ARE YOU COOKING YOURSELF TO DEATH?

Elminate After Meal Digestive Discomforts

Suppress Dangerous Inflammatory Reactions

Lose Weight by Eating Foods Cooked at Lower Temperatures

International Anti-Aging Conference Reports

Renew Your Skin From the Inside

PLUS—
Omega-3s Increase Telomere Length in Aging Humans
Coenzyme Q10 and Garlic Reduce Atherosclerosis Progression
Chef Sal’s Amazing Journey to Raw Alkaline Cuisine
The annual **SUPER SALE** enables members to obtain premium grade supplements at prices substantially **below** what commercial companies charge. When members buy products from the **Life Extension Foundation Buyers Club**, they know that the **quality** of the products are backed by the organization’s commitment to achieving an indefinitely extended life span. What follows are a few examples of the **savings** members enjoy during the **SUPER SALE**.

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Retail Price</th>
<th>Member Price</th>
<th>Bottle(s) Purchased</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Super Omega-3 EPA/DHA with Sesame Lignans/Olive Fruit Extract</strong></td>
<td>$32</td>
<td>$16.81</td>
<td>(ten-bottle purchase)</td>
</tr>
<tr>
<td>120 softgels, Item # 01482</td>
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<tr>
<td>Super-refined EPA/DHA fish oil plus sesame lignans and olive fruit extract to provide critical omega-3 fatty acids and essential components of the Mediterranean diet.</td>
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</tr>
<tr>
<td><strong>PQQ Caps with BioPQQ™</strong> • 10 mg, 30 vegetarian capsules, Item # 01500</td>
<td>$24</td>
<td>$14.85</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>Promotes mitochondrial biogenesis (generation of new mitochondria) in aging cells.</td>
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<tr>
<td><strong>Super Bio-Curcumin®</strong> • 60 vegetarian capsules, Item # 00407</td>
<td>$38</td>
<td>$23.63</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>Advanced formulation that absorbs six times greater than conventional curcumin.</td>
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<tr>
<td><strong>Bone Restore with Vitamin K2</strong> • 150 capsules, Item # 01711</td>
<td>$26</td>
<td>$15.53</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>High-potency bone protection formula with with highly absorbable forms of calcium, magnesium, and boron. Available with or without vitamin K2.</td>
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<tr>
<td><strong>ArthroMax™ Advanced with UC-II® and AprèsFlex™</strong></td>
<td>$36</td>
<td>$21.60</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>60 capsules, Item # 01618</td>
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<td>Promotes joint health and may promote comfortable joint structure and function.</td>
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<tr>
<td><strong>Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™</strong></td>
<td>$62</td>
<td>$35.10</td>
<td>(ten-bottle purchase)</td>
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<tr>
<td>100 mg, 60 softgels, Item # 01426</td>
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<tr>
<td>Superior ubiquinol form of CoQ10 plus an organic compound (shilajit) shown to double mitochondrial CoQ10 levels.</td>
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<tr>
<td><strong>Ultra Natural Prostate Formula</strong> • 60 softgels, Item # 01695</td>
<td>$38</td>
<td>$21.60</td>
<td>(twelve-bottle purchase)</td>
</tr>
<tr>
<td>Comprehensive prostate protection utilizing nettle, pygeum, saw palmetto, boswellia, lycopene, boron, and other plant extracts.</td>
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<tr>
<td><strong>Reishi Extract Mushroom Complex</strong></td>
<td>$30</td>
<td>$18.23</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>60 vegetarian capsules, Item # 01708</td>
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<tr>
<td>Standardized mushroom extract to restore and regulate immune function.</td>
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<tr>
<td><strong>Optimized Resveratrol with Synergistic Grape-Berry Actives</strong></td>
<td>$46</td>
<td>$27.90</td>
<td>(four-bottle purchase)</td>
</tr>
<tr>
<td>250 mg, 60 vegetarian capsules, Item # 01430</td>
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<tr>
<td>High potency trans-resveratrol with quercetin, plus trans-pterostilbene and fisetin to support DNA “longevity genes.” One-per-day resveratrol formula.</td>
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<tr>
<td><strong>Super Booster Softgels with Advanced K2 Complex</strong></td>
<td>$42</td>
<td>$25.65</td>
<td>(four-bottle purchase)</td>
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<tr>
<td>60 softgels, Item # 01680</td>
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<tr>
<td>A convenient one-per-day softgel that includes optimal potencies of gamma-tocopherol, sesame lignans, lycopene, lutein, ginkgo, chlorophyllin, and both forms of vitamin K2.</td>
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</tbody>
</table>

The **SUPER SALE** extends to January 31, 2013.

Members 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.lef.org

**(SUPER SALE** pricing available only to members in the US, Canada, and England.)

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
40 SAFELY MODULATE INFLAMMATION
During an infection, the body requires acute inflammation to fight off foreign invaders. Over time, aging upsets the inflammatory response balance. The tragic result is chronic inflammation that underlies most diseases of aging. Fortunately, scientists have discovered that black cumin seed oil safely modulates the balance of the inflammatory response.

52 CERAMIDES NOURISH SKIN FROM WITHIN
Youthful skin is rich in ceramide molecules that nourish the skin matrix keeping it firm and supple. With age, our production of ceramides declines resulting in the loss of vital moisture. Researchers have discovered a method to extract ceramides from whole grain wheat. Clinical studies document the ability of these ceramides to nourish aging skin from within and avoid the external signs of aging such as dryness and wrinkles.

62 CoQ10: A CRITICAL LONGEVITY FACTOR
While best known for heart health, extensive research shows that CoQ10 boosts cellular energy output throughout the body. By increasing the efficiency of our mitochondria, CoQ10 protects every cell. Laboratory studies demonstrate that CoQ10 can extend life span, suggesting important longevity benefits for humans.

76 SCIENTIFIC RESEARCH CONFERENCES REPORT
The Ellison Medical Foundation Colloquium on Aging featured research discoveries on resveratrol, nicotinamide mononucleotide, protein deprivation, and “jumping genes.” At the 4TH American Academy Of Anti-Aging Medicine Conference held in Thailand, the focus was on the dramatic role hormone replacement can play in fighting aging.

7 ARE YOU COOKING YOURSELF TO DEATH?
Eating foods cooked at high temperature accelerates aging factors such as glycation and chronic inflammation. Fortunately most Life Extension members take steps to mitigate the damaging effects of overcooked foods.

91 WELLNESS PROFILE
International chef and Life Extension member, Sal Montezinos advocates an alkaline diet to balance pH levels and prevent toxic body conditions known as acidosis and alkalosis. Chef Sal explains the benefits of the raw alkaline diet.

97 SUPER FOODS
Cauliflower contains unique bioactive compounds called glucosinolates and indole-3-carbinol. Cauliflower offers strong protection against cancer, diabetes, rheumatoid arthritis, and cardiovascular disease.
2

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Reishi mushroom has been traditionally used to boost immune system vitality. Its broad-spectrum benefits have been demonstrated in thousands of studies.¹

An advanced extraction technology has resulted in a new Reishi extract that make its active compounds even more bio-available.

