Deliver More NUTRIENTS to Your Cells

PLUS: Cardiovascular Risk Linked to Low Magnesium
The annual **SUPER SALE** enables premium-grade nutrient formulas to be obtained at the year’s lowest prices.

Long-term supporters know that the quality of the products is backed by **Life Extension’s** dedication to extended healthy lifespans.

Below are examples of the savings available during the **SUPER SALE**:

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resveratrol Elite™</strong> • 30 vegetarian capsules • Item #02210</td>
<td>Up to 10 times greater bioavailability for health and longevity effects.</td>
<td>$10.80</td>
</tr>
<tr>
<td><strong>NAC (N-Acetyl-L-Cysteine)</strong> • 600 mg, 60 capsules • Item #01534</td>
<td>Supports glutathione levels for healthy immune function.</td>
<td>$9.68</td>
</tr>
<tr>
<td><strong>Lithium</strong> • 1,000 mcg 100 vegetarian capsules • Item #02403</td>
<td>Low-cost mineral that functions in several ways to support cognition and overall brain health. (3-month supply)</td>
<td>$9.45</td>
</tr>
<tr>
<td><strong>AMPK Metabolic Activator</strong> • 30 vegetarian tablets • Item #02207</td>
<td>Dual-ingredient plant formula supports youthful AMPK activity in 1 daily tablet.</td>
<td>$21.60</td>
</tr>
<tr>
<td><strong>Vitamin D3</strong> • 5,000 IU, 60 softgels • Item #01713</td>
<td>High-potency vitamin D supports immune function.</td>
<td>$5.85</td>
</tr>
<tr>
<td><strong>Two-Per-Day Multivitamin</strong> • 120 capsules • Item #02314</td>
<td>High-potency bioactive vitamins, minerals, and plant extracts. (2-month supply)</td>
<td>$15.30</td>
</tr>
<tr>
<td><strong>Advanced Milk Thistle</strong> • 60 softgels • Item #01922</td>
<td>Absorbed nearly 5 times better than silymarin alone, and its bioavailability to the liver is 10 times better.</td>
<td>$16.88</td>
</tr>
</tbody>
</table>

**SUPER SALE ENDS JANUARY 31, 2023.**

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](http://www.LifeExtension.com). **(SUPER SALE** pricing available only to customers in the US, Canada, and England.)

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75  SUPER FOODS
Swiss chard is a high-fiber leafy green packed with minerals with multiple health benefits. Include it in your diet as a tasty addition to salads, soups, stews, and more.

22  RESTORE YOUTHFUL FREE TESTOSTERONE
A clinical study found that a plant extract blend increases free testosterone up to 48%, thus reversing its age-related decline.

32  ROLE OF COQ10 IN AGING
CoQ10 improves cellular energy while reducing damaging factors that contribute to common disorders of aging.

42  BANISH BRAIN FOG
Two plant-based nutrients have been clinically validated to reduce brain fog and increase mental energy, reaction time, and attention.

50  PROTECT AGAINST COMMON EYE DISORDERS
Lutein and zeaxanthin increase the density of macular pigments. Recent findings reveal how these carotenoids may also help protect against cataracts, optic nerve damage and other vision disorders.

59  WHAT IS BROMELAIN?
Bromelain is an enzyme renowned for inhibiting inflammation, supporting joint comfort, and providing other benefits. Systemic absorption enhances beneficial potential.

66  NUTRIENTS TO OPTIMIZE IMMUNITY
Aging weakens the immune system, increasing vulnerability to infections. Studies show how key nutrients help maintain more youthful immune function.

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Deliver More Nutrients to Your Cells
Thanks to recent advances, plant extracts are more bioavailable, enabling consumers to garner greater systemic effects.

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Vitamin D benefits critically ill patients; CoQ10 reduces fatigue; adequate nutrient intake reduces mortality risk; protein supplementation increases lean body mass.

REPORTS
Super Sale is Back...and Better Than Ever

Every Life Extension® supplement is on sale, and that’s just the beginning...
See page 11 for more details.

Text “HEALTH” to 543339 to sign up for emails & texts so you don’t miss a single Super Sale savings event!
With age, synapses that connect our brain cells wither.

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Magtein® is a registered trademark of Magceutics, Inc. and is distributed exclusively by AIDP, Inc. Magtein® is protected under U.S. patents 8,178,118; 8,142,803; 8,163,301 and other patents pending.

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.
Gustavo Tovar Baez, MD, operates the Life Extension Clinic in Caracas, Venezuela. He is the first physician in Caracas to specialize in anti-aging medicine.

Ricardo Bernales, MD, is a board-certified pediatrician and general practitioner in Chicago, IL, focusing on allergies, bronchial asthma, and immunodeficiency.

Mark S. Bezek, MD, FACR, FAARM, FAAEM, is board-certified in internal medicine, emergency medicine, and anti-aging/regenerative medicine. He is the director of Med-Link Consulting, which specializes in biodentical hormone replacement therapy, natural alternatives, anti-aging, and degenerative diseases. He holds U.S. patents for a multivitamin/mineral supplement, an Alzheimer’s/dementia compilation, and a diabetic regimen.

Thomas F. Crais, MD, FACS, is a board-certified plastic surgeon, was medical director of the micro-surgical research and training lab at Southern Baptist Hospital in New Orleans, LA, and currently practices in Sun Valley, ID.

William Davis, MD, is a preventive cardiologist and author of Wheat Belly: Lose the Wheat, Lose the Weight and Find Your Path Back to Health. He is also medical director of the online heart disease prevention and reversal program, Track Your Plaque (www.trackyourplaque.com).

Martin Dayton, MD, DO, practices at the Sunny Isles Medical Center in North Miami Beach, FL. His focus is on nutrition, aging, chelation therapy, holistic medicine, and oxidative diseases.

John DeLuca, MD, DC, is a 2005 graduate of St. George’s University School of Medicine. He completed his internal medicine residency at Monmouth Medical Center in Long Branch, NJ, in 2008 and is board-certified by the American Board of Internal Medicine. Dr. DeLuca is a Diplomate of the American Academy of Anti-Aging Medicine and has obtained certifications in hyperbaric medicine, pain management, nutrition, strength and conditioning, and manipulation under anesthesia.

Sergey A. Dzugan, MD, PhD, was formerly chief of cardiovascular surgery at the Donetsk Regional Medical Center in Donetsk, Ukraine. Dr. Dzugan’s current primary interests are anti-aging and biological therapy for cancer, cholesterol, and hormonal disorders.

Patrick M. Fratellone, MD, RH, is the founder and executive medical director of Fratellone Associates. He completed his internal medicine and cardiology fellowship at Lenox Hill Hospital in 1994, before becoming the medical director for the Atkins Center for Complementary Medicine.

Norman R. Gay, MD, is proprietor of the Bahamas Anti-Aging Medical Institute in Nassau, Bahamas. A former member of the Bahamian Parliament, he served as Minister of Health and Minister of Youth and Sports.

Mitchell J. Ghen, DO, PhD, holds a doctorate in holistic health and anti-aging and serves on the faculty of medicine at the Benemerita Universidad Autonoma De Puebla, Mexico, as a professor of cellular hematopoietic studies.

Gary Goldberg, MD, is a clinical dermatologist and a lifetime member of the American Academy of Dermatology. He is the founder of Academy Dermatology of Hollywood, FL, and COSMESIS Skin Care.

Miguelangelo Gonzalez, MD, is a certified plastic and reconstructive surgeon at the Miguelangelo Plastic Surgery Clinic, Cabo San Lucas.

Garry F. Gordon, MD, DO, is a Payson, Arizona-based researcher and author of Wheat Belly: Lose the Wheat, Lose the Weight and Find Your Path Back to Health. He is also medical director of the online heart disease prevention and reversal program, Track Your Plaque (www.trackyourplaque.com).

Allan Rashford, MD, graduated from the University of Iowa Medical School. Upon completing medical training, he became chief of medicine at St. Francis Hospital in South Carolina, and he was later named president of the Charleston Medical Society.

Michael R. Rose, MD, practices ophthalmology in Los Angeles, CA, and is president of the Rose Eye Medical Group. He is on the staff of Pacific Alliance Medical Center, Los Angeles, and other area hospitals.

Deborah E. Bolen, MD, is board-certified in anti-aging medicine and has worked for many years as flight surgeon at the European Space Agency. He is a pioneer in functional and anti-aging medicine in Italy where he also works as a journalist and a writer.

Ron Rothenberg, MD, is a full clinical professor at the University of California San Diego School of Medicine and creator of California Healthspan Institute in San Diego.

Roman Rozencwaig, MD, is a pioneer in research on melatonin and aging. He practices in Montreal, Canada, as research associate at Montreal General Hospital, Department of Medicine, McGill University.

Michael D. Seidman, MD, FACS, is the director of skull base surgery and wellness for the Adventist Health System in Celebration, FL.

Ronald L. Shuler, BS, DDS, CCN, LN, is involved in immunoncology for the prevention and treatment of cancer, human growth hormone secretagogues, and osteoporosis. He is board-certified in anti-aging medicine.
<table>
<thead>
<tr>
<th>Name</th>
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</thead>
<tbody>
<tr>
<td>Sandra C. Kaufmann, MD</td>
<td>is a fellowship-trained and board-certified pediatric anesthesiologist as well as the Chief of Anesthesia at the Joe DiMaggio Children’s Hospital in Hollywood, Florida. She is the founder of The Kaufmann Anti-Aging Institute and the author of the book The Kaufmann Protocol: Why we Age and How to Stop it (2018). Her expertise is in the practical application of anti-aging research.</td>
</tr>
<tr>
<td>Richard Black, DO</td>
<td>is a dedicated nuclear medicine physician practicing as an independent contractor out of Cleveland, Ohio. Dr. Black is board-certified in internal medicine and nuclear medicine, and is licensed to practice medicine in multiple states throughout the United States.</td>
</tr>
<tr>
<td>John Boik, PhD</td>
<td>is the author of two books on cancer therapy, Cancer and Natural Medicine (1996) and Natural Compounds in Cancer Therapy (2001). He earned his doctorate at the University of Texas Graduate School of Biomedical Sciences with research at the MD Anderson Cancer Center, focusing on screening models to identify promising new anti-cancer drugs. He conducted his postdoctoral training at Stanford University’s Department of Statistics.</td>
</tr>
<tr>
<td>Aubrey de Grey, PhD</td>
<td>is a biomedical gerontologist and Editor-in-Chief of Rejuvenation Research, the world’s highest-impact, peer-reviewed journal focused on intervention in aging. He received his BA and PhD from the University of Cambridge in 1985 and 2000 respectively. Dr. de Grey is a Fellow of both the Gerontological Society of America and the American Aging Association and sits on the editorial and scientific advisory boards of numerous journals and organizations.</td>
</tr>
<tr>
<td>Deborah F. Harding, MD</td>
<td>is founder of the Harding Anti-Aging Center. She is double board-certified in internal medicine and sleep disorder medicine. She also earned the Cenegenics certification in age management medicine. She is a faculty member of the University of Central Florida Medical School.</td>
</tr>
<tr>
<td>Steven B. Harris, MD</td>
<td>has participated in ground-breaking hypothermia, cryothermia, and ischemia research. His research interests include antioxidant and dietary-restiction effects in animals and humans.</td>
</tr>
<tr>
<td>Peter H. Langsjoen, MD, FACC</td>
<td>is a cardiologist specializing in congestive heart failure, primary and statin-induced diastolic dysfunction, and other heart diseases. A leading authority on coenzyme Q10, Dr. Langsjoen has been involved with its clinical application since 1983. He is a founding member of the executive committee of the International Coenzyme Q10 Association, a fellow of the American College of Cardiology, and a member of numerous other medical associations.</td>
</tr>
<tr>
<td>Dipnarine Maharaj MD, MB, ChB, FRCP (Glasgow), FRCP (Edinburgh), FRCPath., FACP</td>
<td>is the Medical Director of the Maharaj Institute of Immune Regenerative Medicine, and is regarded as one of the world’s foremost experts on adult stem cells. He received his medical degree in 1978 from the University of Glasgow Medical School, Scotland. He completed his internship and residency in Internal Medicine and Hematology at the University’s Royal Infirmary.</td>
</tr>
<tr>
<td>L. Ray Matthews, MD, FACS</td>
<td>is a professor of surgery and director of Surgical Critical Care at Morehouse School of Medicine in Atlanta, GA, and a trauma and critical care surgeon at Grady Memorial Hospital. He has published widely and is known as one of the top vitamin D experts. Dr. Matthews has spoken before the U.S. Food and Drug Administration several times, presenting a recent update about clinical research on vitamin D.</td>
</tr>
<tr>
<td>Ralph W. Moss, PhD</td>
<td>is the author of books such as Antioxidants Against Cancer, Cancer Therapy, Questioning Chemotherapy, and The Cancer Industry, as well as the award-winning PBS documentary The Cancer War. Dr. Moss has independently evaluated the claims of various cancer treatments and currently directs The Moss Reports, an updated library of detailed reports on more than 200 varieties of cancer diagnoses.</td>
</tr>
<tr>
<td>Michael D. Ozner, MD, FACC, FAHA</td>
<td>is a board-certified cardiologist who specializes in cardiovascular disease prevention. He serves as medical director for the Cardiovascular Prevention Institute of South Florida and is a noted national speaker on heart disease prevention. Dr. Ozner is also author of The Great American Heart Hoax, The Complete Mediterranean Diet and Heart Attack Proof. For more information visit <a href="http://www.drozner.com">www.drozner.com</a>.</td>
</tr>
<tr>
<td>Jonathan V. Wright, MD</td>
<td>is medical director of the Tahoma Clinic in Tukwila, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored or co-authored 14 books, selling more than 1.5 million copies.</td>
</tr>
<tr>
<td>Xiaoxi Wei, PhD</td>
<td>is a chemist, expert in supramolecular assembly and development of synthetic transmembrane nanopores with distinguished selectivity via biomimetic nanoscience. She has expertise in ion channel function and characterization. She founded X-Therma Inc., a company developing a radical new highway towards non-toxic, hyper-effective antifreeze agents to fight unwanted ice formation in regenerative medicine and reduce mechanical icing.</td>
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Out with the Bad

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Phages target bad intestinal bacteria, allowing beneficial strains to flourish.

