
 Vitamin B6
 Vitamin C with Dihydroquercetin
 Vitamin D3 with Sea-Iodine™
 Vitamin D3
 Vitamins D and K with Sea-Iodine™

Weight Management

7-Keto® DHEA Metabolite
 Advanced Anti-Adipocyte Formula
 Advanced Natural Appetite Suppress
 CalReduce Selective Fat Binder
 DHEA Complete
 Garcinia HCA
 HCAActive™ Garcinia Cambogia Extract
 Integra-Lean®
 Mediterranean Trim with Sinetrol™ XPur
 Optimized Irvingia with Phase 3™ Calorie Control Complex
 Optimized Saffron with Satiereal®
 Super Citrimax®
 Super CLA Blend with Guarana and Sesame Lignans
 Super CLA Blend with Sesame Lignans
 Waist-Line Control™

Women's Health

Advanced Natural Sex for Women® 50+
 Breast Health Formula
 Femmenessence MacaPause®
 Natural Estrogen without Soy Isoflavones
 Natural Estrogen
 ProgestaCare® for Women
 Super-Absorbable Soy Isoflavones
 Ultra Soy Extract

SUPER SALE SAVINGS ON ALL PRODUCTS

TO ORDER CALL: 1.954.766.8433 or 1.800.544.4440 ■ TO ORDER ONLINE VISIT: www.LifeExtension.com/SuperSale

ITEM No.	PRODUCT	YOUR PRICE				QTY	Total
		Retail Each \$	1 Unit Each	4 Unit Each	10 Unit Each		
A							
01524	ACETYL-L-CARNITINE • 500 mg, 100 veg. caps	34.00	25.50	22.50			
01525	ACETYL-L-CARNITINE ARGINATE • 100 veg. caps	59.00	44.25	38.24			
01628	ADRENAL ENERGY FORMULA • 60 veg. caps	24.00	18.00	16.50			
01630	ADRENAL ENERGY FORMULA • 120 veg. caps	46.00	34.50	31.50			
01828	ADVANCED LIPID CONTROL • 60 veg. caps	30.00	22.50	20.25			
00681	AHCC® • 500 mg, 30 caps	59.98	44.99				
29727	AHCC® (KINOKO® GOLD) • 500 mg, 60 veg. caps	74.95	52.47				
00457	ALPHA-LIPOIC ACID W/BIOTIN (Super) • 250 mg, 60 caps	37.00	27.75	24.00			
01907	AMPK ACTIVATOR • 90 veg. caps	48.00	36.00	33.00			
01440	ANTI-ALCOHOL ANTIOXIDANTS W/HEPATOPRO • 100 caps	26.00	19.50	17.25			
01509	ANTI-ADIPOCYTE FORMULA W/MERATRIM® & INTEGRA LEAN® (Advanced) • 60 veg. caps	39.00	29.25	27.00			
01625	APPLEWISE POLYPHENOL EXTRACT 600 mg, 30 veg. caps	21.00	15.75	14.25			
01039	ARGININE/ORNITHINE • 500/250, 100 caps	17.99	13.49				
00038	ARGININE/ORNITHINE POWDER • 150 grams	22.95	17.21	14.25			
01624	(L)-ARGININE CAPS • 700 mg, 200 veg. caps	26.50	19.88	17.44			
02004	ARTERIAL PROTECT • 30 veg. caps	48.00	36.00	33.00			
01617	ARTHROMAX® W/THEAFLAVINS & APRÈSFLEX® 120 veg. caps	44.00	33.00	30.00			
01618	ARTHROMAX® ADVANCED W/UC-II® & APRÈSFLEX® 60 caps	36.00	27.00	24.00			
01404	ARTHRO-IMMUNE JOINT SUPPORT • 60 veg. caps	32.00	24.00	21.00			
00919	ARTICHOKE LEAF EXTRACT • 500 mg, 180 veg. caps	30.00	22.50	21.00			
01533	ASCORBYL PALMITATE • 500 mg, 100 veg. caps	22.50	16.88	15.00			
00888	ASHWAGANDHA EXTRACT (Optimized) • 60 veg. caps	10.00	7.50	6.75			
01805	ASIAN ENERGY BOOST • 90 veg. caps	24.00	18.00	16.50			
01066	ASPIRIN • 81 mg, 300 enteric coated tablets	6.00	4.50	4.00			
01720	ASTAXANTHIN WITH PHOSPHOLIPIDS • 4 mg, 30 softgels	16.00	12.00	10.50			
B							
00920	BENFOTIAMINE W/ THIAMINE • 100 mg, 120 veg. caps	19.95	14.96	13.95			
00925	BENFOTIAMINE (Mega) • 250 mg, 120 veg. caps	30.00	22.50	20.25			
01206	BERRY COMPLETE • 30 veg. caps	21.00	15.75	14.00			
01496	BERRY COMPLETE W/ACAI (Enhanced) • 60 veg. caps	29.00	21.75	19.50			
00664	BETA-CAROTENE • 25,000 IU, 100 softgels	11.25	8.44				
01622	BIFIDO GI BALANCE • 60 veg. caps	20.00	15.00	13.50			
01073	BILBERRY EXTRACT • 100 mg, 100 veg. caps	42.00	31.50	28.50			
01512	BIOACTIVE MILK PEPTIDES • 30 caps	18.00	13.50	12.00			
01631	BIO-COLLAGEN W/PATENTED UC-II® • 40 mg, 60 small caps	36.00	27.00	24.00			
*01006	BIOSIL™ • 5 mg, 30 veg. caps	18.95	15.16				
*01007	BIOSIL™ • 1 fl oz	31.99	25.59				
00102	BIOTIN • 600 mcg, 100 caps	7.50	5.63	4.88			
01709	BLACK CUMIN SEED OIL • 60 softgels	16.00	12.00	10.50			
01710	BLACK CUMIN SEED OIL W/BIO-CURCUMIN® • 60 softgels	32.00	24.00	22.50			
01008	BLAST™ • 600 grams of powder	26.95	20.21				
70000	BLOOD PRESSURE MONITOR (ACCUFIT™) • med/lq cuff	79.99	49.99				
70004	BLOOD PRESSURE MONITOR • Digital wrist cuff	69.95	52.46				
SUBTOTAL OF COLUMN 1							