REISHI SUPPORTS A HEALTHY IMMUNE SYSTEM

An abundance of evidence demonstrates that Reishi constituents enhance the protective activity of the body’s hematopoietic stem cells, T-cells, and other crucial immune factors.²⁻⁹

Reishi’s immune-supporting compounds include an array of unique polysaccharides, triterpenes, and other constituents,¹⁰⁻¹¹ many of which assist activation of the cell surface receptors that modulate normal immunity.¹²

The Reishi mushroom also supports the body’s production of endogenous antioxidant enzymes—such as superoxide dismutase (SOD), catalase, and glutathione—which, in turn, support the body’s natural immune defenses against free radical damage.¹³,¹⁴

ADVANCED EXTRACTION TECHNOLOGY

Reishi Extract Mushroom Complex delivers powerful compounds and represents the next generation of natural immune support. Reishi extracts standardized to polysaccharides have been available for years, but most do not standardize for triterpenes and include the spores. This full-spectrum extract has multiple components which have shown to support healthy immune function and enhanced longevity in a natural experimental aging model.¹⁵

The suggested 2 capsules a day of Reishi Extract Mushroom Complex provide:

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reishi mushroom (Ganoderma lucidum) extract</td>
<td>980 mg</td>
</tr>
<tr>
<td>(Fruit body) [standardized to 13.5% polysaccharides (132.3mg) and 6% triterpenes (58.8mg)]</td>
<td></td>
</tr>
<tr>
<td>Reishi mushroom (Ganoderma lucidum) spore</td>
<td>150 mg</td>
</tr>
</tbody>
</table>

A bottle containing 60 vegetarian capsules of Reishi Extract Mushroom Complex retails for $30. If a member buys four bottles during Super Sale, the price reduced to $18.23.

References

15. FASEB. 2012;26:375.2.
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 Bemales, MD, is a board-certified pediatrician and general practitioner in Chicago, IL, focusing on allergies, bronchial asthma, and immunodeficiency.

Thomas F. Crais, MD, FACS, is a board-certified plastic surgeon, was medical director of the microsurgical 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).

John DeLuca, MD, DC, is executive medical director of Fratellone Associates. He completed his Internal Medicine residency at Monmouth Medical Center in Long Branch, New Jersey, in 2008 and is board certified by the American Board of Internal Medicine. Dr. DeLuca is a Diplomat 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 Donetek Regional Medical Center in Donetek, Ukraine. Dr. Dzugan’s current primary interests are anti-aging and biological therapy for cancer, cholesterol, and hormonal disorders.

Patrick M. Fratellone, MD, is a clinical dermatologist in Carlsbad, CA, and formerly served as assistant professor of dermatology at Loma Linda University. He is currently a consultant to the National Institutes of Health.

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

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Lambert Titus K. Parker, MD, practices internal medicine at the Integrative Longevity Institute of Virginia in Virginia Beach, VA.

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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.

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Michael R. Rose, MD, is a board-certified ophthalmologist with the Rose Eye Medical Group in Los Angeles, CA, is on the staffs of the University of Southern California and UCLA.

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

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.

Carol Ann Ryser, MD, FAAP, is medical director of Health Centers of America in Kansas City, MO, and focuses on pediatrics and mental health.

Michael D. Seidman, MD, is the regional coordina- tor of otolaryngology-head and neck surgery for the Bloomfield satellite of Henry Ford Health System (HFHS), Detroit, MI, co-director of the Tinnitus Center, and co-chair of the Comprehensive/Alternative Medicine Initiative for HFHS.

Ronald L. Shuler, BS, DDS, CCN, LN, is involved in immunonuclorism for the prevention and treatment of cancer, human growth hormone secretagogues, and osteoporosis. Board certified in Anti-Aging medicine.

Herbert R. Slavin, MD, is medical director of the Institute of Advanced Medicine in LAuderhill, FL, specializing in anti-aging medicine, disease prevention, chelation therapy, and natural hormone replacement therapy.

Stephan L. Smith, MD, Richland, WA, focuses on treating allergies and is a member of the American Society for Lasers in Medicine and Surgery.

Stephen Strum, MD, is a medical oncologist who has specialized in prostate cancer treatment since 1983. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.

Javier Torres, MD, is a member of the American Academy of Physical Medicine and Rehabilitation and is on the medical staffs of Sunrise Hospital, Desert Springs Hospital, Valley Hospital, and Mountain View Hospital, all in Las Vegas, NV.

Paul Wand, MD, Fort Lauderdale, FL, is a clinical neurologist with special expertise in treating and reversing diabetic peripheral neuropathy and brain injuries from various causes.

Charles E. Williamson, MD, Boca Raton, FL, focuses on anti-aging, longevity, and pain management.

Jonathan V. Wright, MD, is medical director of the Tahoma Clinic in Renton, 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 11 books and publishes Nutrition and Healing, a monthly newsletter with a worldwide circulation of more than 100,000.
**Scientific Advisory Board**

**Orn Adalsteinsson, PhD**, holds a master’s and doctoral degree from the Massachusetts Institute of Technology (MIT). He has specialized in human therapeutics including vaccines, monoclonal antibodies, product development, nutraceuticals, formulations, artificial intelligence, hormones, and nutritional supplementation. He has also authored articles and contributed to peer-reviewed publications and served as an editor for the Journal of Medicinal Food.

**Russell L. Blaylock, MD**, is a board-certified neurosurgeon, author, and lecturer. He recently retired from his neurosurgical practice to devote his time to nutritional studies and research. He has written numerous journal articles and three books (*Excitotoxins: The Taste That Kills, Health and Nutrition Secrets That Can Save Your Life, and Natural Strategies for the Cancer Patient*) and currently publishes a monthly nutrition newsletter, The Blaylock Wellness Report.

**John Boik, PhD**, is the author of two books on cancer therapy, *Cancer and Natural Medicine* (1996) and *Natural Compounds in Cancer Therapy* (2001). He obtained 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 anticancer drugs. He conducted his postdoctoral training at Stanford University Department of Statistics. He is currently president of New Earth BioMed, a nonprofit cancer research corporation that studies mixtures of natural products.

**Eric R. Braverman, MD**, is director of the Place for Achieving Total Health (PATH Medical and the PATH Foundation) in New York City. Dr. Braverman received his BA from Brandeis University Summa Cum Laude/Phi Beta Kappa and his MD from New York University Medical School with honors. He is the author of *Younger You* (2008) and *Younger Thinner You* (2009) and over 100 research papers and is clinical assistant professor of integrative medicine in the Department of Neurosurgery at Cornell Weill Medical College, as well as a lecturer on mild cognitive decline.

**Frank Eichorn, MD**, is a urologist specializing in prostate cancer for 10 years. He has a private practice in Bad Reichenhall, Germany, and is prostate cancer consultant at the Urologische Klinik Castrignus, Planegg, Munich. In his integrative approach to prostate cancer he is working together with an international network of experts to improve treatment outcomes for prostate cancer patients with a special focus on natural and translational medicine.

**Deborah F. Harding, MD**, is founder of the Harding Anti-Aging Center. She is triple board-certified in internal medicine, sleep disorder medicine, and anti-aging medicine. She also earned the Cenegenics certification in age management medicine. She is a faculty member of the new University of Central Florida Medical School.

**Steven B. Harris, MD**, is president and director of research at Critical Care Research, a company that grew out of 21st Century Medicine in Rancho Cucamonga, CA. Dr. Harris participates in groundbreaking hypothermia, cryoablation, and ischemia research. His research interests include antioxidant and dietary-restriction effects in animals and humans.

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**Richard Kratz, MD, DSci**, is clinical professor of ophthalmology at the University of California, Irvine, and the University of Southern California (Los Angeles). Dr. Kratz pioneered the cataract-removal technique called phacoemulsification and developed intraocular lenses to replace the crystalline lens. He is currently involved in projects relating to glaucoma, cataract extraction, and facilitating eyesight for the totally blind.