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Ingrid

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SUPER SALE PRICE
Item #02125 • 30 liquid vegetarian capsules
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Note: Color of inner capsule may vary but does not affect ingredients.

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We receive questions from readers asking about the bioavailability of certain nutrients.

The purpose of these inquiries is to ascertain what can be done to enhance distribution of ingested nutrients into circulating blood.

Some confuse the term absorption with bioavailability.

I simplify the difference as follows:

**Absorption** is the movement of the nutrient across the first membrane layer of the gastrointestinal (GI) tract.

**Bioavailability** is how much of the intact nutrient remains in general circulation or reaches the target tissues after going through normal metabolism in the digestive tract, liver, and other areas.

For example, resveratrol is readily absorbed (about 70%) but then undergoes extensive metabolism in various tissues, including the liver.\(^1,2\)

Last month we described a bioavailable resveratrol that delivered up to 10-times more resveratrol to circulating blood compared to unformulated resveratrol.\(^3\)

**Curcumin** is one of the most extensively studied plant extracts. Over 4,000 published reports describe its potential benefits on the National Library of Medicine website (www.pubmed.gov).

The challenge is that curcumin undergoes many changes before and after reaching the bloodstream. These alterations reduce the bioavailability of the beneficial curcuminoids.\(^4,5\)

The good news is that over the past four decades, improvements have been made that substantially increase curcuminoid bioavailability.\(^6\)

Consumers are often unaware of the differences in absorption and bioavailability of the many brands available today.

This editorial succinctly describes the fascinating topic of nutrient bioavailability.
A little-understood factor that contributes to human health relates to nutrient bioavailability. As scientists attempt to evaluate the longevity impact of dietary supplements, the need to better understand bioavailability becomes strikingly apparent.

This was easy with compounds like coenzyme Q10 (CoQ10) for which several enhanced absorption techniques were developed.7-10 One form, called ubiquinol, demonstrated improved tissue bioavailability and provided clinical data to support beneficial dose-response effects in heart failure patients.11,12

Improving the bioavailability of plant extracts is more challenging than doing so for CoQ10. That is because factors in the digestive tract, liver, and other tissues break down and influence the structure of plant compounds after oral ingestion and absorption.

The potential role of plant extracts in reducing the incidence of degenerative illnesses is significant, requiring continued evaluation of their effects on healthy longevity and improving bioavailability.

Search for Bioavailable Fisetin and Quercetin

Published data support beneficial effects of quercetin in humans, even though relatively little intact quercetin makes it into the bloodstream.13-15

Like many plant flavonoids, dietary quercetin suffers from poor oral bioavailability. Consumers today want more consistent circulatory delivery of plant compounds.

Favorable lifespan data on fisetin may be more compelling than on quercetin. But, a series of reactions in the digestive tract and liver rapidly metabolize fisetin before meaningful amounts of intact fisetin can enter the blood.16

Solutions Using Plant-Derived Ingredients

Scientists have discovered that by combining fisetin with a compound isolated from the herb fenugreek, it is protected from being metabolized in the liver. It remains active and can be readily transported intact into the bloodstream.16

Researchers found that a formulated fisetin-fenugreek fiber combination increased fisetin bioavailability (absorbed and circulating) in humans up to 25 times compared to unformulated fisetin.16

For quercetin, encasing it in a phosphatidylcholine complex increased bioavailability by 50-times more compared to standard quercetin.17

These bioavailability enhancements enable people to derive more consistent blood levels of nutrients that have demonstrated protective benefits.
**Overcoming Curcumin’s Challenges**

Curcumin functions via multiple mechanisms to reduce the risk for a range of age-related problems.\(^{18-20}\)

The challenge is that intact curcumin compounds are poorly absorbed into the bloodstream.\(^6\)

To garner maximum benefits, better forms of curcumin were needed to deliver more active “free curcuminoids” into circulating blood.

Several years ago, a curcumin formulation was developed that is better protected against changes in the intestines and the liver that limit systemic benefits.\(^{21}\)

This curcumin-fenugreek formula was shown to deliver the highest amounts of free (active) curcuminoids into the bloodstream and the broadest tissue distribution including to the brain, liver, kidney, heart, and spleen.\(^{21}\)

A randomized, double-blind, crossover trial of 50 healthy adults using this novel curcumin formulation revealed a 45.5-fold increase in total plasma free-curcuminoids versus standardized turmeric powder.

A remarkable 70% of these plasma curcuminoids remained in their active free form five hours after dosing.\(^6\)

This goes a long way to satisfying those who appreciate the value of plant compounds in human health but seek reliable data on greater bioavailability and broader tissue distribution.

---

**Understanding Bioavailability**

**Absorption** happens when nutrients pass through the cell membranes of the lining of the digestive tract into blood or lymph capillaries.

**Bioavailability** has several definitions, but a common theme relates to the amount of intact nutrient that reaches general circulation or the site of action.

The two biggest factors impacting bioavailability are how well the nutrient holds up during metabolism (e.g., sulfation, glucuronidation) in other layers of the intestinal tract and its first pass through the liver.\(^{22}\)

The first pass effect or metabolism refers to how much metabolic breakdown of an oral agent occurs in the intestine or liver before it reaches systemic (blood) circulation.

More of the nutrient will be bioavailable in circulating blood if it bypasses the first pass metabolism.

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**Hepatic (Liver) Portal System**

This graphic shows blue veins emanating from the intestines merging into the portal vein in the liver.

The hepatic (liver) portal system is a series of veins that carries ingested/absorbed nutrients from the digestive tract to the liver for metabolism.

Absorption from the intestinal tract and metabolism by the liver have major impacts on nutrient bioavailability.

---

**Step 1:** Products of digestion are absorbed into the capillaries within the villi of the small intestine.

**Step 2:** Digested food molecules then travel through hepatic portal veins to the liver.

**Step 3:** The liver monitors blood contents.

**Step 4:** Hepatic veins deliver blood to the circulatory system.
New Opportunities!

The data conveyed in this editorial have transformative implications as they relate to neutralizing multiple mechanisms contributing to age-related ailments. As more bioavailable forms of fisetin, quercetin, resveratrol, and curcumin emerge, people today can garner health benefits that were previously limited to laboratory models.

Unlike exorbitantly priced prescription drugs, bioavailable plant-based formulations often cost less because they more efficiently achieve greater blood levels.

I want to thank our group of longevity enthusiasts for their continued support via their purchases of blood tests and supplements.

Proceeds enable us to help fund a range of research projects aimed at delaying and reversing biological aging in people.

For longer life,

William Faloon, Co-Founder
Life Extension®

References
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When it comes to ways to save... the more the merrier!

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“NAC is a powerful tool.”
Maury
VERIFIED CUSTOMER REVIEW

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1 bottle $10.80
4 bottles $9.68 each

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Patented turmeric and fenugreek blend (500 mg) results in 45 times greater bioavailability of free curcuminoids.

**SUPER SALE PRICE**

Item #02407
500 mg, 60 vegetarian capsules

1 bottle $21.60 • 4 bottles $19.80 each

Same 500 mg potency of patented turmeric and fenugreek blend with added benefits of ginger and other turmeric actives.

**SUPER SALE PRICE**

Item #02324
500 mg curcumin + gingerol, 30 softgels

1 bottle $18 • 4 bottles $16.20 each

For full product description and to order Curcumin Elite™ or Advanced Curcumin Elite™, call 1-800-544-4440 or visit www.LifeExtension.com

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With age, our body accumulates senescent cells that affect the day-to-day function of the healthy cells around them.

**Senolytics** are compounds that selectively remove senescent cells.

**Senolytic Activator** contains nutrients designed to target senescent cells for normal elimination.

This formula contains a patented fisetin that is more bioavailable than regular fisetin.

The fisetin dose in **Senolytic Activator** provides the potency of 7 capsules of Bio-Fisetin. (Some people take Bio-Fisetin daily for its other health benefits.)

**COMPREHENSIVE SENOLYTIC SUPPORT**

The **Senolytic Activator** formula provides the following nutrients:

- THEAFLAVINS (polyphenols from black tea)
- BIO-QUERCETIN (ultra-absorbable form)
- APIGENIN (a natural flavonoid)
- BIO-FISETIN (up to 25 times greater bioavailability)

The suggested dose of the **Senolytic Activator** is 3 capsules once a week. Each bottle lasts 3 months and costs very little.
In the News

Vitamin D Supplementation May Help Critically Ill Patients

Findings from a meta-analysis review in *Critical Care* suggest that providing critically ill patients with vitamin D supplements may improve some outcomes, including survival.*

Researchers identified 16 trials that evaluated the association between vitamin D supplementation and mortality among critically ill individuals. Twelve studies reported intensive care unit (ICU) length of stay, nine reported 28-day mortality, and nine reported length of mechanical ventilation.

Study participants received vitamin D either by mouth, feeding tube, intramuscular injection or intravenously.

Vitamin D supplementation was associated with a 22% lower risk of overall mortality compared to a placebo or standard care.

Among studies that reported 28-day mortality, vitamin D supplementation was associated with a trend toward a lower risk.

Patients who received vitamin D spent an average of 3.13 days less in the ICU and five fewer days on a ventilator than those who received a placebo.

*Editor's Note:* In patients admitted to the ICU, significantly reduced serum vitamin D levels “…are frequent and independently associated with higher incidence and severity of sepsis,” the authors stated.

Less Fatigue with CoQ10

The results of a meta-analysis of clinical trials published in *Frontiers in Pharmacology* confirm an anti-fatigue effect in individuals who supplemented with *coenzyme Q10* (CoQ10).

Researchers identified 13 randomized, controlled trials that compared fatigue scores among a total of 1,126 participants who received CoQ10 or a placebo.

Analysis of the 13 trials showed a consistent, significant effect of CoQ10 in reducing fatigue.

When trials that included healthy participants were analyzed separately from trials that included patients with fatigue-associated diseases, both supplemented populations showed decreases in fatigue, however the effects were more significant among the unhealthy participants, who had more severe CoQ10 depletion.

Higher CoQ10 doses and longer duration of supplementation were correlated with greater reduction in fatigue.

*Editor’s Note:* While the body makes some CoQ10, the authors remarked that studies have provided evidence that supplementing with CoQ10 does not affect the body’s synthesis of the coenzyme.

Adequate Nutrient Intake Can Help You Live Longer

A study that utilized data from the National Health and Nutrition Education Survey (NHANES) 1999-2010, found an association between adequate intake of specific nutrients and a lower risk of dying during a median follow-up of 9.3 years, the *Journal of Nutrition* reported.*

Nutrient adequacy was calculated as the percentage of the RDA met by the participants according to age and gender.

Compared to participants whose **magnesium** intake was among the lowest one-third, those whose intake was among the top third had a **22%** lower adjusted risk of all-cause mortality, a **35%** lower risk of dying from cardiovascular disease and a **29%** lower risk of cancer death during follow-up.

Top consumers of **vitamin E**, **potassium**, and **fiber** had a **19%**, **18%** and **16%**, respectively, lower risk of premature **mortality**.

**Editor’s Note:** “Americans are underconsuming essential nutrients while overconsuming several nutrients, including sodium, saturated fat, and added sugars,” the authors asserted.