ITEM No.	PRODUCT	YOUR PRICE				QTY	Total
		Retail Each \$	1 Unit Each	4 Unit Each	10 Unit Each		
01214	BLUEBERRY EXTRACT • 60 veg. caps	22.50	16.88	15.00			
01438	BLUEBERRY EXTRACT W/ POMEGRANATE • 60 veg. caps	30.00	22.50	20.25			
01506	BONE FORMULA (DR. STRUM'S INTENSIVE) • 300 caps	56.00	42.00	37.50			
01726	BONE RESTORE • 120 caps	22.00	16.50	14.25			
01727	BONE RESTORE W/VITAMIN K2 • 120 caps	24.00	18.00	16.50			
01725	BONE STRENGTH FORMULA W/KOACT® • 120 caps	45.00	33.75	30.00			
00313	BONE-UP® • 240 caps	28.95	21.71	20.41			
01661	BORON • 3 mg, 100 veg. caps	5.95	4.46	3.94			
00202	BOSWELLA • 100 caps	38.00	28.50	22.50			
01802	BRAIN SHIELD® GASTRODIN • 300 mg, 60 veg. caps	33.00	24.75	22.50			
01253	BRANCHED CHAIN AMINO ACIDS • 90 caps	19.50	14.63	12.75			
01699	BREAST HEALTH FORMULA • 60 caps	34.00	25.50	22.50			
00893	BRITE EYES III • 2 vials, 5 ml each	34.00	25.50	24.00			
26576	BROCCO MAX® • 60 veg. caps	26.95	20.21				
01203	BROMELAIN (Specially-coated) 500 mg, 60 enteric coated tablets	21.00	15.75	14.25			
C							
01653	CALCIUM CITRATE W/VITAMIN D • 300 caps	24.00	18.00	15.94			
01651	CALCIUM D-GLUCARATE • 200 mg, 60 veg. caps	18.00	13.50	11.25			
*01823	CALREDUCE SELECTIVE FAT BINDER 120 mint chewable tablets	45.00	33.75	28.50			
01700	CARDIO PEAK™ W/STANDARDIZED HAWTHORN & ARJUNA 120 veg. caps	36.00	27.00	24.00			
00916	CARNITINE W/GLYCOCARN® (Optimized) • 60 veg. caps	36.00	27.00	24.00			
01532	L-CARNITINE • 500 mg, 30 veg. caps	15.00	11.25	9.90			
01258	CARNOOOTH W/PICROPROTECT™ • 60 veg. caps	29.95	22.46	20.25			
01829	CARNOSINE • 500 mg, 60 veg. caps	36.00	27.00	24.00			
01687	CARNOSINE (Super) • 500 mg, 90 veg. caps	66.00	49.50	45.00			
01830	CAT MIX • 100 grams powder	14.00	10.50	8.25			
01891	CHILDREN'S FORMULA LIFE EXTENSION MIX™ 100 chewable tablets	20.00	15.00	13.50			
00550	CHLORELLA • 500 mg, 200 tablets	23.50	17.63				
01571	CHLOROPHYLLIN • 100 mg, 100 veg. caps	24.00	18.00	15.00			
01359	CHO-LESS™ • 90 capsules	35.00	26.25				
01910	CHOL-SUPPORT™ • 60 liquid veg. caps	52.00	39.00	34.50			
01477	CHROMIUM ULTRA • 100 veg. caps	24.00	18.00	15.75			
01504	CHROMIUM W/CROMINEX® 3+ (Optimized) 500 mcg, 60 veg. caps	9.00	6.75	6.00			
01503	CINSULIN® W/INSEA2® AND CROMINEX® 3+- 90 veg. caps	38.00	28.50	25.50			
01906	CISTANCHE (Standardized) • 30 veg. caps	20.00	15.00	12.00			
01818	CITRIMAX® (Super)- 180 veg. caps	40.00	30.00	28.50			
00818	CLA BLEND W/SESAME LIGNANS (Super) 1,000 mg, 120 softgels	36.00	27.00	24.75	19.75		
00819	CLA BLEND W/GUARANA & SESAME (Super) 1,000 mg, 120 softgels	42.00	31.50	28.75			
01896	COGNITEX® W/BRAIN SHIELD® • 90 softgels	60.00	45.00	39.00	36.00		
01897	COGNITEX® W/PREGNENOLONE & BRAIN SHIELD® 90 softgels	62.00	46.50	39.75	37.50		
01421	COGNITEX® BASICS • 60 softgels	38.00	28.50	26.25	24.00		
01659	COGNIZIN® CDP CHOLINE CAPS • 250 mg, 60 veg. caps	36.00	27.00	25.50			
SUBTOTAL OF COLUMN 2							

SUPER SALE 2015-2016

RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2016

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ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
01835	COMPLETE B-COMPLEX • 60 veg. caps	10.00	7.50	6.75			
01999	COMPREHENSIVE NUTRIENT PACKS ADVANCED • 30 packs	90.00	67.50	61.50			
00119	COPPER CAPSULES • 2 mg, 100 caps	9.91	7.43				
00949	COQ10 w/d-LIMONENE (Super-absorbable) 50 mg, 60 softgels	25.00	18.75	16.50	15.00		
00950	COQ10 w/d-LIMONENE (Super-absorbable) 100 mg, 100 softgels	46.00	34.50	28.00	26.25		
01226	COQ10 (Super ubiquinol) • 100 mg, 60 softgels	56.00	42.00	36.00	33.00		
01733	COQ10 w/BIOPQQ® (Super ubiquinol) • 100 mg, 30 softgels	54.00	40.50	33.00	30.00		
01426	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (Super ubiquinol) 100 mg, 60 softgels	62.00	46.50	39.00	36.00		
01425	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (Super ubiquinol) - 50 mg, 100 softgels	58.00	43.50	34.50	31.50		
01427	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (Super ubiquinol) - 50 mg, 30 softgels	20.00	15.00	12.00			
01431	COQ10 w/ENH MITOCHONDRIAL SUPPORT™ (Super ubiquinol) - 200 mg, 30 softgels	62.00	46.50	39.00	36.00		
00862	CRAN-MAX® • 500 mg, 60 veg. caps	17.50	13.13	11.25			
01424	CRAN-MAX® WITH ELLIROSE™ (Optimized) • 60 veg. caps	18.00	13.50	12.00			
01529	CREATINE CAPSULES • 120 veg. caps	10.95	8.21	6.94			
01746	CREATINE WHEY GLUTAMINE POWDER • 454 grams (vanilla)	30.00	22.50	20.25			
01429	CR MIMETIC LONGEVITY FORMULA • 60 veg. caps	39.00	29.25	27.00			
00407	CURCUMIN® (Super bio) • 400 mg, 60 veg. caps	38.00	28.50	26.25			
01808	CURCUMIN® W/GINGER & TURMERONES (Advanced bio) 30 softgels	30.00	22.50	20.25			
01804	CYTOKINE SUPPRESS™ W/EGCG • 30 veg. caps	30.00	22.50	20.25			
COSMESIS							
80157	ADVANCED ANTI-GLYCATION PEPTIDE SERUM • 1 oz	53.00	39.75	34.50			
80154	ADVANCED LIGHTENING CREAM • 1 oz	65.00	48.75	42.75			
80155	ADVANCED PEPTIDE HAND THERAPY • 4 oz	46.00	34.50	29.25			
80152	ADVANCED TRIPLE PEPTIDE SERUM • 1 oz	65.00	48.75	42.75			
80140	ADVANCED UNDER EYE SERUM W/STEM CELLS • .33 oz	49.00	36.75	31.50			
80139	AMBER SELF MICRODERMABRASION • 2 oz	49.00	36.75	31.50			
80158	ANTI-AGING FACE OIL • 1 oz	59.00	44.25	39.00			
80118	ANTI-AGING MASK • 2 oz	72.00	54.00	47.52			
80151	ANTI-AGING REJUVENATING FACE CREAM • 2 oz	65.00	48.75	42.75			
80153	ANTI-AGING REJUVENATING SCALP SERUM • 2 oz	46.00	34.50	29.25			
80134	ANTI-GLYCATION SERUM W/BLEUBERRY & POMEGRANATE EXTRACTS • 1 oz	33.00	24.75	23.51			
80133	ANTIOXIDANT FACIAL MIST • 2 oz	32.00	24.00	22.80			
80127	ANTIOXIDANT REJUVENATING FOOT CREAM • 2 oz	45.00	33.75	32.10			
80128	ANTIOXIDANT REJUVENATING FOOT SCRUB • 2 oz	59.00	44.25	38.94			
80117	ANTIOXIDANT REJUVENATING HAND CREAM • 2 oz	64.00	48.00	43.12			
80105	ANTI-REDNESS & ADULT BLEMISH LOTION • 1 oz	74.50	55.88	49.17			
80147	BIOFLAVONOID CREAM • 1 oz	46.00	34.50	29.25			
80144	BROCCOLI SPROUT CREAM • 1 oz	46.00	34.50	29.25			
80156	COLLAGEN BOOSTING PEPTIDE SERUM • 1 oz	59.00	44.25	39.00			
80120	CORRECTIVE CLEARING MASK • 2 oz	64.50	48.38	42.57			
80141	DNA REPAIR CREAM • 1 oz	49.00	36.75	31.50			
80108	ESSENTIAL PLANT LIPIDS REPARATIVE SERUM • 1 oz	74.95	56.21	49.46			
SUBTOTAL OF COLUMN 3							