**Peter H. Langsjoen, MD, FACC**, 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.

**Ralph W. Moss, PhD**, is the author of books such as *Antioxidants Against Cancer, Cancer Therapy, Questioning Chemotherapy, and The Cancer Industry*, as well as the award-winning *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.

**Michael D. Ozner, MD, FACC, FAHA**, 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 and The Miami Mediterranean Diet* (2008, Benbella Books). For more information visit www.drozner.com.

**Robert Pastore, PhD, CNS**, is a clinical nutritionist practicing in New York City. Due to his thorough nature and focus on organic chemistry and biochemistry, his colleagues have termed his practice forensic nutrition. He is a member of Harvard Medical School Postgraduate Association, the American College of Nutrition, New York Academy of Sciences, and the American Association of Pharmaceutical Scientists.

**Stephen B. Strum, MD, FACCP**, is a medical oncologist who has specialized in prostate cancer treatment since 1983. He is co-founder and past medical director of the Prostate Cancer Research Institute. Currently, he directs a practice for prostate cancer patients in Ashland, OR.

**Jonathan Treasure, AHG, MNIMH**, is a British medical herbalist at the Centre for Natural Healing in Ashland, OR. Originally a medical sciences graduate from Cambridge University, he studied herbal medicine at the UK School of Phytotherapy. His clinical specialty is integrative botanical medicine for cancer, and his principal research interest is herb/drug interactions.

**Jonathan V. Wright, MD**, is medical director of the Tahoma Clinic in Renton, 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 11 books and publishes *Nutrition and Healing*, a monthly newsletter with a worldwide circulation of more than 100,000.
Rejuvenex® Factor provides 28 active ingredients in a deep-penetrating serum. To get these skin protecting and rejuvenating compounds elsewhere, you’d need to layer on a dozen expensive creams—each providing only 2 or 3 of these active ingredients.

The good news is that—for a fraction of the cost—Rejuvenex® Factor Firming Serum delivers optimal dosages of the full range of clinically proven technologies… to promote the appearance of youthful, firmer, and more vibrant skin.

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Rejuvenex® Factor Firming Serum is uniquely free of paraben, irritants, estrogenic chemicals, mineral oil, and synthetic fragrances.

**HUGE SAVINGS DURING SUPER SALE**

A 1.7 oz bottle of Rejuvenex® Factor Firming Serum retails for $65. If a member buys two bottles during Super Sale, the price is reduced to $34.20 a bottle. If six bottles are purchased during Super Sale, the price is only $26 a bottle. Each bottle will last two months which brings the cost for Rejuvenex® Factor Firming Serum to as low as $13 per month when purchased during the annual Super Sale!

**Rejuvenex® Factor Firming Serum Provides 28 Active Compounds:**

- **Taurine**: Helps neutralize free radicals and inhibit premature aging of the skin.
- **Salicylic acid**: Supports production of new skin cells.
- **Ceramide-2**: Promotes the shedding of old skin cells and helps retain moisture.
- **Thioctic acid (alpha lipoic acid)**: Supports the skin’s normal antioxidant protection.
- **Lactic acid**: Helps the body shed dead skin cells.
- **Vitamin C (ascorbyl phosphate)**: Helps strengthen the skin barrier and promote collagen production.
- **Hylasome® EG10 (hyaluronate crosspolymer)**: Holds more moisture in skin cells and targets free radicals.
- **Glycerin**: Minimizes the appearance of wrinkles by supporting elasticity and moisture retention.
- **Avobenzone**: Helps protect the skin from the visible effects of sunlight exposure.
- **Glycine soja (soybean) oil**: Promotes collagen production and skin elasticity and supports UV defense.
- **Panthenol**: Potent support for skin’s normal moisturizing ability.
- **DMAE (dimethylaminoethanol)**: Helps smooth and firm skin.
- **Botanimoist® AMS (Pyrus malus)**: Helps boost hydration of skin cells.
- **Botanistat® PF-64**: Helps preserves serum against environmental toxins (avoiding the preservative paraben).
- **Pomegranate (Punica granatum) extract**: Reduces visible signs of aging by promoting skin cell turnover.
- **Green tea (Camellia sinensis) extract**: Provides antioxidant support to help prevent signs of premature aging.
- **White tea (Camellia sinensis) extract**: Protects the skin from visible signs of UV exposure.
- **QuSome® delivery system**: Breakthrough delivery system delivers maximum active ingredients directly into the skin.
- **Matrixyl® synthe’6**: Helps minimize the appearance of fine lines and wrinkles.
- **Vegetal Filling Spheres**: Helps support collagen and firm, and helps prevent breakouts.
- **Hydroxydecyl ubiquinone (CoQ10)**: Supports collagen and elastin for smoother, younger-looking skin.

**ITEM# 01621**

To order Rejuvenex® Factor Firming Serum call 1-800-544-4440 or visit www.LifeExtension.com

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Are You Cooking Yourself to Death?

BY WILLIAM FALOON

People nowadays categorize foods as being healthy or risky. Overlooked are robust findings showing that how food is cooked has a lot to do with whether it prevents or causes disease.

One example is fish. We know that those who eat ocean fish have fewer heart attacks…but if one eats only fried fish, risk of heart disease increases.¹²

Depending on the cooking method, the same food can either accelerate obesity or aid in weight loss. Less understood are prevalent ways of cooking that convert foods into deadly toxins.

Back in 2003, I described a study published in the Proceedings of the National Academy of Sciences showing that eating foods cooked at high temperature increases the rate at which we age. Scientists uncovered back then that ingestion of high temperature cooked foods resulted in chronic inflammation and accelerated glycation.³

Newly published studies confirm these dangers. For example, breast and prostate cancers are sharply increased in those who eat heavily cooked meat like hamburgers.⁴⁻⁸

This article will explain how to choose safely cooked foods and methods to protect your body against the lethal impact of foods prepared at excessively high temperatures. >
When any food is heated to high temperature (over 300 degrees), chemical changes occur that inflict damage to our cells after we eat that food.9,11

Be it fat, carbohydrate, or protein, when exposed to high temperatures, toxic compounds form that you don’t want in your body. We have repeatedly warned about the dangers of eating over-cooked foods...especially meat.

A study released in 2012 from a prestigious medical center found that men who ate just 1.5 servings of pan-fried red meat each week increased their risk of advanced prostate cancer by 30%. Men who ate more than 2.5 servings of red meat cooked at high temperature were 40% more likely to have advanced prostate cancer.12 Considering that some men eat high temperature cooked meat every day, is it any wonder that aging men suffer epidemic rates of prostate cancer?2

Fortunately most Life Extension® members take supplements with meals that help neutralize the proven carcinogens that form when meat is over-cooked.13

**Eating Lower-Temperature Cooked Foods Promotes Weight Loss**

In 2003, we reported on a fascinating study showing that diabetics who consumed a low-temperature cooked diet lost weight compared to a group that consumed the same numbers of calories, carbohydrates, fats, and protein cooked at higher temperature. Not only did the low-temperature prepared diet facilitate weight loss, but there were also reductions in blood glucose.3

This six-week study showed that eating the same food cooked at low-temperature reduced glycated-LDL by 33%, whereas diabetics consuming the same higher temperature prepared foods increased glycated-LDL by 32%.3

Move forward to 2012 and a team of researchers at Mount Sinai School of Medicine identified a compound in over-cooked foods that plays a major role in the development of abdominal obesity and its related diseases.