* *J Nutr.* 2021 Oct 1;151(10):3214-3222.
Protein Supplementation Benefits Lean Body Mass

A “systematic review of systematic reviews” published in *Sports Medicine* showed that the addition of protein supplementation to resistance training is associated with a greater increase in lean body mass (body mass minus fat mass) in comparison with resistance training alone.*

Researchers selected five systematic reviews with meta-analyses of randomized trials that compared the effects of resistance training alone to resistance training combined with protein and/or amino acid supplementation. The 46 studies included in the meta-analyses involved a total of 2,925 men and women over 50 years of age.

Supplemented groups received 12-40 grams of protein or 3-10 grams of amino acids while the control groups received a placebo or no supplementation.

Among the four meta-analyses that evaluated lean body mass, three found a significant increase in association with resistance training plus protein supplementation compared to resistance training without supplementation.

*Editor’s Note:* There was also a significant benefit for protein supplementation combined with training on muscle mass alone.

Hundreds of published studies describe resveratrol’s potential health and longevity effects.

The challenge has been achieving significant sustained blood levels of resveratrol.

A new resveratrol solves this with a special plant-based hydrogel coating.

In a recent human trial*, this technology increased bioavailability by up to 10 times.

This patented process maximizes resveratrol availability to your cells.

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Only two bioactive coenzyme forms of vitamin B12 can be used directly by the body and brain.

This B12 Elite provides both:

**ADENOSYLCOBALAMIN**
- Active in brain cell mitochondria.
- Preclinical evidence suggests that it may support already healthy levels of dopamine.
- Supports cellular energy production.

**METHYLCOBALAMIN**
- Supports cognition within brain cells.
- Promotes red blood cell production.
- Helps maintain healthy homocysteine levels.

Dissolve in the mouth or chew one vegetarian lozenge daily.

SUPER SALE PRICE
Item #02419 • 60 vegetarian lozenges
1 bottle $7.43
4 bottles $6.75 each

For full product description and to order B12 Elite, call 1-800-544-4440 or visit www.LifeExtension.com
THREE WAYS TO BUILD STRONGER BONES

CUSTOMIZE YOUR BONE-HEALTH PROGRAM

1. **Bone Restore** helps maintain healthy bone density with three different forms of calcium plus vitamin D3 and magnesium, boron, zinc, manganese, and silicon.

2. **Bone Restore with Vitamin K2**, same formula as Bone Restore plus 200 mcg of vitamin K2.

3. **Bone Restore Elite**, same formula as Bone Restore plus 45,000 mcg of vitamin K2.

**SUPER SALE PRICE**

- **Bone Restore**
  - Item #01726 • 120 capsules
  - 1 bottle $14.85 • 4 bottles $12.83 each

- **Bone Restore with Vitamin K2**
  - Item #01727 • 120 capsules
  - 1 bottle $16.20 • 4 bottles $14.85 each

- **Bone Restore Elite with Super Potent K2**
  - Item #02416 • 120 capsules
  - 1 bottle $31.05 • 4 bottles $28.35 each

*CAUTION:* If you are taking a vitamin K antagonist (e.g. warfarin), consult your healthcare practitioner before taking this product.

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.
Restore Youthful TESTOSTERONE LEVELS
Men worry that low testosterone will decrease muscle growth and libido. This is just the tip of iceberg. Research indicates that low testosterone may affect mood and cause depression.\(^1\)

It is also linked to an increased risk for heart disease and greater risk of death from any cause.\(^2-7\)

Serum testosterone declines over time. Beginning as early as age 30, testosterone levels start falling about 1% per year.\(^8,9\)

Scientists have identified plant-derived nutrients that help safely boost production of this hormone.

In one clinical study, a blend of pomegranate and cacao extracts was shown to increase free testosterone as much as 48% in aging men.\(^10\)

In preclinical studies, the flavonoid luteolin was shown to support testosterone production and reduce its conversion into estrogen.\(^11-14\)
Declining Free Testosterone

The hormone testosterone is primarily produced in the testicles in men. It is crucial for normal development of the male reproductive system and impacts the healthy function of organs and tissues throughout the body.

To perform its vital roles, testosterone must be in a “free” or biologically active form to attach to testosterone receptors on various body cells.

However, only about 2% of all circulating testosterone is in this free, unbound form. The rest circulates in the blood already bound to proteins.

And, free testosterone declines with age.

Overweight men have a higher risk for low testosterone. That’s because being overweight or obese is associated with increased levels of the enzyme aromatase, which converts testosterone into estrogen.

Dangers of Low Testosterone

As testosterone levels decline with age, men experience well-known low testosterone symptoms. These include diminished sexual desire, erectile dysfunction, fatigue, reduced muscle mass and strength, and loss of youthful well-being.

But the effects go beyond these. Testosterone deficiency in men correlates with a greater risk of:

- Cardiovascular disease,
- Osteoporosis,
- Chronic inflammation,
- Neurodegeneration, including cognitive decline and Alzheimer’s disease,
- Metabolic syndrome and type II diabetes,
- Depression, and
- All-cause mortality.

A misguided fear that testosterone may cause prostate cancer hampered clinical progress for decades. In reality, low testosterone is associated with increased prostate cancer incidence in most studies.

Clearly, there is a critical need to boost free testosterone levels in most aging men.

Promising Plant Extracts

Seeking a safe and drug-free way to elevate testosterone, scientists took note of a study presented at an endocrinology conference a decade ago.

In that study, healthy men and women who took pomegranate juice for just two weeks increased salivary testosterone levels by 23%-27%. Mood and well-being measures also improved.

After screening hundreds of plant extracts, scientists believed that both pomegranate and cacao seed extract, from the beans used to make cocoa and chocolate, might promote higher testosterone levels.

A study using testes cells from mice confirmed that both extracts could significantly raise testosterone production.

In a rodent model, investigators found that a pomegranate-cacao seed combination boosted testosterone production by over 72% in just six weeks.

Boosting Testosterone in Men

To evaluate pomegranate and cacao extracts in humans, scientists gave men ranging from 36 to 55 years old either a combination of these extracts or a placebo.

After eight weeks, free testosterone levels in men receiving 400 mg of the pomegranate-cacao blend were elevated by over 48% compared to baseline.
In addition, in men taking the pomegranate-cacao blend:10

- Overall well-being improved,
- Measures of stress dropped by 26%, and
- Hand grip strength increased by almost 25% compared to baseline.

The pomegranate-cacao group also reduced their symptoms on the Aging Males’ Symptoms scale by 19%.10 These symptoms include:30

- Joint pain and muscle aches,
- Excessive sweating,
- Sleep problems and exhaustion,
- Anxiety and irritability,
- Depression and feeling burned out, and
- Decrease in libido and other sexual problems.

A similar study was done on younger men, aged 21 to 35.10

Even in these younger men, a blend of pomegranate and cacao extracts increased free testosterone by 25%. Hand grip strength and the circumference of the upper arm increased as well.10

### How Luteolin Helps

Luteolin is a flavonoid found in certain fruits, herbs, and vegetables, including celery, broccoli, parsley, and thyme.

This compound may support higher testosterone production and levels in two ways. Cell and animal studies demonstrate that luteolin:

- Increases an enzyme called StAR (steroid-ogenic acute regulatory protein), which is required for testosterone production to occur,31 and
- Inhibits the enzyme aromatase, which converts testosterone into estrogen.11,12

A combination of luteolin and pomegranate-cacao extracts may support the production and maintenance of healthy free testosterone levels in men as they age.

### Boost Testosterone for Better Health

- **Testosterone** is crucial to healthy aging in men, but levels of this hormone begin to drop around age 30.
- **Low testosterone** causes symptoms like fatigue, low libido, and reduced strength. It also increases the risk of cardiovascular disease and other disorders, and raises the risk of death from any cause.
- In clinical studies, a blend of pomegranate and cacao seed extracts increased bioactive free testosterone in men by as much as 48% and improved measures of stress, hand grip strength, and more.
- Preclinical studies show that the flavonoid luteolin may support optimal testosterone levels and maintain healthy testosterone and estrogen balance.
Summary

Beginning around age 30, levels of the hormone testosterone in men begin to decline. Low testosterone can result in symptoms like erectile dysfunction, fatigue, and reduced muscle mass, and poses a serious risk to overall health. Pomegranate and cacao seed extracts boost testosterone production. In a clinical study, this combination increased free testosterone by 48% and improved measures of stress-resilience and strength. Preclinical data found that the flavonoid luteolin also supports higher testosterone levels. Together, these nutrients may help aging men support higher testosterone levels and quality of life.

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

References

22. Avsar O. Is testosterone perspective available for neurodegenerative diseases? Neuropsychiatry. 2018 01/01;08(05).
27. Small N, Al-Dujaili E. Pomegranate juice intake enhances salivary testosterone levels and improves mood and well being in healthy men and women. 2012.
TURN "ON" YOUR CELLULAR ENERGY

OPTIMIZED

NAD+

WITH NEW

RESVERATROL ELITE™

Resveratrol activates longevity proteins called sirtuins.
NAD+ enables cellular sirtuins to function.
Optimized NAD+ Cell Regenerator™ combines 300 mg of nicotinamide riboside with bioavailable resveratrol and quercetin.

NAD+ Cell Regenerator™
Item #02348
30 vegetarian capsules
1 bottle *

NAD+ Cell Regenerator™
Item #02344
30 vegetarian capsules
1 bottle *

For those already taking resveratrol, we offer NAD+ Cell Regenerator™ that provides 300 mg of nicotinamide riboside.

* For Super Sale pricing available to readers of this magazine, call 1-800-544-4440 or visit LifeExtension.com/NAD

For full product description and to order NAD+ Cell Regenerator™ or NAD+ Cell Regenerator™ and Resveratrol Elite™, call 1-800-544-4440 or visit www.LifeExtension.com

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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.
Just one daily Optimized Broccoli and Cruciferous Blend tablet provides cell-protective compounds found in fresh vegetables.
For maximum absorption each enteric coated tablet contains two layers:

- **Myrosinase** to release *sulforaphane* in the small intestine, in one layer,
- **DIM** (3, 3-diindolylmethane) to promote healthy estrogen balance, and
- **Glucoraphanin** from broccoli, watercress, cabbage and rosemary (sulforaphane precursors), in the other layer.

Super Sale Price
Item #02368 • 30 enteric coated vegetarian tablets
1 bottle $25.65 • 4 bottles $23.85 each

For full product description and to order Optimized Broccoli and Cruciferous Blend, call 1-800-544-4440 or visit www.LifeExtension.com

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Testosterone builds muscle, maintains sexual health, supports cardiac function, strengthens bones, and nourishes brain cells.1,2

Testosterone Elite helps maintain healthy testosterone levels:†

• A clinical trial showed that pomegranate and cacao elevated free testosterone levels 48% in just eight weeks.3

• Luteolin increases a protein for testosterone synthesis and inhibits aromatase, an enzyme that breaks down testosterone.4,6

• Just one capsule a day.

“Interest in intimacy has been heightened since beginning this supplement.”
Larry
VERIFIED CUSTOMER REVIEW

PLANT-BASED NUTRIENTS

SUPER SALE PRICE
Item #02500 • 30 vegetarian capsules
1 bottle $37.80 • 4 bottles $33.75 each

For full product description and to order Testosterone Elite, call 1-800-544-4440 or visit www.LifeExtension.com

References

† This product is intended to support testosterone levels but does not contain testosterone. Tesnor® is a trademark of Laila Nutra and Gencor.