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
80123	FACE REJUVENATING ANTIOXIDANT CREAM • 2 oz	69.50	52.13	45.87			
80107	FINE LINE-LESS • 1 oz	74.50	55.88	49.17			
80131	HAIR SUPPRESS FORMULA • 4 oz	59.00	44.25	38.94			
80137	HEALING FORMULA ALL-IN-ONE CREAM • 1 oz	53.00	39.75	34.07			
80115	HEALING MASK • 2 oz	64.50	48.38	42.57			
80102	HEALING VITAMIN K CREAM • 1 oz	79.50	59.63	52.47			
80109	HYALURONIC FACIAL MOISTURIZER • 1 oz	58.00	43.50	38.28			
80110	HYALURONIC OIL-FREE FACIAL MOISTURIZER • 1 oz	58.00	43.50	38.28			
80138	HYDRATING ANTIOXIDANT FACE MIST • 4 oz	39.95	29.96	28.50			
80103	LIFTING & TIGHTENING COMPLEX • 1 oz	74.50	55.88	49.17			
80146	LYCOPENE CREAM • 1 oz	28.00	21.00	19.05			
80135	MELATONIN CREAM • 1 oz	33.00	24.75	20.33			
80114	MILD FACIAL CLEANSER • 8 oz	59.00	44.25	38.94			
80159	MULTI STEM CELL SKIN TIGHTENING COMPLEX • 1 oz	59.00	44.25	39.00			
80122	NECK REJUVENATING ANTIOXIDANT CREAM • 2 oz	64.00	48.00	42.24			
80111	PIGMENT CORRECTING CREAM • 1/2 oz	74.00	55.50	48.84			
80106	REJUVENATING SERUM • 1 oz	74.50	55.88	49.17			
80150	RENEWING EYE CREAM • 1/2 oz	65.00	48.75	42.75			
80142	RESVERATROL ANTI-OXIDANT SERUM • 1 oz	46.00	34.50	29.25			
80112	SKIN LIGHTENING SERUM • 1/2 oz	85.00	63.75	56.10			
80130	SKIN STEM CELL SERUM • 1 oz	74.00	55.50	51.75			
80143	STEM CELL CREAM W/ALPINE ROSE • 1 oz	66.00	49.50	43.50			
80148	TIGHTENING & FIRMING NECK CREAM • 2 oz	39.00	29.25	26.25			
80116	ULTRA LIP PLUMPER • 1/3 oz	64.00	48.00	42.24			
80101	ULTRA WRINKLE RELAXER • 1 oz	89.95	67.46	59.82			
80113	UNDER EYE REFINING SERUM • 1/2 oz	74.50	55.88	49.17			
80104	UNDER EYE RESCUE CREAM • 1/2 oz	74.50	55.88	49.17			
80129	VITAMIN C SERUM • 1 oz	85.00	63.75	56.10			
80136	VITAMIN D LOTION • 4 oz	36.00	27.00	25.25			
80145	VITAMIN E-ESSENTIAL CREAM • 1 oz	28.00	21.00	19.50			
80149	YOUTH SERUM • 1 oz	65.00	48.75	42.75			
D							
01912	DAILY C+ CITRUS FLAVOR • 30 stick packs	21.00	15.75	14.25			
00658	7-KETO® DHEA METABOLITE • 25 mg, 100 caps	28.00	21.00	18.00			
01479	7-KETO® DHEA METABOLITE • 100 mg, 60 veg. caps	40.00	30.00	27.00			
01640	DHA (Vegetarian sourced) • 30 veg. softgels	20.00	15.00	13.50			
00607	DHEA • 25 mg, 100 tablets (Dissolve in mouth)	14.00	10.50	8.81			
01478	DHEA COMPLETE • 60 veg. caps	48.00	36.00	32.40			
00335	DHEA • 25 mg, 100 caps	16.00	12.00	11.00			
00454	DHEA • 15 mg, 100 caps	14.00	10.50	9.00			
00882	DHEA • 50 mg, 60 caps	19.00	14.25	12.75			
01689	DHEA • 100 mg, 60 veg. caps	24.00	18.00	16.50			
01358	DIGEST RC® • 30 tablets	19.95	14.96	12.75			
02021	DIGESTIVE ENZYMES (Enhanced Super) • 60 veg. caps	22.00	16.50	15.00			
02022	DIGESTIVE ENZYMES w/PROBIOTICS (Enhanced Super) • 60 veg. caps	28.00	21.00	18.00			
01671	D,L-PHENYLALANINE • 500 mg, 100 veg. caps	18.75	14.06	12.00			
SUBTOTAL OF COLUMN 4							

RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

SUPER SALE 2015-2016

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

SUPER SALE SAVINGS ON ALL PRODUCTS

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ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
01540	DMAE BITARTRATE • 150 mg, 200 veg. caps	18.00	13.50	11.25			
00059	DMG • 125 mg, 60 tablets	24.80	18.60	17.02			
01570	DNA PROTECTION FORMULA • 60 veg. caps	34.00	25.50	24.00			
01831	DOG MIX • 100 grams powder	18.00	13.50	11.25			
02006	DOPA-MIND™ • 60 veg. tabs	48.00	36.00	32.00			
00321	DR. PROCTOR'S ADVANCED HAIR FORMULA • 2 oz	39.95	29.96	24.00			
00320	DR. PROCTOR'S HAIR SHAMPOO • 8 oz	24.95	18.71	16.50			
00899	DUAL-ACTION MICRODERMABRASION ADV. EXFOLIATE • 2.4 oz	39.95	29.96	29.21			
E							
01528	ECHINACEA EXTRACT • 250 mg, 60 veg. caps	14.35	10.76	9.38			
01997	ENDOTHELIAL DEFENSE™ w/FULL-SPECTRUM POMEGRANATE™ AND CORDIART™ • 60 softgels	68.00	51.00	46.50			
00997	ENDOTHELIAL DEFENSE™ w/GLISODIN® • 60 veg. caps	54.00	40.50	36.00			
00625	EPA/DHA (Mega) • 120 softgels	19.95	14.96	13.50			
01737	ESOPHAGEAL GUARDIAN (Berry flavor) • 60 chewable tablets	36.00	27.00	24.00			
01042	EUROPEAN LEG SOLUTION DIOSMIN 95 600 mg, 30 veg. tabs	20.00	15.00	13.50			
01706	EXTRAORDINARY ENZYMES • 60 caps	26.00	19.50	18.00			
01514	EYE PRESSURE SUPPORT W/MIRTOGENOL® • 30 veg. caps	38.00	28.50	25.50			
F							
*01054	FACE MASTER® PLATINUM • Facial Toning System	199.00	199.00				
00965	FAST-ACTING JOINT FORMULA • 30 caps	39.00	29.25	27.00			
01717	FAST-C® W/DIHYDROQUERCETIN • 120 veg. tabs	26.00	19.50	18.00			
20053	FEM DOPHILUS® • 30 caps	25.95	19.46				
20055	FEM DOPHILUS® • 60 caps	39.95	29.96				
01064	FEMMESENCE MACAPAUSE® • 120 veg. caps	34.99	26.24				
01728	FERNBLOCK® W/RED ORANGE COMPLEX (Enhanced) 30 veg. caps	42.00	31.50	28.50			
00718	FIBRINOGEN RESIST™ • 30 veg. caps	49.00	36.75	33.00			
01749	FLAX SEED (Organic golden) • 14 oz	11.67	8.75				
01821	FLORASSIST® HEART HEALTH PROBIOTIC • 60 veg. caps	32.00	24.00	21.00			
02011	FLORASSIST® ORAL HYGIENE • 30 lozenges	20.00	15.00	13.50			
01825	FLORASSIST® PROBIOTIC • 30 liquid veg. caps	32.00	24.00	21.00			
01920	FLORASSIST® THROAT HEALTH • 30 lozenges	20.00	15.00	13.50			
01913	FOLATE (Optimized) • 5,000 mcg, 30 veg. tablets	25.00	18.75	16.50			
01939	FOLATE (Optimized) • 1,000 mcg, 100 veg. tablets	19.00	14.25	12.75			
01841	FOLATE + VITAMIN B12 CAPS • 200 veg. caps	10.50	7.88	7.13			
01544	FORSKOLIN • 10 mg, 60 veg. caps	16.00	12.00	10.50			
01513	FUCOIDAN W/MARITECH® 926 (Optimized) • 60 veg. caps	36.00	27.00	24.75			
G							
00559	GAMMA E TOCOPHEROL/TOCOTRIENOLS • 60 softgels	42.00	31.50	27.75			
00759	GAMMA E TOCOPHEROL W/SESAME LIGNANS • 60 softgels	32.00	24.00	21.75			
01394	GARLIC (Optimized) • 200 veg. caps	24.95	18.71	15.75			
**01122	GINGER FORCE® • 60 liquid caps	34.95	26.21				
01658	GINKGO BILOBA CERTIFIED EXTRACT™ 120 mg, 365 veg. caps	46.00	34.50	31.50			
01648	GINKGO EXTRACT 28/7 (Super) • 120 mg, 100 veg. caps	29.00	21.75	19.88			
00756	GLA WITH SESAME LIGNANS (Mega) • 60 softgels	19.50	14.63	13.50			

SUBTOTAL OF COLUMN 5

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
00345	(L-) GLUTAMINE CAPSULES • 500 mg, 100 caps	14.95	11.21	10.13			
00141	(L-) GLUTAMINE POWDER • 100 grams	22.00	16.50	15.00			
00522	GLUCOSAMINE/CHONDROITIN CAPSULES • 100 caps	38.00	28.50	24.00			
01541	GLUTATHIONE, CYSTEINE & C • 100 veg. caps	20.00	15.00	13.50			
00314	L-GLUTATHIONE (Mega) • 250 mg, 60 caps	39.64	29.73				
01669	GLYCINE • 1,000 mg, 100 veg. caps	12.00	9.00	8.10			
01411	GRAPE SEED EXTRACT W/RESVERATROL & PTEROSTILBENE 100 mg, 60 veg. caps	36.00	27.00	25.50			
01604	GREEN COFFEE EXTRACT COFFEEGENIC® 200 mg, 90 veg. caps	22.00	16.50	15.00			
01620	GREEN COFFEE EXTRACT COFFEEGENIC® 400 mg, 90 veg. caps	32.00	24.00	21.00			
00953	GREEN TEA EXTRACT (Mega) • lightly caffeinated, 100 veg. caps	30.00	22.50	18.00			
00954	GREEN TEA EXTRACT (Mega) • decaffeinated, 100 veg. caps	30.00	22.50	18.00			
H							
01074	5 HTP • 100 mg, 60 caps	27.95	20.96				
*02002	HAIR, SKIN & NAIL REJUVENATION FORM W/VERISON® 90 tabs	32.00	24.00	22.00			
01738	HCA (Garnicia) • 90 veg. caps	17.00	12.75	11.25			
29754	HCACTIVE™ GARCINIA CAMBOGIA EXTRACT • 90 caps	30.00	22.50				
01393	HEPATOPRO • 900 mg, 60 softgels	50.00	37.50	34.50			
01527	HUPERZINE A • 200 mcg, 60 veg. caps	40.00	30.00	27.00			
00661	HYDRODERM® • 1 oz	79.95	59.96	49.00			
I							
*01060	I26 HYPERIMMUNE EGG • 140 grams powder	54.99	46.75				
01704	IMMUNE MODULATOR W/TINOFEND® • 60 veg. caps	17.00	12.75	11.25			
00955	IMMUNE PROTECT W/PARACTIN® • 30 veg. caps	29.50	22.13	19.91			
02005	IMMUNE SENESCENCE PROTECTION FORMULA™ • 60 veg. tabs	40.00	30.00	27.00			
01049	INNERPOWER™ • 530 grams powder	42.00	31.50				
01674	INOSITOL CAPSULES • 1,000 mg, 360 veg. caps	62.00	46.50	43.50			
01292	INTEGRA-LEAN® AFRICAN MANGO IRVINGIA 150 mg, 60 veg. caps	28.00	21.00	18.00			
01248	IODINE COMPLETE (Advanced) • 12.5 mg, 180 tablets	46.00	36.50				
01677	IRON PROTEIN PLUS • 300 mg, 100 caps	28.00	21.00	19.50			
01492	IRVINGIA W/PHASE 3™ CALORIE CONTROL COMPLEX (Optimized African Mango) • 120 veg. caps	56.00	42.00	36.00			
J, K, L							
00056	JARRO-DOPHILUS EPS® • 60 veg. caps	22.95	17.21				
01759	JARRO-DOPHILUS EPS® • 30 caps	39.95	29.96				
01834	K W/ADVANCED K2 COMPLEX (Super) • 90 softgels	30.00	22.50	20.25			
01600	KRILL HEALTHY JOINT FORMULA • 30 softgels	32.00	24.00	21.75			
01050	KRILL OIL • 60 softgels	33.95	25.46				
00316	KYOLIC® GARLIC FORMULA 102 • 200 veg. caps	26.45	19.84				
00214	KYOLIC® GARLIC FORMULA 105 • 200 caps	27.45	20.59				
00789	KYOLIC® RESERVE • 600 mg, 120 caps	27.95	20.96				
01681	LACTOFERRIN • 60 caps	52.00	39.00	36.00			
00020	LECITHIN • 16 oz granules	18.00	13.50	12.00			
02055	LIFE EXTENSION MIX™ • 315 tablets	80.00	60.00	52.00	43.75		
02057	LIFE EXTENSION MIX™ W/EXTRA NIACIN • 315 tablets	80.00	60.00	52.00	43.75		