The scientists found that mice with sustained exposure to this compound (methyl-glyoxal) developed significant abdominal weight gain, early insulin resistance, immune changes consistent with inflammation/oxidation and type II diabetes.14 Methyl-glyoxal is a type of advanced glycation end product that is produced when food is cooked with dry heat.

Most of you already know that glycation is a deadly mechanism of aging that destroys functioning proteins in the body and induces chronic inflammation, which in turn promotes weight gain.15-19 Nutrients like carnosine,20-25 benfotiamine,26-32 and pyridoxal-5-phosphate33-36 are potent anti-glycation agents.

In the Mount Sinai study, one group of mice was fed a diet high in methyl-glyoxal over four generations, while the control group was fed a diet without methyl-glyoxal. Both diets had normal calories and fat. Over four generations, the mice that ate the methyl-glyoxal developed early insulin resistance and increased body fat, whereas the control group had neither of these conditions.14

This study showed how a specific glycation-inducing compound (methyl-glyoxal), abundant in over-cooked foods, contributes to an increase in weight gain, insulin resistance, and diabetes.
Advanced glycation end products (AGEs) or glycotoxins are found in foods that are overheated or cooked at very high temperatures. This includes foods that have been fried, barbecued, broiled or cooked in the microwave.

While the worst culprits are animal products, since they contain a higher amount of “bad” fats that speed up the formation of glycotoxins, any food exposed to extreme high heat can scorch the natural sugars in food and create glycotoxins.168-170 This is also true of many pre-packed foods that have been preserved, pasteurized, homogenized, or refined, such as white flour, cake mixes, canned milk, dried milk, dried eggs, dairy products including pasteurized milk, and canned or frozen pre-cooked meals.170 While it may be impossible to totally avoid glycotoxins, it is possible to reduce exposure by changing the way food is prepared. Consider steaming, boiling, poaching, stewing, stir-frying, or using a slow cooker.28,170 These methods not only cook foods with a lower amount of heat, they create more moisture during the cooking process. According to researchers, water or moisture can help delay the reactions that lead to glycotoxins.170 Marinating foods in olive oil, cider vinegar, garlic, mustard, lemon juice, and dry wines can also help.170 Finally, consider making small diet changes by adding more fresh fruits and raw and steamed vegetables to your diet.

Changes in Cooking Methods Can Slow Aging

As we see it
Age-Accelerating Effects of Glycation

Glycation can be described as the binding of a protein molecule to a glucose molecule resulting in the formation of damaged protein structures. Many age-related diseases such as arterial stiffening, cataracts, and neurological impairment are at least partially attributable to glycation. These destructive glycation reactions render proteins in the body barely functional. As these degraded proteins accumulate, they cause cells to emit signals that induce the production of inflammatory cytokines.

While there are nutrients (such as pyridoxal-5-phosphate and benfotiamine) that help protect against glycation, reducing consumption of foods cooked at high temperature can dramatically suppress deadly glycation processes, and the subsequent formation of advanced glycation end products (AGEs).

Cooking and Aging Have Similar Biological Properties

Cooking foods at high temperatures results in a "browning" effect, where sugars and certain oxidized fats react with proteins to form glycoxins in the food. Normal aging can also be regarded as a slow cooking process, since these same glycoxins form in the skin, arteries, eye lenses, joints, and cartilage of our body.

Studies show that consuming foods high in glycoxins can be responsible for the induction of a low-grade, but chronic state of inflammation. In addition, the glycoxins in food cooked at high temperatures also promote the formation of glycoxins in our living tissues. Thus when we eat foods altered by high temperature cooking, these foods inflict similar damage to living proteins in our body.

Don’t “Cook” Yourself to Death

Most Life Extension members already follow a healthy lifestyle that helps prevent glycation and chronic inflammation.
It has long been known that heavily cooked foods inflict massive damage to the genes. A group at the University of Minnesota reported that women who ate overcooked hamburgers had a 50% greater risk of breast cancer than women who ate rare or medium hamburgers. The famous Iowa Women’s Health Study found that women who consistently eat well-done steak, hamburgers, and bacon have a 4.62-fold increased risk of breast cancer.171

Cooking foods at high temperatures causes the formation of gene-mutating heterocyclic amines, which is why deep fried foods are so dangerous to eat. Heterocyclic amines have been linked to prostate, breast, colorectal, esophageal, lung, liver, and other cancers. While health conscious people try to avoid foods that are known carcinogens, even grilled salmon contains a potent dose of gene-mutating heterocyclic amines.172

While one can reduce their exposure to cancer-causing heterocyclic amines, it may be impossible to keep them from forming within the body. Enzymatic activities that naturally occur in the liver can inadvertently manufacture heterocyclic amines from otherwise harmless organic compounds.173

Neutralizing Dietary Carcinogens

The first lines of defense against carcinogens consumed in the diet are agents that prevent gene mutation. Many anti-mutagenic agents have been identified in fruits and vegetables, the most potent being indole-3-carbinol and chlorophyllin.174

Life Extension introduced members to the anti-mutagenic effects of chlorophyllin back in 1989. The recommendation to supplement with chlorophyllin was based on a study published in the journal Mutation Research175 showing that this plant extract was a more effective anti-mutagenic agent than all other known anti-cancer vitamins at that time.

What impressed us most about the Mutation Research study was that chlorophyllin suppressed the mutagenic activity of carcinogens such as fried pork, diesel emissions, and coal dust by more than 90%! No other supplement came close to chlorophyllin’s ability to inhibit deadly gene mutations.

The great majority of studies about chlorophyllin’s health benefits concern its anti-mutagenic and anti-carcinogenic properties. Chlorophyllin ‘traps’ heterocyclic hydrocarbon carcinogens by reacting with their ‘backbone,’ making it impossible for them to form adducts with DNA.176,177

Additional Protection Against Carcinogens

Indole-3-carbinol (I3C) is found in anti-cancer vegetables such as cabbage, cauliflower, and broccoli. When I3C is given to rodents before they are treated with cancer-causing chemicals (carcinogens), the number of tumors can be reduced by 96%. I3C has been shown to extend the length of the time between exposure to carcinogens and development of tumors by nearly 200%.178

One of the ways I3C protects cells against cancerous changes is by preventing DNA damage. I3C protects DNA not only in breast tissue, but in other tissues as well. A study from the Medical College of Ohio shows that I3C can cut the rate of DNA damage from chemicals in breast tissue by almost 92%.179 Others have shown that I3C decreases DNA damage in white blood cells by 82%, colon by 67%, and liver by 69%.179 This would seem almost unbelievable if it hadn’t been confirmed by others who have shown that I3C can reduce DMBA-induced liver DNA damage by 90%, lung and trachea by 55%, and other tissues by similar amounts.180

Based on this plethora of evidence, if one happens to eat overcooked food, it makes sense to take at the same time, 100 mg of chlorophyllin and/or 80-240 mg of indole-3-carbinol and other cruciferous vegetables extracts. Most Life Extension members already obtain these nutrients in supplement formulas they take with meals.
Inflammatory cytokine production can be suppressed with proper supplementation of fish oil, curcumin, boswellia, DHEA, vitamin K and other nutrients. Taking steps to shed abdominal fat and reduce blood glucose is of enormous benefit in lowering production of pro-inflammatory cytokines in the body.

What one eats plays a major role in chronic inflammatory processes. Consuming low glycemic foods reduces the insulin surge that contributes to chronic inflammatory processes. There is compelling evidence that eating too much overcooked food causes an increase in inflammatory cytokines. Since most “junk” foods are cooked at extremely high temperatures, it makes sense to avoid French fries, hamburgers, potato chips, fried food, and other snacks. These foods not only contain lots of glycotoxins, but they also create other metabolic disorders that can induce degenerative disease.