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<td>$24.30</td>
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<td>Highly purified EPA and DHA, sesame lignans, plus olive extract.</td>
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<td>BioActive Complete B-Complex</td>
<td>$8.10</td>
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<td>60 vegetarian capsules, Item #01945</td>
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<td>Enzymatically active forms of B vitamins to help lower homocysteine, energize cells, and protect against glycation.</td>
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<td>AMPK Metabolic Activator</td>
<td>$25.65</td>
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<td>30 vegetarian tablets, Item #02207</td>
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<td>Dual-ingredient plant compounds support youthful AMPK activity in one daily tablet.</td>
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<td>Vitamin D3</td>
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<td>5,000 IU, 60 softgels, Item #01713</td>
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<td>High-potency vitamin D supports immune function.</td>
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<td>Curcumin Elite™ Turmeric Extract</td>
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<td>60 vegetarian capsules, Item #02407</td>
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<td>Patented turmeric extract provides 45-times greater free curcuminoid bioavailability.</td>
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<td>Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™</td>
<td>$42.53</td>
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<td>100 mg, 60 softgels, Item #01426</td>
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<td>Superior ubiquinol form of CoQ10 (100 mg) plus shilajit shown to enhance mitochondrial energy production.</td>
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<td>(six-unit per-bottle price)</td>
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<td>Lithium</td>
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<td>1,000 mcg 100 vegetarian capsules, Item #02403</td>
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<td>A low-cost mineral that functions in several ways to support cognition and overall brain health. (100-day supply)</td>
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<td>Ultra Prostate Formula</td>
<td>$26.33</td>
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<td>60 softgels, Item #02029</td>
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<td>Comprehensive support for an aging prostate gland utilizing extracts from pygeum, nettle, flower pollen, and saw palmetto, plus boron, beta-sitosterol, and lycopene.</td>
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<td>(ten-unit per-bottle price)</td>
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<td>90 softgels, Vitamin K1 (1000 mcg), Vitamin K2 (MK4-1000 mcg) and Vitamin K2 (MK7-100 mcg) in one tiny softgel. (Three-month supply)</td>
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<td>Supports glutathione levels for healthy immune function.</td>
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<td>Bio-Fisetin</td>
<td>#02414</td>
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<td>30 vegetarian capsules</td>
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<td>A highly absorbable form of the plant flavonoid fisetin supports cell health in multiple ways.</td>
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<td>FLORASSIST® GI with Phage Technology</td>
<td>#02125</td>
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<td>30 liquid vegetarian capsules</td>
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<td>Dual-encapsulation probiotic for optimal delivery to help balance bacteria in the intestines.</td>
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<td>120 capsules</td>
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<td>Skeletal-strengthening nutrients in one highly absorbable formula.</td>
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<td>Mitochondrial Energy Optimizer with PQQ</td>
<td>#01868</td>
<td>$45.90</td>
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<tr>
<td>120 vegetarian capsules</td>
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<tr>
<td>Glycation-protection and mitochondrial biogenesis formula. Provides 1,000 mg of carnosine along with R-lipoic acid, taurine, benfotiamine, and PQQ.</td>
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<td>Vitamin C 24-Hour Liposomal Hydrogel™ Formula</td>
<td>#02501</td>
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<td>60 vegetarian tablets</td>
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<td>Liposomal formula increases blood exposure nearly seven times more compared to regular vitamin C.</td>
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<td>Arterial Protect</td>
<td>#02004</td>
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<td>Helps stabilize endothelial plaque and promote healthy blood flow.</td>
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<td>Senolytic Activator</td>
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<td>36 vegetarian capsules</td>
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<td>Highly absorbable forms of fisetin, quercetin, plus apigenin designed to help manage senescent cells. (Take 3 capsules just once each week)</td>
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<td>Super R-Lipoic Acid</td>
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<td>Superior efficacy compared to alpha-lipoic acid—supplies 240 mg of stabilized R-lipoic acid.</td>
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<td>Super Selenium Complex</td>
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<td>Three forms of selenium promote the body’s production of glutathione.</td>
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<td>Neuro-Mag® Magnesium L-Threonate</td>
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<td>Helps maintain structural integrity of synaptic connections in the brain.</td>
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<tr>
<td>NAD+ Cell Regenerator™ with Resveratrol Elite™</td>
<td>#02348</td>
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<td>30 vegetarian capsules</td>
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<tr>
<td>NIAGEN® nicotinamide riboside, new bioavailable resveratrol, and more to support healthy cellular metabolism.</td>
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Role of CoQ10 in Aging
Coenzyme Q10 (CoQ10) is found in every cell in our body.

The highest amount is located in the mitochondria, the energy powerhouses of our cells.¹

With age, mitochondrial function and CoQ10 synthesis decline, contributing to a range of degenerative conditions.²,³

Research has shown that supplemental CoQ10 improves mitochondrial function as well as organ performance.¹⁴⁻⁸

As a defense against the assaults of aging, CoQ10 has been shown to suppress factors involved in nearly all chronic disorders.¹⁶,⁷
Heart Function

CoQ10 is no newcomer to heart health.\textsuperscript{1,9,10} It has been prescribed in Japan to treat heart failure for decades. Research has shown it to be safe.\textsuperscript{11}

One recent review paper presented preclinical and clinical evidence on the roles that CoQ10 plays in preventing and relieving heart disease, including:\textsuperscript{1}

- Preventing the accumulation of oxidized LDL cholesterol in arteries,
- Decreasing stiffness of blood vessels, and
- Improving the function of the cells that line the inside of the blood vessels.

Clinical studies have shown that CoQ10 intake has clear benefits for the heart.

A clinical trial assessed the effects of CoQ10 supplementation against moderate-to-severe heart failure. Patients received either CoQ10 or placebo over a two-year period.

Those taking 100 mg of CoQ10 three times daily had a remarkable 43% reduction in major cardiovascular events like heart attack, stroke, or death, compared to the placebo group.\textsuperscript{10} Both groups were on standard drug therapy.

In another study, heart attack survivors were randomized to receive either CoQ10 or a low-potency vitamin placebo.

The group receiving 120 mg a day of CoQ10 for one year had reduced rates of total cardiac events by 45% and of nonfatal heart attacks by 46% compared to the placebo group.\textsuperscript{12}

Statin drugs prescribed to lower LDL cholesterol further reduce coenzyme Q10 synthesis in the body. Those using a statin are often advised to supplement with CoQ10.\textsuperscript{13,14}

Statin Treatment Decreases CoQ10 Blood Levels

This study of people with an average age of 70 shows CoQ10 blood levels at baseline of only 1.26 mcg/mL. Optimal levels should be between 2-3 mcg/mL. Statin drug use causes these already low CoQ10 blood levels to drop to 0.62 mcg/mL. According to cardiologist Peter Langsjoen, MD, heart failure patients should strive for CoQ10 blood levels of around 4 mcg/mL and higher.\textsuperscript{15}

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Brain Aging

**Mitochondrial dysfunction** is believed to play a role in the development of brain-aging diseases like Parkinson’s and Alzheimer’s.15,16 Studies show that CoQ10 may help protect as follows:

- In patients with early **Parkinson’s disease**, taking daily CoQ10 at a dosage of 1,200 mg/day led to 44% less functional decline than taking a placebo.17
- A study of patients with **Huntington’s disease**, a progressive brain disorder, found that subjects given 300 mg of CoQ10 twice daily for one year tended to have less cognitive decline than a placebo group.18
- In a mouse model of **Alzheimer’s disease**, CoQ10 decreased the amount of beta-amyloid, a protein that accumulates in the brains of Alzheimer’s patients, and improved the animals’ cognitive and behavioral performance.19

Inflammation

**Chronic inflammation** is a driver of many different age-related chronic disorders.20 Meta-analyses of randomized controlled clinical trials have concluded that CoQ10 supplementation can significantly lower inflammatory markers.21,22 Another meta-analysis of randomized controlled trials reported CoQ10 supplementation significantly lowers markers of inflammation in individuals with metabolic syndrome. The authors described the ability of CoQ10 to inhibit oxidative stress, while also improving blood sugar control and liver function.23

CoQ10 Promotes Healthy Longevity

- **Coenzyme Q10 (CoQ10)** is essential for the production of energy by the mitochondria.
- CoQ10 deficiency has been found in many age-related diseases and processes, including brain aging and cardiovascular disease.
- One clinical trial showed that oral intake of CoQ10 slowed the age-related decline in vitality, physical performance, and health-related quality of life.
- CoQ10 intake can also help prevent cardiovascular disease by a variety of mechanisms.
- CoQ10 has been shown in one study to reduce the risk of major cardiovascular events including heart attack, stroke, and death in heart failure patients by 43%.
- CoQ10 may help protect against neurodegenerative diseases like **Alzheimer’s** and **Parkinson’s diseases**.
- CoQ10 has many other benefits, such as reducing skin wrinkles, and improving lung function.
Systemic Indicators of Reduced Aging

CoQ10 has demonstrated other benefits that include:

- **Reducing wrinkles.** A clinical trial showed that daily intake of CoQ10 (50 or 150 mg) significantly reduced skin wrinkles and improved skin smoothness compared with a placebo.4

- **Enhancing physical performance.** Men were assigned to take either CoQ10 (100 mg) or a placebo daily, then underwent fitness tests. Mean power was increased in those taking CoQ10 compared to a placebo.24

- **Improving lung function.** Patients with chronic obstructive pulmonary disease (COPD), a lung disease, who took 90 mg of CoQ10 daily for two months showed improvements in heart rate and a measure of how well oxygen moves from the lungs to the blood during exercise,7 along with improvements in hypoxemia (low blood oxygen) at rest.

- In asthma patients, oral CoQ10 resulted in improvement in air flow.25

Cellular Energy

Preclinical evidence has shown that CoQ10 is particularly promising for addressing a key aging factor: mitochondrial dysfunction,1,3,5,26-28 The mitochondria are responsible for energy production in our cells.29 Damage to these structures is a contributor to aging, playing a role in various age-related disorders and a shorter lifespan.3,5,27

Some of this damage is caused by oxidative stress. CoQ10 reduces oxidative stress in cells.1,26 Deficiency of CoQ10 is linked to increased oxidative stress and mitochondrial dysfunction,30 while oral CoQ10 intake has shown evidence of protecting against the progression of aging and development of age-related diseases.1,4,9,12,28

CoQ10 slows common symptoms of aging, including decreased vitality, physical performance, and quality of life.

In a clinical trial, elderly participants received either a placebo or a combination of CoQ10 and selenium. Participants took 200 mg of CoQ10 and 200 mcg of selenium each day. Over four years, those taking the CoQ10-selenium showed improved health-related quality of life and more days out of the hospital.9
Summary

The nutrient CoQ10 has shown promise in preventing and slowing degenerative disorders, including cardiovascular events and brain aging. It functions via multiple mechanisms to enhance mitochondria energy output while combating chronic inflammation and oxidative stress.

Together, these effects may help slow certain aging processes and reduce symptoms of aging.

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

References

Fisetin

Fisetin, a flavonoid found in strawberries and apples, is currently being studied for its effectiveness as a senolytic in humans.¹

In preclinical studies, fisetin:

- Mimics effects of calorie reduction²
- Targets longevity pathways²-⁶
- Extends lifespan of mice by about 10%⁷
- Removes senescent cells through senolytic action⁷
- Suppresses excess mTOR activation⁸

Fisetin is poorly absorbed due to its breakdown in the small intestines.

Bio-Fisetin solves this problem by enclosing fisetin with a compound from the fenugreek herb.

A human trial showed bioavailability of this fisetin compound increased up to 25 times compared to fisetin by itself.⁹

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How to Banish BRAIN FOG
Losing your train of thought or finding it hard to pay attention is common as we get older.

If it starts to interfere with daily life, you may be experiencing what is known as **brain fog**.¹

**Brain fog** refers to a general feeling of decreased **mental energy** and **focus**. It may be characterized by mental fatigue and clouding, forgetfulness, fuzzy thinking, confusion, and difficulty concentrating.

Scientists have identified two **plant-based** nutrients that can prevent or potentially reverse these alterations to bring back mental clarity, energy, and focus.

In clinical studies, **mango leaf extract**:²,³

- Improves reaction time,
- Reduces mental fatigue, and
- Boosts attention, performance accuracy, and working memory.

In other clinical studies, **peppermint oil** reduced the development of mental fatigue and improved aspects of memory and attention.⁴

**Mango leaf extract** and **peppermint oil** can provide a cognitive boost that may help replace **fog with focus**.
What Causes Brain Fog?

The feeling of mental fatigue, foggy thinking, and difficulty concentrating is more than an annoyance. It can decrease cognitive performance and make it difficult to get work done.

In order to pinpoint underlying changes in the brain that may cause feelings of mental fog, scientists studied medical conditions that produce some of the same mental symptoms.

Their research showed that complaints consistent with brain fog have been reported by people with:

- **Inflammatory disorders** of various types,
- **Allergies** (including seasonal allergies),
- **Immune disorders**, which increase inflammation, and
- **Dietary sensitivities**.

These observations led researchers to propose that brain fog may result from:

- **Inflammation**,  
- **Histamine** (the chemical that causes allergic symptoms),  
- **Neurotransmitter imbalance**, and  
- **Impairments in neuronal activity**.

Plant Extracts

Using this research, scientists identified **two** plant-derived nutrients that appear to have the potential to prevent or even reverse these underlying biological changes.

These **two** nutrients also had a track record of improving symptoms of brain fog:

- **Mango leaf extract** has been clinically shown to improve reaction time, reduce mental fatigue, and boost attention, performance accuracy, and working memory.\(^2,3\)
- **Peppermint oil** has been clinically shown to significantly reduce the development of mental fatigue and improve aspects of attention and memory.\(^4\)

How Mango Leaf Protects the Brain

Long used in Asia and Africa to treat fatigue, mango leaf has more recently been shown to exert properties that are neuroprotective, anti-inflammatory, and anti-diabetic.\(^2\)

These effects, which scientists suggested may help prevent brain fog, are believed to be largely attributable to the polyphenol compound **mangiferin**.

Mangiferin’s capacity to **protect the brain** has been demonstrated in animal studies in which it:\(^2,11,12\)

- Decreased neuroinflammation,  
- Reduced oxidative stress, and  
- Provided neurotransmitter support.