SUBTOTAL OF COLUMN 6

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2016

TO ORDER CALL: 1.954.766.8433 or 1.800.544.4440 ■ TO ORDER ONLINE VISIT: www.LifeExtension.com/SuperSale

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
02054	LIFE EXTENSION MIX™ • 490 caps	90.00	67.50	58.00	47.50		
02056	LIFE EXTENSION MIX™ POWDER • 14.81 oz	80.00	60.00	52.00	43.75		
02065	LIFE EXTENSION MIX™ • 315 tablets w/o copper	80.00	60.00	52.00	43.75		
02064	LIFE EXTENSION MIX™ • 490 caps w/o copper	90.00	67.50	58.00	47.50		
02066	LIFE EXTENSION MIX™ POWDER • 14.81 oz w/o copper	80.00	60.00	52.00	43.75		
01608	LIVER EFFICIENCY FORMULA • 30 veg. caps	18.00	13.50	12.00			
01639	5-LOX INHIBITOR W/APRÉS-FLEX® • 100 mg, 60 veg. caps	22.00	16.50	15.00			
01678	L-LYSINE • 620 mg, 100 veg. caps	9.00	6.75	6.00			
00455	LYCOPENE (Mega) • 15 mg, 90 softgels	35.00	26.25	22.50			
M							
01885	MACUGUARD® OCULAR SUPPORT • 60 softgels	22.00	16.50	14.85			
01886	MACUGUARD® OCULAR SUPPORT w/ASTAXANTHIN 60 softgels	42.00	31.50	28.50			
01459	MAGNESIUM CAPS • 500 mg, 100 veg. caps	12.00	9.00	7.50			
01682	MAGNESIUM (CITRATE) • 160 mg, 100 veg. caps	9.00	6.75	5.63			
01908	MEDITERRANEAN TRIM WITH SINETROL™-XPUR 60 veg. caps	18.00	13.50	12.00			
01668	MELATONIN • 300 mcg, 100 veg. caps	5.75	4.31	3.75			
01083	MELATONIN • 500 mcg, 200 veg. caps	18.00	13.50	12.00			
00329	MELATONIN • 1 mg, 60 caps	5.00	3.75	3.47			
00330	MELATONIN • 3 mg, 60 caps	8.00	6.00	5.16			
00331	MELATONIN • 10 mg, 60 caps	28.00	21.00	18.00			
00332	MELATONIN • 3 mg, 60 veg. lozenges	8.00	6.00	5.16			
01734	MELATONIN (Fast-Acting Liquid) • 2 oz (Citrus-Vanilla)	12.00	9.00	8.25			
01787	MELATONIN TIMED RELEASE • 300 mcg, 100 veg. tabs	12.00	9.00	8.25			
01788	MELATONIN TIMED RELEASE • 750 mcg, 60 veg. tablets	8.00	6.00	5.25			
01786	MELATONIN TIMED RELEASE • 3 mg, 60 veg. tabs	12.00	9.00	8.25			
01536	METHYLCOBALAMIN • 1 mg, 60 veg. lozenges (vanilla)	9.95	7.46	6.00			
01537	METHYLCOBALAMIN • 5 mg, 60 veg. lozenges (vanilla)	32.00	24.00	18.75	17.25		
00709	MIGRA-EEZE™ (Butterbur) • 60 softgels	29.50	22.13	19.75			
01800	MIGRA-MAG w/BRAIN SHIELD® • 90 veg. caps	22.00	16.50	15.00			
01522	MILK THISTLE (European) • 60 veg. caps	34.00	25.50	22.50			
01822	MILK THISTLE (European) • 60 softgels	28.00	21.00	18.75			
01817	MILK THISTLE (European) • 120 softgels	44.00	33.00	30.00			
01698	MIRAFORTE w/STANDARDIZED LIGNANS (Super) • 120 caps	62.00	46.50	42.00			
01869	MITOCHONDRIAL BASICS W/BIOPQQ® • 30 caps	44.00	33.00	30.00			
01868	MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPQQ® • 120 caps	72.00	54.00	48.00			
00065	MK-7 • 90 mcg, 60 softgels	28.00	21.00	18.75			
00451	MSM (Methylsulfonylmethane) • 1,000 mg, 100 caps	14.00	10.50	8.96			
N							
01534	N-ACETYL-L-CYSTEINE • 600 mg, 60 veg. caps	14.00	10.50	10.13			
01904	NAD+ CELL REGENERATOR™ • 100 mg, 30 veg. caps	34.00	25.50	19.50			
00066	NATTOKINASE • 60 softgels	25.50	19.13				
01807	NATURAL APPETITE SUPPRESS (Advanced) • 60 veg. caps	38.00	28.50	25.50			
00984	NATURAL BP MANAGEMENT • 60 tablets	44.00	33.00	30.00			
01892	NATURAL ESTROGEN • 60 veg. tabs	38.00	28.50	25.50			
01893	NATURAL ESTROGEN W/O SOY ISOFLAVONES • 30 veg. caps	32.00	24.00	21.00			
SUBTOTAL OF COLUMN 7							