Consuming at least 1,000 mg a day of carnosine, along with benfotiamine (50-500 mg/day) and pyridoxal-5-phosphate (100-200 mg/day) can inhibit pathological glycation reactions in the body.

Avoiding foods cooked at high temperature not only reduces pathological glycation processes, but also prevents the formation of gene-mutating toxins that are known carcinogens.

When food is cooked at high temperatures, toxins form that mutate cell regulatory genes. The tragic result is increased cancer risk. This warning has been communicated to readers of this publication for many years. With overwhelming evidence that overheated food is associated with accelerated aging and cancer, health conscious individuals have an even greater incentive to pay attention to how they prepare their food. Failure to heed these warnings will invariably cause the majority of aging humans to “cook themselves to death.”

Mainstream doctors should be advising patients on safer ways to prepare their food, but this message is still not getting out, despite our warning almost ten years ago. As a member of the Life Extension Foundation, you learn about documented methods of reducing disease risk long before the general public.

The Time to Stock Up On Life-Saving Supplements

Once a year, we discount all of our leading-edge formulas so that members can stock up at extra-low prices. We hope you’ll take advantage of this year’s Super Sale to obtain premium-grade supplements to protect your health today, while helping to support biomedical research that may lead to unprecedented extensions of our healthy life spans.

For longer life,

William Faloon

References


152. Pendurthi UR, Williams JT, Rao LV. Inhibi-...[rest of the text continues]....
Aging is Characterized by Inflammation, Glycation, and Mitochondrial Decay

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

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

- **CARNOSINE**: As humans age, proteins in their bodies become irreversibly damaged by glycation reactions. Glycation is the cross-linking of proteins and sugar to form non-functioning structures called advanced glycation end products in the body, which can lead to alterations of normal cell function. Carnosine is not only a powerful anti-glycating agent, but it also protects neurons against reactive and cytotoxic protein carbonyl species associated with normal aging.1-5

- **POQ**: This breakthrough micronutrient has been shown to trigger mitochondrial biogenesis—the growth of new mitochondria in aging cells! POQ also activates genes involved in protecting the delicate structures within the mitochondria.6-9

- **LUTEOLIN**: Systemic inflammation is involved in most undesirable consequences of aging. Culprits behind inflammatory reactions are pro-inflammatory cytokines, such as interleukin-1 and tumor necrosis factor-alpha. Luteolin is a flavonoid that has been shown to help suppress these inflammatory cytokines.10-14

- **BENFOTIAMINE**: Effectively modulates multiple destructive biochemical pathways that are induced by higher than desirable blood sugar levels. Human mortality studies indicate that ideal fasting glucose levels are between 74–85 mg/dL. Yet many aging people have fasting glucose above 90 mg/dL, which is less than optimal.15 Benfotiamine protects endothelial cell integrity from the effects of high glucose levels. In addition, benfotiamine exhibits direct antioxidative capacity and supports DNA function.16

- **PYRIDOXAL 5’-PHOSPHATE**: As vitamin B6, Pyridoxal 5’-phosphate is the active form of vitamin B6 that has been shown to protect against both lipid and protein glycation reactions.20-24

- **R-LIPOIC ACID**: Destructive free-radical activity in the mitochondria plays a major role in the loss of cellular vitality. A microencapsulated Bio-Enhanced® R-lipoic acid facilitates youthful mitochondrial energy output while guarding against free radicals. Two forms of lipoic acid are sold on the supplement market, but R-lipoic acid is far more potent.17-19

- **ACETYLATED-L-CARNITINE ARGINATE**: The amino acid L-carnitine is required to transport fats into the mitochondria to be burned for cellular energy. Acetyl-L-carnitine arginate is a patented form of carnitine that also supports neurites in the brain.20–22

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

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

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

- Carnosine 1000 mg
- Arginocarn® Acetyl-L-carnitine arginate DihCl 675 mg
- R-Lipoic acid (as microencapsulated Bio-Enhanced®) 150 mg
- Benfotiamine 150 mg
- Pyridoxal 5’-Phosphate 100 mg
- BioPQQ™ 10 mg
- Luteolin 8 mg

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

Bio-Enhanced® is a registered trademark of Genestra Research, Inc. Arginocarn® is a registered trademark of Sigma-tau HealthScience, Inc. and is protected by U.S. patent no. 6,465,622, US 6,780,542, and EP123956. BioPQQ™ is a trademark of MGC (Japan).

References

2. Proctor PM, Look P. 2006); (153):1-8
8. Embo J 2005 Sep 1 (2005 Sep 1); 115(3):1-9
10. Am J Respir Crit Care Med. 2005 Jul 15;172(2):314-17
Scientists have identified specific extracts from cruciferous vegetables—such as broccoli, cauliflower, cabbage and Brussels sprouts—that help maintain healthy hormone metabolite balance. Triple Action Cruciferous Vegetable Extract combines some of these plant extracts into a comprehensive formula for optimal DNA protection.

**I3C (indole-3-carbinol)** and **DIM (di-indolyl-methane)** favorably modulate estrogen metabolism and induce liver detoxification enzymes to help neutralize potentially harmful estrogen metabolites and xenoestrogens (potentially toxic, estrogen-like environmental chemicals).1-4

Extracts of **broccoli**, **watercress**, and **rosemary** provide glucosinolates, isothiocyanates, carnosic acid, and carnosol—bioactive compounds that have a multitude of favorable effects on estrogen metabolism and cell division.5-8 **Apigenin**, a powerful plant flavonoid found in plants such as parsley and celery, is also added to the formula to boost cell protection,9 while 25 mg of a natural source of benzyl isothiocyanate (BITC), are included to maintain cell health.10

Consumers should be aware that while consumption of cruciferous vegetables is highly recommended, the cooking process depletes many of the beneficial compounds such as I3C.

For those weighing less than 160 pounds, just one capsule a day provides optimal potencies. Those weighing over 160 pounds should consider taking two capsules a day. A 60 vegetarian capsules bottle of **Triple Action Cruciferous Vegetable Extract** retails for $24. If a member buys four bottles during Super Sale, the price is reduced to $14.85 per bottle.

Those who want to obtain the benefits of trans-resveratrol can order **Triple Action Cruciferous Vegetable Extract with Resveratrol**. Each capsule provides 20 mg of trans-resveratrol in addition to the vegetable extracts and retails for $32 per 60-capsule bottle. When a member buys four bottles during Super Sale, the price is reduced to $19.98 per bottle.

Contains corn.

**REFERENCES**

To order Triple Action Cruciferous Vegetable Extract, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
High Potency FAT-SOLUBLE NUTRIENTS in ONE Softgel

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

Just one SUPER BOOSTER provides:

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

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

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

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

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

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

### JUST ONE SOFTGEL OF SUPER BOOSTER SUPPLIES:

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

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

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

Contains soybeans.

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

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

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.
Curcumin is the health-promoting trace compound derived from the Indian spice turmeric. But not all turmeric is alike.
The curcumin found in the vast majority of dietary supplements is derived from turmeric that is nutritionally inferior.

Why? Almost all growers harvest turmeric at the point when the turmeric root turns its signature yellow color, but before it has fully matured.
The turmeric root requires more time in the ground for highly beneficial phytonutrients called curcuminoids and sesquiterpenoids to attain peak concentrations.