Other animal models found that **mangiferin** use prevented cognitive and memory impairment, key symptoms of brain fog.\(^13\)

Mangiferin was also shown in rodent studies to exhibit **anti-allergic** properties,\(^14,15\) suggesting potential benefits against brain fog associated with allergies.

Mango Leaf in Human Studies

Scientists conducted controlled human trials to evaluate whether **mango leaf extract** could treat symptoms consistent with brain fog.

They divided healthy adults into four groups. One group took a **mango leaf extract** containing **60% mangiferin**, the second group took caffeine, the third group took the extract **plus** caffeine, and the fourth took a **placebo**.
Compared to baseline, the mango leaf extract resulted in:\(^2\)

- A remarkable **47% reduction** in fatigue, and
- An almost **5% improvement** in reaction time.

These improvements were significantly greater than those seen with caffeine alone or with a combination of caffeine and mango extract.

Tests of electrical activity in the brain showed that those taking mango leaf extract had increased activity in regions associated with complex cognitive processing, attention, and memory.\(^2\)

In another clinical study, researchers gave healthy young adults either **300 mg** of the mango leaf extract or a placebo.

The extract improved areas of cognitive function, including aspects of:\(^3\)

- **Attention,**
- **Performance accuracy,** and
- **Working memory.**

This evidence supports the use of mango leaf extract to enhance brain activity, reduce mental fatigue, and support mental focus and performance.

---

**Boost Brain Power and Undo Brain Fog**

- **Brain fog** is a feeling of reduced mental energy, clarity, and focus.
- **Mango leaf extract** and peppermint oil were each shown in preclinical studies to address the likely underlying causes of brain fog.
- In clinical trials, mango leaf extract and peppermint oil each reduced mental fatigue while improving attention and working memory.
- Combined, these ingredients may maximize brain support and help erase symptoms of brain fog.

**Peppermint’s Brain Benefits**

Peppermint is an herb traditionally used for medicinal properties, including aiding digestion and promoting calm.

Plants rich in monoterpenes have been shown in placebo-controlled studies to have cognitive benefits.\(^16,17\) Peppermint oil contains many of these compounds, including menthol and menthone.\(^18\)

Some human studies have shown that peppermint teas:\(^19\)

- Improved memory, and
- Boosted mental alertness.

In addition, mint species have demonstrated the ability to modulate various neurotransmitters in the brain, such as acetylcholine and GABA. These neurotransmitters play pivotal roles in mental alertness, cognition, and mood.\(^4\)
HOW TO BANISH BRAIN FOG

Clinical Trial of Peppermint Oil

In a controlled clinical trial, scientists gave healthy adults either peppermint oil containing 60% monoterpenes or a placebo. Tests on aspects of memory, attention, and mood were administered. The peppermint oil group significantly:

- Reduced the development of mental fatigue,
- Improved aspects of attention and working memory.

The volunteers who received the placebo were severely fatigued within a few hours after the cognitive tests.4

Human studies overall demonstrate that peppermint oil and mango leaf extract can help restore mental clarity, focus, and energy.

A combination of these two ingredients may maximize their ability to clear away brain fog.

Summary

Scientists have identified two plant-based ingredients that can improve various aspects of brain fog. Mango leaf extract and peppermint oil have each been shown to reduce mental fatigue, and improve attention, memory, and cognitive performance.

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

References

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Cataracts, Glaucoma, and Macular Degeneration

BY MARK STRATTON

As we age, conditions like cataracts, glaucoma, and macular degeneration threaten our vision.¹

Scientists long ago discovered that carotenoids like lutein and zeaxanthin concentrate in the macula of the eye, where they help filter out damaging wavelengths of light.²⁻⁴

What few people know is these same carotenoids have also been shown to help protect the eye lens against cataracts and the optic nerve from glaucoma damage.⁵⁻⁶

Published studies continue to demonstrate whole-body benefits in those who ingest these plant-derived carotenoids.
**Carotenoids** are a group of pigments found in many fruits and vegetables. They have demonstrated benefits in tissues throughout the body, including the brain.\(^7\)\(^-\)\(^9\)

Taken up and concentrated in brain tissues, carotenoids have been found to be neuroprotective and supportive of cognitive function.\(^8\)

Individuals with higher levels or higher intake of carotenoids have consistently been found to have better cognitive performance.\(^10\)\(^-\)\(^13\)

A systematic review and meta-analysis found consistently lower blood levels of lutein and zeaxanthin in people diagnosed with Alzheimer’s compared to healthy adults of the same age.\(^14\)

Randomized clinical trials have also found significant improvements in cognitive functioning in those receiving a carotenoid supplement compared to those receiving a placebo.\(^15\)\(^,\)\(^16\)

Those with high dietary intake of lutein and zeaxanthin have lower risk for eye disease and vision loss.

Modern Western diets rarely provide enough carotenoids.\(^17\) Average lutein intake is low for adults.\(^18\)

**Oral intake** of lutein-zeaxanthin supplements has been shown to boost the content of carotenoid pigments in the eyes and may improve whole-body health.\(^19\)\(^,\)\(^20\)
Cataracts

Cataracts are a common degenerative disease that clouds the lens of the eye. The result is deteriorating vision and eventual blindness.

Cataracts are one of the most important leading causes of blindness in the world. In modern societies, cataract surgery is rampant in people over age 65.

Studies show that people with the highest intake of lutein and zeaxanthin have the lowest rates of cataracts, age-related macular degeneration, and other age-related eye conditions.

Glaucoma

In those with glaucoma, higher intake of lutein protects the photoreceptors and nerve cells of the retina against cell death. The result is less progression of visual loss and improved visual performance.

Studies have demonstrated that a larger dietary intake of carotenoids is associated with a lower risk of glaucoma. In individuals already suffering from glaucoma, higher carotenoid levels in the retina consistently predict better visual performance.

Randomized controlled trials of carotenoid supplementation in patients with glaucoma demonstrate that they are effective at both boosting retinal levels of the nutrients and improving markers of visual function.

Those with glaucoma should also follow conventional guidelines including taking steps to reduce intraocular pressure that slowly damages the optic nerve.

Macular Degeneration

When blue light and ultraviolet light hit the retina, they can damage photoreceptors, the cells that detect light. Without photoreceptors, vision is not possible.

Exposure to blue light is tied to an increased risk of age-related macular degeneration, the leading cause of severe vision loss and blindness in people over 60.

Oxidative stress and inflammation further drive the progression of macular degeneration.

Lutein and zeaxanthin in the retina defend against macular degeneration in multiple ways. They filter out harmful wavelengths of light and are potent antioxidants and anti-inflammatories.

One study conducted over more than 20 years found that people with the highest intake of lutein and zeaxanthin have a remarkable 41% lower risk of advanced macular degeneration.

Taking lutein and zeaxanthin doesn’t just prevent macular degeneration. It may also reverse some visual loss that has occurred.

Clinical studies show that oral intake of these carotenoids may slow the progression of macular degeneration in those who already have early signs of disease and may also support visual acuity (the ability to see sharply at a given distance).

Other studies show that taking lutein and zeaxanthin improves eye health, enhances visual function, reduces nighttime glare, and improves visual contrast.

In one recent trial, older adults who had difficulty with night vision took a placebo or a blend of zeaxanthin and lutein daily for six months. Those taking the carotenoids had significant improvements in nighttime visual functions.

Digital Eye Strain

Threats to our eyes are all around us, from ultraviolet rays in sunlight to the blue light from our digital screens.

Gazing at smart phones, computers, tablets, LED televisions, and other digital screens increases exposure to blue light, which contributes to eye disease and vision loss.

The LED lightbulbs in most of our homes and workplaces also emit a high level of blue light.
In addition to the long-term risk of vision loss, blue light is tied to digital eye strain, which causes symptoms like eye pain, dry eyes, headache, and blurred vision.37

The retina and macula are light-sensitive eye tissues that make vision possible. When the carotenoids lutein and zeaxanthin are orally ingested, they are taken up in these eye tissues where they help shield against harmful forms of light, including ultraviolet and blue light.2,38,39

The carotenoids lutein and zeaxanthin help shield the eyes from harmful blue light wavelengths, which can help protect against eye strain and vision loss.28

**Retinopathy**

Diabetic retinopathy is another cause of poor eyesight in older adults. Carotenoids protect against this condition as well.

In patients with diabetic retinopathy, body levels of lutein and zeaxanthin are typically lower than in normal subjects. Oral intake of these carotenoids has been shown to improve visual clarity and contrast in those displaying symptoms of diabetic eye disease.40

Ensuring adequate intake of lutein and zeaxanthin is vital for eye health at any age.18

**Summary**

In eye tissues, the carotenoids lutein and zeaxanthin help filter out harmful wavelengths of light that lead to vision loss.

These nutrients defend against most age-related eye disorders and the damage done by exposure to blue light from digital screens.

Studies long ago showed that higher intake of lutein and zeaxanthin boosts macular pigment density and reduce risk for vision loss from macular degeneration.

More recent data show these same carotenoids also help protect against cataracts, glaucoma-induced damage to the optic nerve, and diabetic eye disorders. Evidence indicates that supplementing with carotenoids is supportive of optimal brain and cognitive function.

If you have any questions on the scientific content of this article, please call a Life Extension Wellness Specialist at 1-866-864-3027.
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8. Tan BL, Norhaizan ME. Carotenoids: How Effective Are They to Prevent Age-Related Diseases? Molecules. 2019 May 9;24(9).
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**References**


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What Is Bromelain?

BY LAURIE MATHENA

For centuries, people have used pineapple for its medicinal qualities.\(^1,2\)

The stem of the pineapple is rich in a compound called **bromelain**, an enzyme renowned for its ability to inhibit inflammation and support joint comfort.\(^3\)

Research has shown that bromelain has other benefits, ranging from promoting wound healing and relieving symptoms of sinusitis, to fighting cancer.\(^3\)

Reducing Osteoarthritis Pain

In a study of patients with hip osteoarthritis, using a bromelain preparation for six weeks was shown to be as effective as the anti-inflammatory drug diclofenac in standard scales of pain, stiffness, and physical function.\(^4\)

In another study, bromelain was found to be as good as diclofenac on a standard pain assessment scale, in patients with osteoarthritis of the knee joint. In some instances, it yielded better results than diclofenac in reducing pain at rest and improving restricted function.\(^5\)
**Aids in Wound Healing**

Due to its anti-inflammatory properties, bromelain can aid in the healing and treatment of minor injuries such as sprains, strains, and other trauma.

In an observational study of patients who had suffered blunt trauma involving muscles and bones, bromelain reduced the patients' swelling, pain at rest and in motion, and tenderness at the site of injury.6

**Cancer-Fighting Properties**

Several studies suggest that bromelain may have a role as a novel anticancer therapy.

In animal models of bone, mammary gland, blood (leukemia), and lung cancer, treatment with bromelain increased survival rates, compared to untreated animals.7 It also reduced the number of lung metastases, suggesting it might play an important role in fighting cancer growth.

Scientists have proposed that bromelain may work through several mechanisms, including boosting immune function, inhibiting tumor metastasis (spread to other locations), and decreasing tumor growth and invasive potential.8

**May Help Relieve Sinusitis Symptoms**

Bromelain may offer some relief from sinusitis symptoms.9 Rhinosinusitis, commonly known as sinusitis, is a potentially painful inflammation of the sinus cavities that can manifest with symptoms such as nasal congestion and discharge, postnasal drip, headache, cough, and sore throat.10

One older systematic review of herbal medicines reported on two randomized controlled trials which found that bromelain may be an effective adjunctive treatment in acute or chronic rhinosinusitis.11

In a clinical trial, researchers evaluated penetration of bromelain in the nasal mucosa of patients with chronic rhinosinusitis.

For the study, participants were evaluated after 30 days of bromelain administration. Bromelain was found to have better distribution in nasal mucosa than controls. The researchers concluded that this ability may allow the use of bromelain as an anti-inflammatory agent in nasal and sinus pathologies.12

**Resolves Skin Disorders**

Bromelain has shown promise in treating a skin disorder called pityriasis lichenoides chronica, which is characterized by long-lasting skin lesions.

In a three-month trial of bromelain in eight pityriasis lichenoides chronica patients, all patients showed complete clinical recovery by the end of the trial with no adverse effects.
After 12 months of follow up, only two of these patients had relapsed, both of whom responded to another cycle of bromelain treatment. The immuno-modulatory function of bromelain also makes it a potential aid to eliminate burn debris and to accelerate wound healing.

**Supplementing with Bromelain**

The bromelain that has been studied and used in clinical studies comes from pineapple stems. Eating pineapple is not a source of bromelain with these benefits.

This pineapple-stem bromelain is available to consumers in the form of a nutritional supplement.