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
01626	NATURAL SEX FOR WOMEN® 50+ (Advanced) • 90 veg. caps	59.00	44.25	34.00			
01444	NATURAL SLEEP® • 60 veg. caps	13.00	9.75	7.50			
01551	NATURAL SLEEP® w/ MELATONIN (Enhanced) • 30 caps	22.00	16.50	15.00			
01511	NATURAL SLEEP® W/O MELATONIN (Enhanced) • 30 caps	20.00	15.00	13.50			
01445	NATURAL SLEEP® MELATONIN • 5 mg, 60 veg. caps	18.00	13.50	12.00			
00987	NATURAL STRESS RELIEF • 30 veg. caps	28.00	21.00	18.00			
01121	NERVIA® • 60 softgels	49.95	37.46				
01603	NEURO-MAG® MAGNESIUM L-THREONATE • 90 veg. caps	40.00	30.00	27.00			
01602	NEURO-MAG® L-THREONATE W/CALCIUM & VITAMIN D3 225 grams • Lemon flavor	40.00	30.00	27.00			
01990	NITROVASC w/CORDIART™ • 30 veg. caps	18.00	13.50	12.00			
01903	NK CELL ACTIVATOR™ • 30 veg. tablets	45.00	33.75	31.50			
00373	NO-FLUSH NIACIN • 800 mg, 100 caps	19.00	14.25	12.75			
O							
01824	OLIVE LEAF VASCULAR SUPPORT w/CELERY SEED EXTRACT (Advanced) • 60 veg. caps	36.00	27.00	24.00			
01988	OMEGA-3 PLUS EPA/DHA w/SESAME LIGNANS, OLIVE EXTRACT, KRILL & ASTAXANTHIN • 120 softgels	45.00	33.75	31.50	24.75		
01983	OMEGA-3 EPA/DHA w/SESAME LIGNANS & OLIVE EXTRACT (Super) • 60 softgels	18.00	13.50	12.00	9.38		
01982	OMEGA-3 EPA/DHA w/SESAME LIGNANS & OLIVE EXTRACT (Super) • 120 softgels	32.00	24.00	21.00	17.05		
01984	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE EXTRACT (Super) • 120 enteric coated softgels	34.00	25.50	23.25	18.00		
01985	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE EXTRACT (Super) • 60 enteric coated softgels	20.00	15.00	13.50	10.50		
01986	OMEGA 3 EPA/DHA w/SESAME LIGNANS & OLIVE EXTRACT (Super) • 240 small softgels	32.00	24.00	21.00	17.25		
01981	ONCE-DAILY HEALTH BOOSTER • 60 softgels	52.00	39.00	36.00			
02001	ONE-PER-DAY • 60 tablets	22.00	16.50	15.00			
01328	ONLY TRACE MINERALS • 90 veg. caps	15.00	11.25	9.38			
P							
01789	PALMETTOGUARD® SAW PALMETTO W/BETA-SITOSTEROL 30 softgels	15.00	11.25	10.50	9.00		
01790	PALMETTOGUARD® SUPER SAW PALMETTO/NETTLE ROOT W/BETA-SITOSTEROL • 60 softgels	28.00	21.00	19.50	18.00		
00073	PANCREATIN • 50 caps	13.22	9.92				
01323	PEAK ATP® WITH GLYCO-CARN® • 60 veg. caps	54.00	40.50	37.50			
00342	PECTA SOL-C® MODIFIED CITRUS PECTIN • 454 grams powder	109.95	82.46				
01080	PECTA SOL-C® MODIFIED CITRUS PECTIN • 270 veg. caps	79.95	59.96				
01811	PEONY IMMUNE • 60 veg. caps	36.00	27.00	24.00			
00673	PGX® PLUS MULBERRY (WellBetX®) • 180 veg. caps	34.95	26.21				
01676	PHOSPHATIDYLSERINE CAPS • 100 mg, 100 veg. caps	54.00	40.50	36.00			
01436	POLICOSANOL • 10 mg, 60 veg. caps	20.00	15.00	11.25			
01423	POMEGRANATE™ (Full-Spectrum) • 30 softgels	24.00	18.00	15.75			
00956	POMEGRANATE EXTRACT • 30 veg. caps	19.50	14.63	13.16			
01797	POMI-T® • 60 veg. caps	33.33	25.00	22.50			
01500	PQQ CAPS W/BIOPQQ® • 10 mg, 30 veg. caps	24.00	18.00	13.50	12.00		
01647	PQQ CAPS W/BIOPQQ® • 20 mg, 30 veg. caps	40.00	30.00	24.00	21.00		
00302	PREGNENOLONE • 50 mg, 100 caps	26.00	19.50	16.50			
00700	PREGNENOLONE • 100 mg, 100 caps	30.00	22.50	20.25			
SUBTOTAL OF COLUMN 8							

RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS

SUPER SALE 2015-2016

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

SUPER SALE SAVINGS ON ALL PRODUCTS

TO ORDER CALL: 1.954.766.8433 or 1.800.544.4440 ■ TO ORDER ONLINE VISIT: www.LifeExtension.com/SuperSale

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
*01373	PRELOX® NATURAL SEX FOR MEN® • 60 tablets	52.00	39.00	36.00			
01576	PREVAGEN® • 30 caps	60.00	45.00				
*01577	PREVAGEN® ES • 30 caps	70.00	60.00				
00525	PROBOOST™ THYMIC PROTEIN A • 30 packets	59.95	44.96				
01441	PROGESTACARE® FOR WOMEN • 4 oz cream	35.50	26.63	24.38			
01898	PROSTATE FORMULA (Ultra NAT) • 60 softgels	38.00	28.50	26.25	24.00		
01909	PROSTAPOLLEN™ (Triple strength) • 30 softgels	28.00	21.00	18.75			
01742	PROTEIN-ISOLATE (Whey) Vanilla • 1 lb. powder	30.00	22.50	20.25			
01743	PROTEIN-ISOLATE (Whey) Chocolate • 1 lb. powder	30.00	22.50	20.25			
01770	PROTEIN CONCENTRATE (New Zealand Whey) Vanilla 520 grams	30.00	22.50	19.95			
01771	PROTEIN CONCENTRATE (New Zealand Whey) Chocolate 660 grams	30.00	22.50	19.95			
01812	PROVINAL® PURIFIED OMEGA-7 • 30 softgels	27.00	20.25	18.00			
01508	PTEROPURE® • 50 mg Pterostilbene 60 veg. caps	32.00	24.00	22.50			
01209	PUMPKIN SEED EXTRACT (Water-soluble) • 60 veg. caps	20.00	15.00	13.50			
01587	PURE PLANT PROTEIN • Vanilla 540 grams powder	38.00	28.50	26.25			
01637	PYCNOGENOL® FRENCH MARITIME PINE BARK EXTRACT 100 mg, 60 veg. caps	64.00	48.00	45.00			
01217	PYRIDOXAL 5'-PHOSPHATE • 100 mg, 60 veg. caps	22.00	16.50	14.85			
Q, R							
01309	QUERCETIN (Optimized) • 250 mg, 60 veg. caps	22.00	16.50	15.00			
01030	RED YEAST RICE (Bluebonnet) • 600 mg, 60 veg. caps	16.95	13.56				
00605	REGIMINT • 60 enteric-coated caps	19.95	14.96	14.00			
01708	REISHI EXTRACT MUSHROOM COMPLEX • 60 veg. caps	30.00	22.50	20.25			
01448	REJUVENEX® BODY LOTION • 6 oz	24.00	18.00	14.85	12.75		
01621	REJUVENEX® FACTOR FIRING SERUM • 1.7 oz	65.00	48.75	37.50			
01220	REJUVENEX® (Ultra) • 2 oz	52.00	39.00	33.00	29.25		
00676	REJUVENIGHT® (Ultra) • 2 oz	39.95	29.96	27.00			
01410	RESVERATROL W/PTEROSTILBENE • 100 mg, 60 veg. caps	36.00	27.00	24.00			
02031	RESVERATROL W/NICOTINAMIDE RIBOSIDE (Optimized) • 30 veg. caps	42.00	31.50	27.00			
02030	RESVERATROL (Optimized) • 60 veg. caps	46.00	34.50	31.00			
00889	RHODIOLA EXTRACT • 250 mg, 60 veg. caps	14.00	10.50	9.00			
01900	RIBOGEN™ FRENCH OAK WOOD EXTRACT 200 mg, 30 veg. caps	36.00	27.00	24.75			
00972	(D) RIBOSE POWDER • 150 grams	27.50	20.63	18.56			
01473	(D) RIBOSE TABLETS • 100 veg. tabs	32.00	24.00	21.00			
01609	RICH REWARDS® BREAKFAST GROUND COFFEE • 12 oz. bag	13.00	9.75				
01730	RICH REWARDS® BREAKFAST BLEND GROUND COFFEE Natural Mocha • 12 oz. bag	15.00	11.25	10.50			
01729	RICH REWARDS® BREAKFAST BLEND GROUND COFFEE Natural Vanilla • 12 oz. bag	15.00	11.25	10.50			
01612	RICH REWARDS® BREAKFAST BLEND WHOLE BEAN COFFEE 12 oz. bag	13.00	9.75				
01610	RICH REWARDST® DECAFFEINATED ROAST GROUND COFFEE 12 oz. bag	14.00	10.50				
01208	R-LIPOIC ACID (Super) • 240 mg, 60 veg. caps	49.00	36.75	33.75			
00070	RNA CAPSULES • 500 mg, 100 caps	17.95	13.46	12.12			
SUBTOTAL OF COLUMN 9							

ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
S							
01432	SAFFRON W/SATIREAL® (Optimized) • 60 veg. caps	36.00	27.00	24.00			
00358	SAME (S-ADENOSYL-METHIONINE) 200 mg, 20 enteric coated tablets	16.00	12.00	10.50	9.75		
00557	SAME (S-ADENOSYL-METHIONINE) 400 mg, 20 enteric coated tablets	28.00	21.00	18.00			
01740	SEA-IODINE™ • 1,000 mcg, 60 veg. caps	8.00	6.00	5.40			
00046	SELENIUM • 2 fl. oz dropper	11.95	8.96				
01679	SE-METHYL L-SELENOCYSTEINE • 200 mcg, 100 veg. caps	12.00	9.00	8.25			
00318	SERRAFLAZYME • 100 tablets	18.00	13.50	12.00			
01684	SILYMARIN • 100 mg, 50 veg. caps	9.25	6.94	6.19			
01249	SINUS CLEANSER • 4 oz. bottle	25.00	18.75				
01596	SKIN RESTORING PHYTOCERAMIDES w/LIPOWHEAT® 30 veg. liquid caps	25.00	18.75	17.25			
00961	SODZYME® w/GLISODIN® & WOLFBERRY • 90 veg. caps	28.00	21.00	18.00			
00657	SOLARSHIELD® SUNGLASSES • Smoke color	12.99	9.74	8.63			
01097	SOY EXTRACT (Ultra) • 150 veg. caps	87.00	65.25	58.50			
00432	STEVIA™ (Better) • 100 packets, 1 gram each	9.95	7.46				
00438	STEVIA™ ORGANIC LIQUID SWEETENER (Better) • 2 oz	11.00	8.25				
01476	STRONTIUM • 750 mg, 90 veg. caps	20.00	15.00	13.50			
01649	SUPER ABSORBABLE SOY ISOFLAVONES • 60 veg. caps	28.00	21.00	18.75			
01778	SUPER SELENIUM COMPLEX • 200 mcg, 100 veg. caps	14.00	10.50	9.00	8.25		
T							
01723	TART CHERRY EXTRACT W/STANDARDIZED CHERRYPURE® 60 veg. caps	22.00	16.50	15.00			
01827	TAURINE • 1,000 mg, 90 veg. caps	13.00	9.75	9.00			
01918	TEAR SUPPORT w/MAQUIBRIGHT® • 60 mg, 30 veg. caps	18.00	13.50	12.00			
00133	L-TAURINE POWDER • 300 grams	20.00	15.00	12.66			
13685	TEN MUSHROOM FORMULA® • 120 veg. caps	39.95	29.96				
01304	THEAFLAVIN STANDARDIZED EXTRACT • 30 veg. caps	18.00	13.50	12.00			
01683	(L) THEANINE • 100 mg, 60 veg. caps	24.00	18.00	15.38			
**01038	THERALAC® PROBIOTICS • 30 caps	47.95	35.96				
00668	THYROID FORMULA (Metabolic Advantage™) • 100 caps	21.95	16.46				
00349	TMG POWDER • 50 grams	14.00	10.50	8.25			
01859	TMG • 500 mg, 60 liquid veg. caps	13.00	9.75	9.00			
01400	TOCOTRIENOLS (Super-absorbable) • 60 softgels	30.00	22.50	21.00			
01278	TOOTHPASTE • 4 oz (Mint) tube	9.50	7.13	6.50			
01917	TRANQUIL TRACT™ • 60 veg. caps	52.00	39.00	34.50			
01468	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT 60 veg. caps	24.00	18.00	16.50			
01469	TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT w/RESVERATROL • 60 veg. caps	32.00	24.00	22.20			
02003	TRIPLE ACTION THYROID • 60 veg. caps	36.00	27.00	24.00			
01803	TRI SUGAR SHIELD® • 60 veg. caps	36.00	27.00	24.00			
01386	TRUFIBER™ • 180 grams	32.95	24.71				
01389	TRUFLOA® PROBIOTICS • 32 veg. caps	42.95	32.21				
01722	L-TRYPTOPHAN • 500 mg, 90 veg. caps	33.00	24.75	22.50			
01721	TRYPTOPHAN PLUS (Optimized) • 90 veg. caps	32.00	24.00	21.75			
02016	TWO-PER-DAY • 60 tablets	10.50	7.88	7.13			
SUBTOTAL OF COLUMN 10							

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

OFFER ENDS FEBRUARY 1, 2016

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ITEM No.	PRODUCT	Retail Each \$	YOUR PRICE			QTY	Total
			1 Unit Each	4 Unit Each	10 Unit Each		
02015	TWO-PER-DAY • 120 tablets	20.00	15.00	13.50			
02014	TWO-PER-DAY • 120 caps	22.00	16.50	15.00			
00326	L-TYROSINE • 500 mg, 100 tablets	12.98	9.74				
V							
00213	VANADYL SULFATE • 7.5 mg, 100 veg. tablets	15.00	11.25	9.38			
00408	VENOTONE • 60 caps	18.95	14.21	12.00			
01327	VINPOCETINE • 10 mg, 100 veg. tablets	18.00	13.50	10.50			
00372	VITAMIN B3 NIACIN • 500 mg, 100 caps	7.65	5.74	4.99			
00098	VITAMIN B5 • 500 mg, 100 caps (Pantothenic Acid)	10.50	7.88	7.04			
01535	VITAMIN B6 • 250 mg, 100 veg. caps	12.50	9.38	8.25			
00361	VITAMIN B12 • 500 mcg, 100 lozenges	8.75	6.56	5.44			
01634	VITAMIN C w/DIHYDROQUERCETIN 1,000 mg, 60 veg. tablets	10.00	7.50	6.75			
00927	VITAMIN C w/DIHYDROQUERCETIN 1,000 mg, 250 veg. tablets	25.50	19.13	17.44			
00084	VITAMIN C POWDER (BUFFERED) • 454 grams	23.95	17.96	16.50			
01736	VITAMIN C-MAGNESIUM CRYSTALS (EFFERVESCENT) 180 grams	20.00	15.00	13.50			
01732	VITAMIN D3 • 2,000 IU, 1 fl oz, Mint flavor	28.00	21.00	18.75			
01753	VITAMIN D3 • 1,000 IU, 90 softgels	7.00	5.25	4.50			
01751	VITAMIN D3 • 1,000 IU, 250 softgels	12.50	9.38	8.44			
01713	VITAMIN D3 • 5,000 IU, 60 softgels	10.00	7.50	6.50			
01718	VITAMIN D3 • 7,000 IU, 60 softgels	14.00	10.50	9.45			
01758	VITAMIN D3 W/SEA-IODINE™ • 5,000 IU, 60 caps	14.00	10.50	9.38			
00864	VITAMIN D3 LIQUID EMULSION • 2,000 IU, 1 oz.	28.00	21.00	18.75			
01840	VITAMINS D AND K W/SEA-IODINE™ • 60 caps	24.00	18.00	16.50			
01763	VITAMIN E (Natural) • 400 IU, 100 softgels	30.00	22.50	21.00	19.50		
01225	VITAMIN K2 (Low-dose) • 45 mcg, 90 softgels	18.00	13.50	12.00			
W							
01902	WAIST-LINE CONTROL™ • 120 veg. caps	42.00	31.50	28.50			
X, Y							
01919	X-R SHIELD • 90 veg. caps	15.00	11.25	9.75			
00409	XYLIWHITE™ MOUTHWASH • 16 oz	10.00	7.50				
Z							
01813	ZINC HIGH POTENCY • 50 mg, 90 veg. caps	7.95	5.96	5.25			
01561	ZINC LOZENGES • 60 veg. lozenges	9.00	6.75	6.00			
01961	ZINC LOZENGES (Enhanced) • 30 veg. lozenges	12.00	9.00	6.00			
*01051	ZYFLAMEND® WHOLE BODY • 120 softgels	64.95	48.71				
BOOKS							
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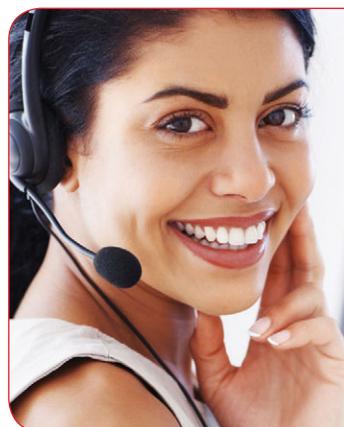
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Low Testosterone Levels May Lead to:

- 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 70 years old, he may produce **60%** less testosterone than he did at age 40, the time is now to add Life Extension®'s **Super Miraforte with Standardized Lignans** to your supplement regimen.

Super Miraforte with Standardized Lignans • Item #01698 • 120 capsules

	Retail Price	Super Sale Price
1 bottle	\$62	\$41.85
4 bottles		\$37.80 each

Non-GMO

To order **Super Miraforte with Standardized Lignans** call **1-800-544-4440** or visit www.LifeExtension.com



Each daily dose of **Super Miraforte with Standardized Lignans** contains the following testosterone supporting ingredients:

Chrysin	1,500 mg
Bioperine®	15 mg
Muir puama	850 mg
Nettle root	282 mg
Chelated elemental zinc	15 mg
Maca	320 mg
HMRlignan™	33.4 mg
Norway Spruce lignan extract	

Super Health. Super Libido.
Super Miraforte.

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 trademark used under sublicense from Linnea S.A.

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Preserve Youthful CELLULAR ENERGY with Next-Generation LIPOIC ACID

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.¹ This unique **sodium-R-lipoate** can help you reach peak plasma concentrations within just 10-20 minutes² of supplementation.

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

To order **Super R-Lipoic Acid**,
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Super R-Lipoic Acid

Item# 01208 • 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$49	\$33.08
4 bottles		\$30.38 each

Suggested dose is one to two capsules daily.

Non-GMO

References

1. Carlson DA, Young KL, Fischer SJ, Ulrich H. In: Packer L, Patel M, eds. *Lipoic Acid: Energy Production, Antioxidant Activity and Health Effects*. London: Taylor & Francis Publishers; 2008:235-70.
2. Carlson DA, Smith AR, Fischer SJ, Young KL, Packer L. *Altern Med Rev*. 2007 Dec;12(4):343-51.

CAUTION: If you are taking glucose-lowering medication, consult your health care provider before taking this product.

• Bio-Enhanced® is a registered trademark of Geronova Research, Inc.

Highly Absorbable CURCUMIN

Used medicinally for over 4,000 years, **curcumin** benefits almost every organ in the body.¹⁻³ The challenge is that most curcumin supplements are poorly **absorbed** into the bloodstream and are not well retained in the body.

Life Extension offers two curcumin supplements that utilize a patented, bio-enhanced preparation that can reach up to **7 times** higher concentrations in the blood than standard curcumin.⁴

Studies comparing standard curcumin to **Super Bio-Curcumin®** and **Advanced Bio-Curcumin® with Ginger & Turmerones** found:^{5,6}

- Nearly **2 times** the support for **immune health**,
- Nearly **twice** the support for **healthy inflammatory** response, and
- Approximately **double** the **free-radical fighting** support.

Life Extension® offers the choice of two super-**absorbing** curcumin formulas that require only one capsule a day dosing:

Super Bio-Curcumin® provides optimal potency of highly absorbable curcumin.

OR

Advanced Bio-Curcumin® with Ginger & Turmerones provides the following additional nutrients for those seeking more comprehensive support for prolonged functional inflammatory responses:

- ∞ **Ginger** to complement curcumin's health benefits,⁷
- ∞ **Turmerones** to increase the amount of curcumin inside cells, and
- ∞ **Phospholipids** to further enhance absorption.⁸



Super Bio-Curcumin®

Item #00407 • 60 vegetarian capsules

	Retail Price	Super Sale Price
1 bottle	\$38	\$25.65
4 bottles		\$23.63 each



Bio-Curcumin® and BCM-95® are registered trademarks of Dolcas-Biotech, LLC. U.S. Patent Nos. 7,883,728, 7,736,679 and 7,879,373.

References

1. *Br J Nutr.* 2010 Jun;103(11):1545-57.
2. *Nat Sci Biol Med.* Jan-Jun;4(1):3-7.
3. *Biofactors.* 2013 Jan-Feb;39(1):2-13.

Advanced Bio-Curcumin® with Ginger & Turmerones

Item #01808 • 30 softgels

	Retail Price	Super Sale Price
1 bottle	\$30	\$20.25
4 bottles		\$18.23 each

Contains soybeans.



4. *Indian J Pharm Sci.* 2008 Jul-Aug; 70(4):445-9.
5. *Int J Pharmacol.* 2009;5(6):333-45.
6. *Food Nutr Res.* 2009;48(3):148-52.

7. *J Med Food.* 2012 Mar;15(3):242-52.
8. *Cancer Chemother Pharmacol.* 2007;60:171-7.

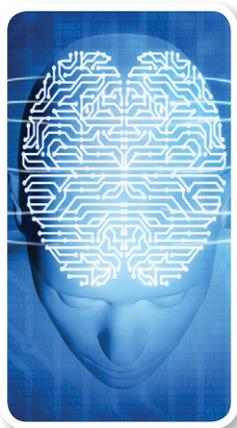
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WHAT'S INSIDE

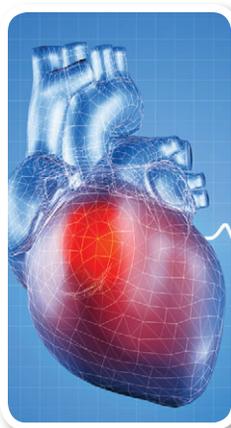
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As cells age, they become tired and dysfunctional, which can reduce life span by fostering inflammation and organ malfunction. Research demonstrates that the low-cost nutrient **quercetin** can *selectively* remove old cells without harm to normal, youthful cells.



ARE YOU SUFFERING FROM SUBOPTIMAL THYROID FUNCTION?

Maturing women and men often experience vague symptoms that include fatigue, weight gain, feeling cold, depression, and dry skin that is often caused by **suboptimal thyroid function**. Learn about natural ways to boost thyroid activity to help restore youthful hormone balance.



WHY DIGESTIVE ENZYMES ARE SO POPULAR

Over-the-counter drugs may provide temporary relief of after-meal gas, bloating, and incomplete digestion, but they do not solve the underlying problem. Proper use of **digestive enzymes** and **probiotics** can enable older adults to maintain digestive health with less abdominal stress and greater retention of nutrients.