Life Extension’s Super Bio-Curcumin® derives from turmeric that is grown with organic practices, cultivated to maturity, then specially transported and processed to preserve and deliver the root’s most complete nutritional profile.

In recent studies comparing the effects of standard curcumin against turmeric extracts comparable to Super Bio-Curcumin®, researchers observed:

- Nearly twice the support for immune health.
- Approximately twice the support for inflammatory issues.
- Almost double the antioxidant support.

A separate study indicated that an antioxidant-rich curcumin extract provided powerful support for heart health.

Unrivaled Potency and Absorbability with BCM-95®

Curcumin is neither absorbed nor retained well in the blood, which is another challenge facing those who wish to maximize its benefits.
The highly popular Super Bio-Curcumin® uses BCM-95®, a patented, bioenhanced preparation of curcumin. It has been shown to reach up to 7 times higher concentration in the blood than standard curcumin.

The graphs on this page illustrate that one 400 mg vegetarian capsule per day of Super Bio-Curcumin® supplies the equivalent of 2,500-2,800 mg of commercial curcumin supplements.

A bottle containing 60 vegetarian capsules of Super Bio-Curcumin® retail for $38. If a member buys four bottles during Super Sale, the price is reduced to only $23.63 per bottle.

Contains rice.

References

CAUTION: Do not take if you have gallbladder problems or gallstones. If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

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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.
Resveratrol Increases Life Span in Bees

The journal Aging reported the results of research involving honey bees which revealed an ability for resveratrol, a compound that occurs in grapes, to reduce food intake and extend life.* Although resveratrol has been shown to lengthen the lives of yeast, worms, fruit flies, and mice, the study is the first to evaluate the effect of the compound in honey bees.

Researchers compared the effects of an unenhanced honey bee diet to diets containing two different concentrations of resveratrol. The lower concentration of resveratrol was associated with a 38% increase in average life span and the higher concentration with a 33% increase under normal oxygen conditions. Maximum life span, which defines the longest lived members of a species (in contrast with average life expectancy) also increased in resveratrol-fed bees.

Editor’s Note: In an effort to uncover the mechanisms involved in resveratrol’s benefits, the researchers examined the compound’s effect on appetite. In comparison with bees that did not receive resveratrol, those given the compound had less interest in consuming sugar solutions unless the sugar was highly concentrated. Further experimentation revealed that resveratrol reduced food consumption in bees allowed to eat as much as they liked of diets containing carbohydrate and protein.

—D. Dye


Omega-3 Fatty Acid Supplementation Improves Marker of Aging

In an article published in Brain, Behavior, and Immunity, Jan Kiecolt-Glaser of Ohio State University and her associates report a protective effect for omega-3 fatty acids in the preservation of telomere length among middle-aged and older men and women. Reduced telomere length has been correlated with age-related disease and premature mortality.*

Telomeres—bits of DNA that cap and protect the ends of chromosomes—have been compared to the coating at the ends of shoelaces that prevent them from fraying. The current investigation revealed an increase in telomere length in association with reductions in the participants’ plasma omega-6 to omega-3 fatty acid ratio, which declined in those who were supplemented with 1.25 grams or 2.5 grams per day EPA and DHA. Those who received the omega-3 fatty acids also had reduced levels of oxidative stress in comparison with those who received a placebo.

Editor’s Note: Dr. Kiecolt-Glaser remarked that, “The telomere finding is provocative in that it suggests the possibility that a nutritional supplement might actually make a difference in aging.”

—D. Dye

Increased Lycopene Levels Associated with Lower Risk of Stroke

The journal Neurology published the finding of Finnish researchers of a protective effect for the carotenoid lycopene, which occurs in high amounts in tomatoes, against the risk of stroke in middle-aged men.*

The study included 1,031 men participating in the Kuopio Ischaemic Heart Disease Risk Factor cohort. Blood tests conducted upon enrollment between 1991 and 1993 evaluated serum carotenoids, vitamins A and E, and other factors. The subjects were followed through 1999, during which 50 men experienced ischemic stroke and 17 men had other types of stroke.

Men who experienced strokes tended to be older and had higher systolic blood pressure, which increases stroke risk. Those whose lycopene levels were among the top 25% of participants had a 59% lower adjusted risk of ischemic stroke and a 55% lower risk of any stroke over follow-up in comparison with men whose lycopene levels were among the lowest fourth.

Editor's Note: Levels of other nutrients measured did not appear to be associated with stroke risk in this study. According to authors Jouni Karppi, PhD, and colleagues, “One possible reason that lycopene might decrease the risk of stroke more than other antioxidants may be the consequence of antioxidant activity. Lycopene is a potent antioxidant and the most effective quencher of singlet oxygen, and it was reported to be more effective than beta-carotene in cell protection against hydrogen peroxide and nitrogen dioxide radicals. Furthermore, different subtypes of stroke have different etiopathologies and thus most likely also have different associations with dietary antioxidants.”

—D. Dye


Higher Vitamin D Levels Associated with Fewer MS Symptoms

The Annals of Neurology reported the finding of researchers at the University of California, San Francisco of a reduction in brain lesions and disease activity in multiple sclerosis (MS) patients who had higher levels of vitamin D.*

The discovery is the result of the five year EPIC study of 469 men and women with multiple sclerosis who underwent yearly blood testing for vitamin D and brain magnetic resonance imaging (MRI) to evaluate disease progression. Ellen M. Mowry, MD, MCR, and her associates determined that with each 10 ng/mL increase in serum 25-hydroxyvitamin D there was a corresponding 15% reduction in the risk of new brain lesions as well as a 32% lower risk of areas of active disease as indicated by white spots visible upon MRI examination. These areas reveal inflammation of the nerve fibers’ myelin sheath, which provides insulation and facilitates the transmission of electric signals.

Editor's Note: The decreased prevalence of the MS in lower latitudes has led researchers to suggest a protective effect for sunlight and the vitamin D it produces in the body against the risk of developing the disease.

—D. Dye


Melatonin, Exercise Show Potential as Alzheimer’s Treatments

The journal Neurobiology of Aging published a report by researchers in Spain that describes a benefit for exercise and the hormone melatonin in a mouse model of Alzheimer’s disease.*

Scientists studied the effects of the therapies in mice with three mutations that result in the characteristics of Alzheimer’s disease. The animals, which were in the moderate to advanced phases of the disease, were divided to receive 10 mg melatonin per kilogram of body weight, a daily exercise regimen consisting of unrestricted use of a running wheel, or both treatments. Alzheimer’s mice that received neither therapy and a group of mice that did not have the mutations served as controls.

Engaging in exercise reduced behavioral and psychological symptoms, including anxiety, emotionality, and a lack of exploration. Both melatonin and exercise resulted in decreases in cognitive impairment, brain oxidative stress, amyloid beta, and mitochondrial DNA reductions. Combined treatment with exercise and melatonin resulted in additional mitochondrial benefit.

Editor’s Note: While the recommendation of melatonin for humans with Alzheimer’s disease may be premature at this stage, coauthor Darío Acuña-Castroviejo of the University of Granada noted that, “Other studies which use melatonin as medication show its high level of effectiveness.”

—D. Dye

Vitamin C Supplementation Shows Potential for Menopausal Bone Loss Prevention

The journal *PLoS One* published an article which suggests a protective effect for vitamin C against bone loss associated with the decline in female hormones that occurs during menopause.*

Mone Zaidi, MD, and colleagues at Mount Sinai School of Medicine in New York tested the effects of vitamin C supplementation in mice that had their ovaries removed to mimic the hormonal changes associated with menopause. Another group of mice received sham surgeries. The animals were divided to receive 5 mg/day vitamin C or no supplementation for eight weeks.