Bromelain can also be used to enhance food digestion, since it is a digestive enzyme.

It can be combined with additional digestive enzymes, such as lipase and amylase, at mealtime. Some authorities believe bromelain’s non-digestive therapeutic benefits are enhanced by taking it on an empty stomach, so that it doesn’t expend its enzymatic properties on breaking down protein in foods.

Others use an enteric-coated bromelain tablet that bypasses digestive juices. This enables bromelain to be better absorbed into the bloodstream through the small intestine for potential systemic benefits.

If you have any questions on the scientific content of this article, please call a Life Extension Wellness Specialist at 1-800-864-3027.

**References**

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Highly Purified Fish Oil

Super Omega-3 provides components found in Mediterranean diets, including sesame lignans to extend the stability of DHA in the blood.

Super Omega-3 Plus
EPA/DHA Fish Oil, Sesame Lignans, Olive Extract, Krill & Astaxanthin
(2,520 mg of EPA + DHA in four softgels)

SUPER SALE PRICE
Item #01988 • 120 softgels
1 bottle $31.05
4 bottles $28.80 each

Super Omega-3
EPA/DHA Fish Oil, Sesame Lignans & Olive Extract
(2,400 mg of EPA + DHA in four softgels)

SUPER SALE PRICE
Item #01982 • 120 softgels
1 bottle $24.30
4 bottles $22.50 each

For full product description and to order Super Omega-3, or Super Omega-3 Plus, call 1-800-544-4440 or visit www.LifeExtension.com

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

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.
HEALTHY JOINT FUNCTION

In clinical trials, bromelain, extracted from the stem of the pineapple, inhibits inflammatory factors to support joint health.1-3

Recent research suggests that bromelain may also play a role in maintaining cellular integrity along with improvements in well-being.4-6

Specially-Coated Bromelain is enteric coated, allowing it to provide systemic benefits at an affordable price.

CAUTION: If you are taking anticoagulant or antiplatelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product. Bromelain may increase the bioavailability of tetracycline antibiotics.

References

Bromelain
Enteric Coated for Effective Bioavailability

SUPER SALE PRICE
Item #01203
60 enteric-coated vegetarian tablets
1 bottle $14.18 • 4 bottles $12.83 each

For full product description and to order Specially-Coated Bromelain, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Key Nutrients to Optimize IMMUNITY
Aging weakens the immune system, increasing vulnerability to infections, including colds, flu, and upper respiratory viruses.\textsuperscript{1,2}

Specific nutrients have been demonstrated to help optimize immune functionality.

Daily intake can help defend against infectious agents.
**Vitamin C**

The association between vitamin C and immune health may result from its ability to stimulate the production and function of white blood cells. Scientists have found that vitamin C:

- Promotes development of T-cells and proliferation of natural killer cells in laboratory studies.
- Increases interferons, signaling molecules the body uses to trigger immune responses.
- Neutralizes excess free radicals caused by infections, limiting oxidative damage and illness severity.
- Helps produce collagen, a protein that can enable skin and the linings of respiratory/digestive tracts to maintain an anti-infection barrier.

This evidence suggests that vitamin C may help modulate and resolve inflammation, fight infections, and promote tissue healing.

A human study showed that oral vitamin C reduces cold duration by an average of 9.4%. It may also help prevent and reduce the severity of viral respiratory tract infections.9

**Quercetin**

The plant flavonoid quercetin helps support a prompt immune response to common colds and other upper respiratory infections.10,11

It also provides defense against viral and bacterial infections:

- Middle-aged and older adults taking quercetin daily reduced sick days taken off for colds by 31% and reduced symptom severity by 36%,11
- In animal studies, quercetin decreased infection rate for Helicobacter pylori, the cause of many forms of ulcers and potentially, some cancers of the stomach,12,13 and
- In salmonella-infected cells, quercetin inhibited infected cellular viability.14 Salmonella bacteria cause roughly 26,500 hospitalizations in the U.S. yearly and are especially dangerous in older adults.15

Humans can have difficulty absorbing quercetin.16 So, scientists integrated it into a phytosome, a fatty substance serving as a carrier, making it up to 50 times more bioavailable than standard quercetin.17

**Vitamin D**

Adequate vitamin D may help lessen the severity of infections, or possibly even prevent them, by: 18-21

- Interfering with viruses’ ability to replicate,
- Helping repair cellular linings, including in lung airways,
- Boosting production of proteins that protect against infection, and
- Inhibiting immune system production of excess pro-inflammatory compounds in the lungs.

Meta-analyses of clinical trials show that vitamin D protects against respiratory tract infections.22,23 Taking 5,000-8,000 IU of vitamin D daily and checking levels with annual blood tests can help maintain an optimal 25-hydroxyvitamin D blood level of 50-80 ng/mL.
KEY NUTRIENTS TO OPTIMIZE IMMUNITY

Support Immune Functions

- A strong immune system helps prevent and fight viral and bacterial infections.
- Several nutrients can help keep the immune system working optimally.
- These nutrients support a range of mechanisms that help maintain more youthful immunity.

**Zinc**

Zinc has benefits throughout the body, including immune support. Deficiency is common among the elderly.1,24,25

In a study, zinc supplementation in elderly individuals boosted an experimental test of stress resilience of white blood cells. The authors of this study suggest this relationship may be important for combating immunosenescence.26

Aging adults who replenish their zinc levels may help slow immune function decline.1

**Unique Probiotic Strain**

Secretory IgA is an antibody that targets viruses and bacteria invading the mucosal membranes lining the nose and upper respiratory tract.

Healthy IgA activity can prevent cold and flu viruses from gaining a foothold.28

Scientists investigating probiotics identified a specific bacterial strain, *Lactobacillus rhamnosus* CRL1505, that significantly increased levels of secretory IgA in a preclinical model.27

*L. rhamnosus* CRL1505 has been shown in preclinical studies to help inhibit the pathogens that cause common colds, flu, bronchitis, and pneumonia.27,29

A trial of healthy male and female children found that, compared to placebo, consuming 100 million CFU (colony-forming units) of *L. rhamnosus* CRL1505 five days weekly for six months resulted in:30

- 61% fewer cases of tonsillitis and pharyngitis (a throat infection),
- 55% fewer cases of cold or flu,
- 49% fewer infections,
- 46% fewer cases of fever, and
- 33% less need for antibiotic use.

These children were aged two to five, a group particularly susceptible to respiratory infections.30

**Yeast Fermentate**

*S. cerevisiae* fermentate is a special yeast culture extract that improves the immune response to environmental allergens and colds, as shown in controlled human studies.31-35

In one trial, volunteers took a placebo or 500 mg of *S. cerevisiae fermentate* daily for five weeks at the start of allergy season. Placebo users saw no change in seasonal allergies. But half of the treated men reported a complete absence of allergy symptoms, which returned within two weeks after they stopped treatment.31

Another study found those receiving the extract had significantly fewer symptoms and a shorter duration of symptoms.35

A later study found that those receiving the yeast extract had significantly less incidence of colds or flu-like symptoms, and some reduction in duration of symptoms.34
Studies suggest that *S. cerevisiae* fermentate works by promoting two key immunity defenses: **natural killer cell** activity and **secretory IgA** production.\(^{31,32}\)

**Summary**

**Immune function** declines with age, increasing the risk of infection.

Taken daily, certain nutrients support healthier immune functionality.

These include **vitamin C**, **quercetin**, **vitamin D**, **zinc**, the probiotic **Lactobacillus rhamnosus CRL1505**, and **S. cerevisiae** fermentate. ♦

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

**References**


Increase AMPK to Better Manage Body Weight

Most people today consume excess calories. This results in mTOR constantly running at high gear, which is a factor in unwanted fat storage.

Studies show that increasing AMPK activity turns down excess mTOR.1

Reduce Cell Fat Storage
Scientific studies show that increasing AMPK activity can encourage cells to store less fat and burn it as energy.2,3

AMPK Metabolic Activator was formulated based on data showing reduced belly fat in response to just one of its ingredients (Gynostemma pentaphyllum).3

This Gynostemma pentaphyllum + hesperidin formula is designed to support healthy AMPK cellular activation.

SUPER SALE PRICE
Item #02207 • 30 vegetarian tablets
1 bottle $25.65 • 4 bottles $21.60 each

For full product description and to order AMPK Metabolic Activator, call 1-800-544-4440 or visit www.LifeExtension.com

References

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For full product description and to order these VITAMIN K formulas call 1-800-544-4440 or visit www.LifeExtension.com

CAUTION: If you are taking a vitamin K antagonist (e.g. warfarin), consult your healthcare practitioner before taking this product.

TWO WAYS TO GET

FOR HEALTHY BONES + HEALTHY HEART

MEGA VITAMIN K2
Japanese physicians use high-dose vitamin K2 for maintaining healthy bone density.

Vitamin K2 (MK-4) 45,000 mcg
(for bone & vascular health)

SUPER SALE PRICE
Mega Vitamin K2 Item #02417 • 30 capsules
1 bottle $25.65 • 4 bottles $23.40 each

SUPER K
The best-selling vitamin K formula for bone and heart health.

Vitamin K1 1,500 mcg
(converts to K2 in some people)
Vitamin K2 (MK-4) 1,000 mcg
(for bone & vascular health)
Vitamin K2 (MK-7) 100 mcg
(long-acting protection)

SUPER SALE PRICE
Super K Item #02334 • 90 softgels
1 bottle $20.25 • 4 bottles $18.23 each
(3-month supply)

Dolores
VERIFIED CUSTOMER REVIEW

"I have been using this for bone building, and my bone density tests have improved."

WAYS TO GET

TWO LEMJAN23p.indd   72
0x0 11/7/22   1:24 PM
Everything you need for daily immune support in one easy-to-grab, travel-ready packet.

- **Vitamin C 1,000 mg with Bio-Quercetin Phytosome:** promotes antibody-producing cells.¹
- **Vitamin D3 5,000 IU (125 mcg):** plays a critical role in healthy immune function.
- **Zinc 50 mg:** promotes normal development of NK cells.²
- **Probiotic *L. rhamnosus* CRL1505 and *S. cerevisiae fermentate:** promotes secretory IgA antibodies.³–⁵

Take one pack daily to help promote a healthy, balanced, year-round immune response.

References
1. Available at: https://lpi.oregonstate.edu/mic/vitamins/vitamin-C. Accessed June 24, 2021.

For full product description and to order **Immune Packs with Vitamin C & D, Zinc, and Probiotic**, call 1-800-544-4440 or visit www.LifeExtension.com

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Essential Youth with L-Ergothioneine
The ‘Longevity’ Amino Acid

L-ergothioneine is an amino acid found in mushrooms. Cell-based studies suggest that L-ergothioneine may support healthy longevity by:

- Protecting against mitochondrial DNA damage\(^1\)
- Delaying telomere shortening\(^2\)
- Supporting DNA function in cells subjected to UV exposure\(^3\)

One daily capsule of Essential Youth provides 5 mg of L-ergothioneine.

This 5 mg potency exceeds the L-ergothioneine contained in 2 cups of white button mushrooms, depending on growing conditions.\(^4,5\)

References

For full product description and to order Essential Youth L-Ergothioneine, call 1-800-544-4440 or visit www.LifeExtension.com

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Swiss Chard

BY LAURIE MATHENA

This leafy green goes by many names—white beet, spinach beet, and Roman beet, to name a few. But whatever you may call it, Swiss chard is a nutrient-dense superfood.

It is a good source of dietary fiber and contains nutrients like magnesium, calcium, and potassium. Swiss chard also contains vitamin K1, a nutrient important for heart and bone health.

One study showed that boosting the consumption of leafy green vegetables rich in vitamin K improved markers of bone health, suggesting an improved function of osteoclasts, cells responsible for the formation of new bone.

This could explain why several studies have shown that vitamin K can increase bone mineral density in people with osteoporosis while also reducing the rates of fractures.

Higher intake of vitamin K-rich foods has been linked to a reduced risk of heart disease.

In a review paper, the authors presented evidence that intake of leafy green vegetables is associated with cardiovascular health benefits.

One study showed that each one-serving increment of leafy green vegetables like Swiss chard was linked to an 11% reduction in cardiovascular disease risk.

High-fiber foods like Swiss chard also have the added benefit of stabilizing blood sugar levels and modulating insulin resistance. This could explain why eating fiber-rich food is linked to a reduced risk of type II diabetes.

Leafy greens like Swiss chard are packed with disease-fighting phytochemicals. You can include more Swiss chard in your diet by adding it to soups and stews, tossing it into a smoothie, sautéing it in olive oil, or adding it to a salad.

Due to its vitamin K content, be sure to talk to your healthcare provider about including it in your diet if you take the anti-coagulant drug warfarin. Sudden changes in vitamin K consumption can interfere with this medication.

References

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<td></td>
<td><strong>01985</strong> Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans &amp; Olive Extract - 60 enteric coated softgels</td>
</tr>
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</table>
PRODUCTS

01984 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 enteric coated softgels
01986 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 240 softgels
01812 Provinal® Purified Omega-7
01640 Vegetarian DHA

FOOD
02008 California Estate Extra Virgin Olive Oil
02170 Rainforest Blend Decaf Ground Coffee
02169 Rainforest Blend Ground Coffee
02171 Rainforest Blend Whole Bean Coffee
00438 Stevia™ Organic Liquid Sweetener
00432 Stevia™ Sweetener

GLUCOSE MANAGEMENT
01503 CinSulin® with InSea 2® and Crominex® 3+
01620 CoffeeGenic® Green Coffee Extract
02122 Glycemic Guard™
00925 Mega Benfotiamine
01803 Tri Sugar Shield®

HEART HEALTH
01066 Aspirin (Enteric Coated)
01842 BioActive Folate & Vitamin B12 Caps
01700 Cardio Peak™
02121 Homocysteine Resist
02018 Optimized Carnitine
01949 Super-Absorbable CoQ10 Ubiquinone with d-Limonene • 50 mg, 60 softgels
01951 Super-Absorbable CoQ10 Ubiquinone with d-Limonene • 100 mg, 60 softgels
01929 Super Ubiquinol CoQ10
01427 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 30 softgels
01425 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 100 softgels
01437 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 30 softgels
01426 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 60 softgels
01431 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 200 mg, 30 softgels
01733 Super Ubiquinol CoQ10 with PQQ
01859 TMG Liquid Capsules
00349 TMG Powder

HORMONE BALANCE
00454 DHEA • 15 mg, 100 capsules
00335 DHEA • 25 mg, 100 capsules
00882 DHEA • 50 mg, 60 capsules
00607 DHEA • 25 mg, 100 vegetarian dissolve in mouth tablets
01689 DHEA • 100 mg, 60 veg capsules
02368 Optimized Broccoli and Cruciferous Blend
00302 Pregnenolone • 50 mg, 100 capsules
00700 Pregnenolone • 100 mg, 100 capsules
01468 Triple Action Cruciferous Vegetable Extract
01469 Triple Action Cruciferous Vegetable Extract and Resveratrol

IMMUNE SUPPORT
02411 5 Day Elderberry Immune
00681 AHCC®
02302 Bio-Quercetin
02410 Black Elderberry + Vitamin C
02433 Echinacea Elite
01961 Enhanced Zinc Lozenges
01704 Immune Modulator with Tinofend®
02425 Immune Packs with Vitamin C & D, Zinc and Probiotic
02005 Immune Senescence Protection Formula™

INFLAMMATION MANAGEMENT
01639 5-LOX Inhibitor with AprèsFlex®
02324 Advanced Curcumin Elite™
01709 Black Cumin Seed Oil
02310 Black Cumin Seed Oil and Curcumin Elite™
00202 Boswellia
02467 Curcumin Elite™ Turmeric Extract, Ginger & Turmerones
01804 Cytokine Suppress® with EGCG
02223 Pro-Resolving Mediators
56886 Restore Activ Joint Muscle & Tissue
00318 Serraflazyme
01203 Specially-Coated Bromelain
00407 Super Bio-Curcumin® Turmeric Extract
01254 Zyflamend™ Whole Body

JOINT SUPPORT
02404 Arthro-Immune Joint Support
02238 ArthroMax® Advanced NT2 Collagen™ & AprèsFlex®
01617 ArthroMax® with Theaflavins & AprèsFlex®
02138 ArthroMax® Elite
00965 Fast-Acting Joint Formula
02430 Fast Acting Relief
00522 Glucosamine/Chondroitin Capsules
02420 Glucosamine Sulfate
02424 Joint Mobility
01600 Krill Healthy Joint Formula
01050 Krill Oil
00451 MSM (Methylsulfonylmethane)
02231 NT2 Collagen™

KIDNEY & BLADDER SUPPORT
00862 Cran-Max® Cranberry Whole Fruit Concentrate
01921 Uric Acid Control
01209 Water-Soluble Pumpkin Seed Extract

LIVER HEALTH & DETOXIFICATION
01922 Advanced Milk Thistle • 60 softgels
01925 Advanced Milk Thistle • 120 softgels
02240 Anti-Alcohol Complex
01651 Calcium D-Glucarate
01571 Chlorophyllin
01522 Milk Thistle • 60 veg capsules
02402 FLORASSIST® Liver Restore™
01541 Glutathione, Cysteine & C
01393 HepatoPro
01608 Liver Efficiency Formula
01534 N-Acetyl-L-Cysteine
00342 PectaSol-C® Modified Citrus Pectin Powder
01080 PectaSol-C® Modified Citrus Pectin Capsules
01884 Silymarin
02361 SOD Booster
### Longevity & Wellness

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>00457</td>
<td>Alpha-Lipoic Acid</td>
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<tr>
<td>01625</td>
<td>AppleWise</td>
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<tr>
<td>02414</td>
<td>Bio-Fisetin</td>
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<tr>
<td>01214</td>
<td>Blueberry Extract</td>
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<tr>
<td>01438</td>
<td>Blueberry Extract and Pomegranate</td>
</tr>
<tr>
<td>02270</td>
<td>DNA Protection Formula</td>
</tr>
<tr>
<td>02431</td>
<td>Essential Youth - L-Ergothioneine</td>
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<tr>
<td>02119</td>
<td>GEROPROTECT® Ageless Cell™</td>
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<tr>
<td>02415</td>
<td>GEROPROTECT® Autophagy Renew</td>
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<tr>
<td>02401</td>
<td>GEROPROTECT® Stem Cell</td>
</tr>
<tr>
<td>02211</td>
<td>Grapeseed Extract</td>
</tr>
<tr>
<td>00954</td>
<td>Mega Green Tea Extract (decaffeinated)</td>
</tr>
<tr>
<td>00953</td>
<td>Mega Green Tea Extract (lightly caffeinated)</td>
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<tr>
<td>01513</td>
<td>Optimized Fucoidan with Maritech® 926</td>
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<tr>
<td>02230</td>
<td>Optimized Resveratrol Elite™</td>
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<tr>
<td>01637</td>
<td>Pycnogenol® French Maritime Pine Bark Extract</td>
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<tr>
<td>02210</td>
<td>Resveratrol Elite™</td>
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<tr>
<td>00070</td>
<td>RNA (Ribonucleic Acid)</td>
</tr>
<tr>
<td>02301</td>
<td>Senolytic Activator*</td>
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<tr>
<td>01208</td>
<td>Super R-Lipoic Acid</td>
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<tr>
<td>01919</td>
<td>X-R Shield</td>
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### Men's Health

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<th>Code</th>
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<tr>
<td>02209</td>
<td>Male Vascular Sexual Support</td>
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<tr>
<td>00455</td>
<td>Mega Lycopene Extract</td>
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<tr>
<td>02306</td>
<td>Men's Bladder Control</td>
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<tr>
<td>01789</td>
<td>PalmettoGuard® Saw Palmetto and Beta-Sitosterol</td>
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<tr>
<td>01790</td>
<td>PalmettoGuard® Saw Palmetto/Nettle Root Formula and Beta-Sitosterol</td>
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<tr>
<td>01837</td>
<td>Pomi-T®</td>
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<tr>
<td>01373</td>
<td>Prelox® Enhanced Sex for Men</td>
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<tr>
<td>01940</td>
<td>Super MiraForte with Standardized Lignans</td>
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<tr>
<td>02500</td>
<td>Testosterone Elite</td>
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<tr>
<td>01909</td>
<td>Triple Strength ProstaPollen™</td>
</tr>
<tr>
<td>02029</td>
<td>Ultra Prostate Formula</td>
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### Minerals

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<th>Code</th>
<th>Product</th>
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<tr>
<td>01661</td>
<td>Boron</td>
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<tr>
<td>02107</td>
<td>Extend-Release Magnesium</td>
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<tr>
<td>01677</td>
<td>Iron Protein Plus</td>
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<tr>
<td>02403</td>
<td>Lithium</td>
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<tr>
<td>01459</td>
<td>Magnesium Caps</td>
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<tr>
<td>01682</td>
<td>Magnesium (Citrate)</td>
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<tr>
<td>01328</td>
<td>Only Trace Minerals</td>
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<tr>
<td>01504</td>
<td>Optimized Chromium with Crominex® 3+</td>
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<tr>
<td>02309</td>
<td>Potassium with Extend-Release Magnesium</td>
</tr>
<tr>
<td>01740</td>
<td>Sea-Iodine™</td>
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<tr>
<td>01879</td>
<td>Se-Methyl L-Selenocysteine</td>
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<tr>
<td>01778</td>
<td>Super Selenium Complex</td>
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<tr>
<td>00213</td>
<td>Vanadyl Sulfate</td>
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<tr>
<td>01813</td>
<td>Zinc Caps</td>
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### Miscellaneous

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>00577</td>
<td>Potassium Iodide</td>
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<tr>
<td>00657</td>
<td>Solarshield® Sunglasses</td>
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### Mood & Stress Management

<table>
<thead>
<tr>
<th>Code</th>
<th>Product</th>
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<tbody>
<tr>
<td>02434</td>
<td>Calm-Mag</td>
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<tr>
<td>02312</td>
<td>Cortisol-Stress Balance</td>
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<tr>
<td>00987</td>
<td>Enhanced Stress Relief</td>
</tr>
<tr>
<td>01074</td>
<td>5-HTP</td>
</tr>
<tr>
<td>01683</td>
<td>L-Theanine</td>
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<tr>
<td>02175</td>
<td>SAMe (S-Adenosyl-Methionine)</td>
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<tr>
<td>02176</td>
<td>200 mg, 30 enteric coated vegetarian tablets</td>
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<tr>
<td>02174</td>
<td>SAMe (S-Adenosyl-Methionine)</td>
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<tr>
<td>02429</td>
<td>Theanine XR™ Stress Relief</td>
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### Multivitamins

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<tr>
<th>Code</th>
<th>Product</th>
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<tbody>
<tr>
<td>02199</td>
<td>Children's Formula Life Extension Mix™</td>
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<tr>
<td>02354</td>
<td>Life Extension Mix™ Capsules</td>
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<tr>
<td>02364</td>
<td>Life Extension Mix™ Capsules without Copper</td>
</tr>
<tr>
<td>02356</td>
<td>Life Extension Mix™ Powder</td>
</tr>
<tr>
<td>02355</td>
<td>Life Extension Mix™ Tablets</td>
</tr>
<tr>
<td>02357</td>
<td>Life Extension Mix™ Tablets with Extra Niacin</td>
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<tr>
<td>02365</td>
<td>Life Extension Mix™ Tablets without Copper</td>
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<tr>
<td>02292</td>
<td>Once-Daily Health Booster - 30 softgels</td>
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<tr>
<td>02291</td>
<td>Once-Daily Health Booster - 60 softgels</td>
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<tr>
<td>02313</td>
<td>One-Per-Day Tablets</td>
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<tr>
<td>02428</td>
<td>Plant-Based Multivitamin</td>
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<tr>
<td>02317</td>
<td>Two-Per-Day Capsules - 60 capsules</td>
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<tr>
<td>02314</td>
<td>Two-Per-Day Capsules - 120 capsules</td>
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<tr>
<td>02316</td>
<td>Two-Per-Day Tablets - 60 tablets</td>
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<tr>
<td>02315</td>
<td>Two-Per-Day Tablets - 120 tablets</td>
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### Nerve & Comfort Support

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>02202</td>
<td>ComfortMAX™</td>
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<tr>
<td>02303</td>
<td>Discomfort Relief</td>
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### Personal Care

<table>
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<th>Code</th>
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<tr>
<td>01006</td>
<td>Biosil™ - 30 veg capsules</td>
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<tr>
<td>01007</td>
<td>Biosil™ - 1 fl oz</td>
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<tr>
<td>00321</td>
<td>Dr. Proctor’s Advanced Hair Formula</td>
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<tr>
<td>00320</td>
<td>Dr. Proctor’s Shampoo</td>
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<tr>
<td>02232</td>
<td>Hair, Skin &amp; Nails Collagen Plus Formula</td>
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<tr>
<td>01278</td>
<td>Life Extension Toothpaste</td>
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<tr>
<td>00408</td>
<td>Venotone</td>
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<tr>
<td>00409</td>
<td>Xyliwhite Mouthwash</td>
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<tr>
<td>02304C</td>
<td>Youthful Collagen</td>
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<tr>
<td>02252</td>
<td>Youthful Legs</td>
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### Pet Care

<table>
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<th>Code</th>
<th>Product</th>
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<tr>
<td>01932</td>
<td>Cat Mix</td>
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<tr>
<td>01931</td>
<td>Dog Mix</td>
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### Probiotics