Bone mineral density was assessed before, during, and after the treatment period, and bone samples were analyzed at the end of the study. At four and eight weeks, lumbar spine bone mineral density was found to have significantly decreased in ovariectomized mice compared to the controls, however, the decline was prevented in animals that received vitamin C.


Editor’s Note: “Further research may discover that dietary supplements may help prevent osteoporosis in humans,” Dr. Zaidi stated. “If so, the findings could be ultimately useful to developing nations where osteoporosis is prevalent and standard medications are sparse and expensive.”

—D. Dye

Trial Uncovered Protective Effect for Multinutrient Supplement Against Cancer

The *Journal of the American Medical Association* published an article that reports a reduction in the risk of cancer among male physicians who consumed multinutrient supplements.*

The trial included 14,641 men aged 50 or older upon enrollment in the Physician’s Health Study II (PHS II). Of these, 1,312 men reported a history of cancer at the beginning of the study. Participants received a daily low-dose multivitamin or a placebo over a period of 10.7 to 13.3 years, during which 2,669 cases of cancer (excluding non-melanoma skin cancers) occurred.

Among those who received the multinutrient supplement, the risk of developing any cancer was 8% lower in comparison with those who received a placebo. While multinutrient supplementation had no effect on the risk of prostate cancer (which comprised approximately one half of the cancers that occurred), total epithelial cell cancers were reduced by 8%. The protective effect of supplementation did not differ significantly between those with or without a history of the disease.


Editor’s Note: “Although the main reason to take multivitamins is to prevent nutritional deficiency, these data provide support for the potential use of multinutrient supplements in the prevention of cancer in middle-aged and older men,” the authors conclude. The Centrum® multi-vitamin used in this study provided low potencies of only a few of the many cancer-prevention nutrients taken by dedicated health-conscious consumers today. This study received widespread media coverage because of its size and where it was published.

—D. Dye

Large Study Associates Increased Tea Intake with Protection against Digestive System Cancers

Findings from the Shanghai Women’s Health Study reported in the *American Journal of Clinical Nutrition* reveal a protective effect for tea drinking against cancers of the stomach, esophagus, and colon in middle-aged Chinese women.*

Researchers analyzed data from 69,310 women who were between the ages of 40 and 70 years upon recruitment in 2000. Interviews and questionnaires completed upon enrollment provided information on tea intake. The participants were followed for an average of 12 years, during which three follow-up surveys were conducted. Over the follow-up period, 1,255 digestive system cancers occurred.

Among regular tea drinkers, categorized as those who consumed tea three or more times per week over a period of no less than six months, a 14% lower risk of all digestive system cancers was observed in comparison with those who did not consume tea.

Editor’s Note: When digestive cancers were analyzed according to type, the protective effect of tea was associated mainly with colorectal and stomach/esophageal cancers, for which there was a 27% lower age-adjusted risk observed among regular tea drinkers compared to non-drinkers.

—D. Dye

The 2012 Singularity Summit Recap

The Singularity Summit is an annual conference for people who want to learn about the future and about thinking processes. The 2012 Singularity Summit was recently held in San Francisco.

“Singularity” refers to an accelerated growth of technological progress at the point where computers achieve intelligence beyond human intelligence, developing the capability to improve their own intelligence or to build computers that are even more intelligent than themselves. Intelligent computers capable of self-improvement would transform human life so radically that the results become impossible to predict or understand, but the consensus is that this technology will lead to radical improvements and extensions of human life spans.

From its beginning, the Singularity Institute has been concerned with improving human thought in association with the pursuit of machine intelligence. More than anyone, Ray Kurzweil has popularized the concept of Singularity. Kurzweil's 2005 best-selling book THE SINGULARITY IS NEAR predicts that intelligent machines will replace humans as the dominant sentient beings on Earth. During his presentation, Kurzweil devoted himself to explaining and promoting his newest book, HOW TO BUILD A MIND. Kurzweil believes that most neuroscientists are like blind men feeling parts of an elephant—trunk, tusks, tail, legs, ears, etc., without seeing the big picture. Kurzweil addressed many other subjects. The ultimate goal of these super-intelligent computers would be to harness all available knowledge and utilize it to improve the overall human condition.

For a report on this year’s Singularity Summit authored by Ben Best of Life Extension Foundation®, log on to www.lef.org/singularity

—B. Best

Coenzyme Q10 and Garlic Reduce Atherosclerosis Progression in Clinical Trial

The Journal of Cardiovascular Disease Research reported the outcome of a trial of middle-aged men which found a protective effect for CoQ10 and garlic extract against the progression of atherosclerosis and inflammation.*

The study included 50 firefighters who were at intermediate risk of a coronary event. Coronary artery calcium scanning, which assesses the extent of atherosclerosis, was conducted prior to enrollment and at the end of the trial. The trial was limited to subjects with coronary artery calcium scores above 10, which indicates the presence of a mild to moderate amount of atherosclerotic plaque. Blood samples were analyzed for C-reactive protein, a marker of inflammation, before and after the treatment period. The participants received a daily placebo or a capsule containing CoQ10 and aged garlic extract for one year.

At the end of the trial, average coronary artery calcium progression was significantly less among those who received CoQ10 and garlic compared to the placebo.

Editor’s Note: While C-reactive protein levels increased by an average of 0.91 mg/L among those who received the placebo, for subjects who received CoQ10 and garlic, CRP levels declined by an average of 0.12 mg/L.

—D. Dye

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

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

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

### High-Potency Resveratrol with Synergistic Activators

Life Extension® members gain access to standardized trans-resveratrol combined with botanical extracts that favorably influence longevity gene expression. Unlike many commercial formulas, Life Extension standardizes to trans-resveratrol, which researchers contend is the most active constituent.

A bottle containing 60 vegetarian capsules of Optimized Resveratrol with Synergistic Grape-Berry Actives retails for $46. If a member buys four bottles during Super Sale, the price is reduced to $27.90 per bottle. The suggested dose of one capsule a day provides:

<table>
<thead>
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<tbody>
<tr>
<td>Trans-Resveratrol</td>
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<tr>
<td>Grape-Berry Actives</td>
<td>85 mg</td>
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<tr>
<td>Quercetin</td>
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<td>0.5 mg</td>
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<tr>
<td>Fisetin</td>
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</tr>
</tbody>
</table>

To order Optimized Resveratrol with Synergistic Grape-Berry Actives, call 1-800-544-4440 or visit www.LifeExtension.com

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**References**

10. Xenobiotica. 2000 Sep;30(9):857-66
In a placebo-controlled, human study, subjects took 350 mg of green coffee extract three times daily (before meals).

Study subjects were not asked to change their calorie intake or exercise level, but people participating in weight loss trials often do make lifestyle changes in order to increase their odds of shedding body fat.

The impressive findings, published in January 2012, noted that men and women lost an average of 17.6 pounds—over 10% of body weight—after 12 weeks of green coffee extract supplementation! There was also an average 4.44% reduction in body fat percentage! The conclusion is that green coffee extract supports the ability to lose weight. The form of green coffee bean extract used in this successful weight loss study is CoffeeGenic™ Green Coffee Extract (GCA™).

How CoffeeGenic™ Works

The active ingredient in green coffee bean extract is chlorogenic acid. Published studies on chlorogenic acid demonstrate a wide range of supportive properties related to insulin sensitivity and to glucose formation and absorption.