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<tr>
<th>Code</th>
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<tr>
<td>01622</td>
<td>Bifido GI Balance</td>
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<td>01825</td>
<td>FLORASSIST® Balance</td>
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<tr>
<td>02421</td>
<td>FLORASSIST® Daily Bowel Regularity</td>
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<td>02125</td>
<td>FLORASSIST® GI with Phage Technology</td>
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<tr>
<td>01821</td>
<td>FLORASSIST® Heart Health</td>
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<tr>
<td>02250</td>
<td>FLORASSIST® Mood Improve</td>
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<tr>
<td>02208</td>
<td>FLORASSIST® Immune &amp; Nasal Defense</td>
</tr>
<tr>
<td>02120</td>
<td>FLORASSIST® Oral Hygiene</td>
</tr>
<tr>
<td>02203</td>
<td>FLORASSIST® Prebiotic</td>
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<tr>
<td>02505</td>
<td>FLORASSIST® Probiotic Women’s Health</td>
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<tr>
<td>01920</td>
<td>FLORASSIST® Throat Health</td>
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<tr>
<td>52142</td>
<td>Jarro-Dophilus® for Women</td>
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<tr>
<td>00056</td>
<td>Jarro-Dophilus EPS® - 60 veg capsules</td>
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<tr>
<td>21201</td>
<td>Jarro-Dophilus EPS® - 120 veg capsules</td>
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<tr>
<td>01038</td>
<td>Theralac® Probiotics</td>
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<tr>
<td>01389</td>
<td>TruFlora® Probiotics</td>
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### Skin Care

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<tr>
<th>Code</th>
<th>Product</th>
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<td>80165</td>
<td>Advanced Growth Factor Serum</td>
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<td>80170</td>
<td>Advanced Hyaluronic Acid Serum</td>
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<td>80154</td>
<td>Advanced Lightening Cream</td>
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<td>Advanced Peptide Hand Therapy</td>
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<td>80175</td>
<td>Advanced Probiotic-Fermented Eye Serum</td>
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<td>Advanced Retinol Serum</td>
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<td>80152</td>
<td>Advanced Triple Peptide Serum</td>
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<td>80140</td>
<td>Advanced Under Eye Serum with Stem Cells</td>
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<td>80137</td>
<td>All-Purpose Soothing Relief Cream</td>
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<td>Amber Self MicroDermAbrasion</td>
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<td>80118</td>
<td>Anti-Aging Mask</td>
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<td>80151</td>
<td>Anti-Aging Rejuvenating Face Cream</td>
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<td>Brightening Peptide Serum</td>
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<td>Cucumber Hydra Peptide Eye Cream</td>
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<td>Glycine</td>
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<td>01083</td>
<td>Melatonin • 500 mcg, 200 veg capsules</td>
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<td>00299</td>
<td>Melatonin • 1 mg, 60 capsules</td>
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<tr>
<td>02503</td>
<td>Melatonin • 3 mg, 60 gummies</td>
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<tr>
<td>00330</td>
<td>Melatonin • 3 mg, 60 veg capsules</td>
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<tr>
<td>00331</td>
<td>Melatonin • 10 mg, 60 veg capsules</td>
</tr>
<tr>
<td>00332</td>
<td>Melatonin • 3 mg, 60 veg lozenges</td>
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<td>02201</td>
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<tr>
<td>01787</td>
<td>Melatonin 6 Hour Timed Release 300 mcg, 100 veg tablets</td>
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<td>01788</td>
<td>Melatonin 6 Hour Timed Release 750 mcg, 60 veg tablets</td>
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<tr>
<td>01786</td>
<td>Melatonin 6 Hour Timed Release • 3 mg, 60 veg tablets</td>
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<tr>
<td>01721</td>
<td>Optimized Tryptophan Plus</td>
</tr>
<tr>
<td>01444</td>
<td>Quiet Sleep Melatonin • 3 mg, 60 veg capsules</td>
</tr>
<tr>
<td>01445</td>
<td>Quiet Sleep Melatonin • 5 mg, 60 veg capsules</td>
</tr>
<tr>
<td>02502</td>
<td>Rest &amp; Renew</td>
</tr>
</tbody>
</table>

**VITAMINS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>01533</td>
<td>Ascorbyl Palmitate</td>
</tr>
<tr>
<td>00920</td>
<td>Benfotiamine with Thiamine</td>
</tr>
<tr>
<td>00664</td>
<td>Beta-Carotene</td>
</tr>
<tr>
<td>01945</td>
<td>BioActive Complete B-Complex</td>
</tr>
<tr>
<td>00102</td>
<td>Biotin</td>
</tr>
<tr>
<td>00084</td>
<td>Buffered Vitamin C Powder</td>
</tr>
<tr>
<td>02229</td>
<td>Fast-C® and Bio-Quercetin Phytosome</td>
</tr>
<tr>
<td>02075</td>
<td>Gamma E Mixed Tocopherol Enhanced with Sesame Lignans</td>
</tr>
<tr>
<td>02070</td>
<td>Gamma E Mixed Tocopherol &amp; Tocotrienols</td>
</tr>
<tr>
<td>01913</td>
<td>High Potency Optimized Folate</td>
</tr>
<tr>
<td>01674</td>
<td>Inositol Caps</td>
</tr>
<tr>
<td>02444</td>
<td>Liquid Vitamin D3 • 50 mcg (2000 IU)</td>
</tr>
<tr>
<td>02232</td>
<td>Liquid Vitamin D3 (Mint) • 50 mcg (2000 IU)</td>
</tr>
<tr>
<td>01936</td>
<td>Low-Dose Vitamin K2</td>
</tr>
<tr>
<td>00065</td>
<td>MK-7</td>
</tr>
<tr>
<td>00373</td>
<td>No Flush Niacin</td>
</tr>
<tr>
<td>01939</td>
<td>Optimized Folate (L-Methylfolate)</td>
</tr>
<tr>
<td>01217</td>
<td>Pyridoxal 5'-Phosphate Caps</td>
</tr>
<tr>
<td>01400</td>
<td>Super Absorbable Tocotrienols</td>
</tr>
<tr>
<td>02334</td>
<td>Super K</td>
</tr>
<tr>
<td>01863</td>
<td>Super Vitamin E</td>
</tr>
<tr>
<td>02422</td>
<td>Vegan Vitamin D3</td>
</tr>
<tr>
<td>02028</td>
<td>Vitamin B5 (Pantothenic Acid)</td>
</tr>
<tr>
<td>01535</td>
<td>Vitamin B6</td>
</tr>
<tr>
<td>00361</td>
<td>Vitamin B12 Methylcobalamin</td>
</tr>
<tr>
<td>01536</td>
<td>Vitamin B12 Methylcobalamin • 1 mg, 60 veg lozenges</td>
</tr>
<tr>
<td>01537</td>
<td>Vitamin B12 Methylcobalamin • 5 mg, 60 veg lozenges</td>
</tr>
<tr>
<td>02228</td>
<td>Vitamin C and Bio-Quercetin Phytosome • 60 veg tablets</td>
</tr>
<tr>
<td>02227</td>
<td>Vitamin C and Bio-Quercetin Phytosme • 250 veg tablets</td>
</tr>
<tr>
<td>01753</td>
<td>Vitamin D3 • 25 mcg (1000 IU), 90 softgels</td>
</tr>
<tr>
<td>01751</td>
<td>Vitamin D3 • 25 mcg (1000 IU), 250 softgels</td>
</tr>
<tr>
<td>01713</td>
<td>Vitamin D3 • 125 mcg (5000 IU), 60 softgels</td>
</tr>
<tr>
<td>01718</td>
<td>Vitamin D3 • 175 mcg (7000 IU), 60 softgels</td>
</tr>
<tr>
<td>01758</td>
<td>Vitamin D3 with Sea-Iodine™</td>
</tr>
<tr>
<td>02040</td>
<td>Vitamins D and K with Sea-Iodine™</td>
</tr>
</tbody>
</table>

**WEIGHT MANAGEMENT & BODY COMPOSITION**

<table>
<thead>
<tr>
<th>Code</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>02479</td>
<td>7-Keto® DHEA Metabolite • 100 mg, 60 veg capsules</td>
</tr>
<tr>
<td>02207</td>
<td>AMPK Metabolic Activator</td>
</tr>
<tr>
<td>02504</td>
<td>Body Trim and Appetite Control</td>
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<tr>
<td>02478</td>
<td>DHEA Complete</td>
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<tr>
<td>01738</td>
<td>Garcinia HCA</td>
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<tr>
<td>02506</td>
<td>Mediterranean Weight Management</td>
</tr>
<tr>
<td>01432</td>
<td>Optimized Saffron</td>
</tr>
<tr>
<td>00818</td>
<td>Super CLA Blend with Sesame Lignans</td>
</tr>
<tr>
<td>02509</td>
<td>Waistline Control™</td>
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</tbody>
</table>

**WOMEN'S HEALTH**

<table>
<thead>
<tr>
<th>Code</th>
<th>Product Name</th>
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</thead>
<tbody>
<tr>
<td>01942</td>
<td>Breast Health Formula</td>
</tr>
<tr>
<td>01626</td>
<td>Enhanced Sex for Women 50+</td>
</tr>
<tr>
<td>01894</td>
<td>Estrogen for Women</td>
</tr>
<tr>
<td>01064</td>
<td>Femmenessence MacaPause®</td>
</tr>
<tr>
<td>02204</td>
<td>Menopause 731™</td>
</tr>
<tr>
<td>02319</td>
<td>Prenatal Advantage</td>
</tr>
<tr>
<td>01649</td>
<td>Super-Absorbable Soy Isoflavones</td>
</tr>
<tr>
<td>02507</td>
<td>Youthful Woman 40+ with B-Complex</td>
</tr>
</tbody>
</table>
Selenium promotes the body’s production of glutathione, a potent cellular antioxidant. It also encourages healthy cell division, thyroid health, and immune function.

**Super Selenium Complex** combines three complementary forms of selenium with vitamin E for additional antioxidant protection.

---

**SUPER SALE PRICE**

<table>
<thead>
<tr>
<th>Product</th>
<th>100 vegetarian capsules</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$9.45</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$8.10 each</td>
</tr>
</tbody>
</table>

Each bottle provides a supply that lasts more than three months.

For full product description and to order **Super Selenium Complex**, call 1-800-544-4440 or visit www.LifeExtension.com

---

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

For full product description and to order **TWO-PER-DAY MULTIVITAMIN**, call **1-800-544-4440** or visit **www.LifeExtension.com**

**Compared to Centrum® Two-Per-Day Provides:**
- 50 times the VITAMIN B1
- 25 times the VITAMIN B6
- 12 times the VITAMIN B12
- 10 times the BIOTIN
- 10 times the SELENIUM
- 8 times the VITAMIN C
- 3 times the VITAMIN E
- 2.5 times the VITAMIN B3
- 2 times the VITAMIN D
- 2 times the ZINC

**More Nutrients Higher Potencies**

**LIFE EXTENSION® TWO-PER-DAY MULTIVITAMIN**

Each bottle provides a two-month supply.

**Two-Per-Day Multivitamin Tablets**
- **SUPER SALE PRICE**
- Item #02315 • 120 tablets (two-month supply)
- 1 bottle $16.54 • 4 bottles $13.95 each

**Two-Per-Day Multivitamin Capsules**
- **SUPER SALE PRICE**
- Item #02314 • 120 capsules (two-month supply)
- 1 bottle $17.21 • 4 bottles $15.30 each

*Lycored LycoBeads® is a registered trademark of Lycored; Orange, New Jersey. SelenoExcell® is a registered trademark of Cypress Systems Inc. L-OptiZinc® is a Lonza trademark, registered in the USA. Crominex® 3+, Capros® and PrimaVie® are patent protected and registered trademarks of Natreon, Inc.*
WHAT’S NEW THIS MONTH...

7 DELIVER MORE NUTRIENTS
Plant extracts are now more bioavailable, enabling consumers to garner greater systemic effects.

22 RESTORE YOUTHFUL FREE TESTOSTERONE
A blend of pomegranate and cacao extracts increases free testosterone to help reverse its age-related decline.

32 ROLE OF COQ10 IN AGING
CoQ10 improves cellular energy while reducing factors that contribute to degenerative aging.

42 BANISH BRAIN FOG
Two nutrients have been clinically validated to reduce brain fog and increase mental energy, focus, and attention.

50 CATARACTS AND GLAUCOMA
Research findings reveal how lutein and zeaxanthin help protect against cataracts, optic nerve damage, and other vision disorders.

59 WHAT IS BROMELAIN?
Bromelain has been shown to inhibit inflammation and support joint comfort. Systemic absorption enhances beneficial potential.

VISIT US ONLINE AT LIFEEXTENSION.COM