Clinical research has shown that chlorogenic acid helps limit dangerous after-meal glucose surges, supporting healthy blood sugar levels for those already within the normal range.

CoffeeGenic™ Green Coffee Extract (GCA™) provides a standardized dose of chlorogenic acid extracted from green coffee beans.
New Comprehensive Formula

The standardized green coffee extract in the new CoffeeGenic™ Weight Management™ formula has been enhanced with the following nutrients to reinforce the ability to support weight-loss:

1. Green Tea Decaffeinated Extract

Green tea contains health-promoting polyphenols, including epigallocatechin-3-gallate (EGCG). A number of studies suggest it helps support healthy metabolic rate—which affects the body’s rate of calorie burn.

2. Iodine

This trace element is involved in the production of thyroid hormones that regulate the basal metabolic rate—which affects the body’s rate of calorie burn.

3. Chromium

Chromium plays an important role in glucose utilization and is required for the release of energy from glucose. It is now generally recognized as helping maintain healthy blood sugar levels for those already in the normal range.

4. Integra-Lean® African Mango IGOB-131®

Fat cells secrete leptin, a hormone that signals our brain that we’ve eaten enough. But some individuals have become resistant to leptin, resulting in added pounds. An extract from an African mango called Irvingia gabonensis has been shown to support leptin sensitivity—followed by weight loss and a slimming of the waistline. African mango also helps the body control the rate of carbohydrate absorption from the intestines, and therefore, the caloric impact of starchy and sugary foods. And this extract supports healthy levels of adiponectin, a hormone that regulates metabolism of lipids and glucose. Research indicates it has the ability to promote weight loss.

To order CoffeeGenic™ Weight Management™ with Green Coffee Extract (GCA™), call 1-800-544-4440 or visit www.LifeExtension.com

References

20. Lipids Health Dis. 2009 Mar 2;8;7.

Based on the latest research, CoffeeGenic™ Weight Management™ with Green Coffee Extract provides in each capsule:

CoffeeGenic™ Green Coffee Bean Extract [Standardized to 50% chlorogenic acid] 350 mg
Integra-Lean® African Mango (Irvingia gabonensis) proprietary extract (seed) 100 mg
Chromium (as Crominex® 3+ chromium stabilized with Capros® (Phyllanthus emblica) extract (fruit) and PrimaVie® Shilajit) 150 mcg
Iodine (as potassium iodide) 100 mcg
Green Tea decaffeinated extract (98% polyphenols, 45% ECGG) 50 mg

The suggested dose is just one capsule before each meal.

A bottle of 90 vegetarian capsules of CoffeeGenic™ Weight Management™ with Green Coffee Extract (GCA™) retails for $48. If a member buys four bottles during Super Sale, the price is reduced to $28.35 per bottle.

Caution: This product may lower blood glucose; consult your healthcare provider before taking this product if you are taking blood glucose-lowering medication.

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

Integra-Lean® Irvingia is protected by U.S. Patent No. 7,537,790.
IGOB-131® proprietary extract is a registered trademark of Gateway Health Alliances, Inc.
CoffeeGenic™ contains GCA™ which is a registered trademark of Applied Food Sciences, Inc.

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.
Even if you eat a healthy diet, you may not be absorbing vital fat-soluble nutrients and amino acids needed for optimal health. That’s because with age, we experience a decline in the enzymes our bodies produce to break down foods into absorbable nutrients.1-3

Fortunately, studies show that by supplementing with the right mixture of digestive enzymes, older adults can take meaningful steps to maintain their digestive health.4,5 The result can be better digestion, less abdominal distress, and greater assimilation of vital nutrients like vitamins K, D, and omega-3s.6-8

The downside to many digestive enzyme supplements is that they contain specific amylases that facilitate that breakdown of dietary starches into rapidly-absorbed glucose.9

The concern is that most aging people already have higher than desirable fasting and after-meal blood glucose levels. A large body of published research documents increased risk of vascular disease, cancer, kidney failure, and diabetic eye problems in response to elevated glucose.10-18
Those with specific medical conditions (like pancreatitis) benefit from digestive enzyme formulas that contain amylases. The typical aging person, however, is better off taking a digestive enzyme formula that facilitates digestion of protein, fibers, and beneficial fats, but does not promote breakdown of starches that are rapidly absorbed as glucose.

This article describes some prevalent digestive problems, including esophageal reflux, and a simple solution that does not promote excess absorption of glucose.
Evidence for Supplementing With Digestive Enzymes

Adding natural enzymes to the human diet is not a new idea. It’s been 70 years since scientists first recognized the importance of enzymes in raw foods to boost human nutrition. Those early scientists noted that providing supplementary enzymes could restore the rapid digestion of foods in the stomach, mimicking the self-digestion that takes place when people consume raw foods.

There’s also a long medical history of using supplementary digestive enzymes in caring for people with various chronic digestive diseases. People with cystic fibrosis take pancreatic enzyme formulas to help them breakdown proteins, fats, and other nutrients they could not digest well otherwise. Individuals with chronic pancreatitis may use lipases to help them breakdown fats.

But there’s growing evidence that suggests that even if you don’t suffer from a specific enzyme deficiency, you may benefit from supplementing with helpful digestive enzymes.

Proteases

Protein-digesting enzymes called proteases are generated naturally from the pancreas, which channels them into the small intestine via a short duct. Using supplemental proteases eases the burden on the body of producing these complex enzymes entirely on its own. Studies have shown that animals supplemented with proteases experience enhanced digestion.

One important reason to supplement with proteases is to reduce the risk of intolerance reactions to foods such as meat proteins, gluten (from wheat) and casein (from milk). The structures of these food molecules make them relatively resistant to the limited enzymatic activity in the aging digestive tract. When proteins arrive relatively undigested in the lower intestinal tract, they can trigger inflammation, excessive mucous production, cramping, and even bleeding. Millions of people suffer from gluten intolerance or milk protein intolerance. Fortunately, the use of supplemental proteases may help ease their discomfort.

Aging individuals may receive the greatest potential benefits from supplementing with protease enzymes in order to speed protein digestion. Scientists speak of fast and slow digesting proteins. These terms indicate how rapidly amino acids are released from the protein in the intestine, how completely they are absorbed into the bloodstream, and how efficiently they are put to work generating healthy new proteins in the body following a meal.
Because of the decline in enzyme production with age, and also the loss of ability to thoroughly chew foods, older people lose the ability to break down fast-digesting proteins that include meat and the dairy protein, called whey. That puts older people at increased risk for poor protein absorption and malnutrition.

Additionally, for aging adults, supplementation with extra protein-digesting enzymes could help them convert foods typically containing slow-digesting proteins that include the dairy protein, casein, into those that are more rapidly broken down.

This idea is further supported by studies showing that predigested proteins already broken down into amino acids, result in more rapid and complete appearance of amino acids into the bloodstream, and greater incorporation into healthy new proteins.

Finally, in athletes and others who use concentrated protein supplements, it has been shown that adding a blend of protein-digesting enzymes to their regimen can afford more complete protein breakdown, allowing people to achieve the full benefit of their additional protein intake. That’s important, because excessively high concentrations of protein in the digestive tract may overwhelm the existing enzymes’ ability to fully break down the proteins.

**Lipases**

Lipases are enzymes that separate fats into individual fatty acids. Lipase supplementation promotes more normal fat digestion in people with pancreatic disease.

Even if you don’t suffer from an overt pancreatic disorder, you could still benefit from lipase supplementation. One critical role of lipase enzymes is to facilitate absorption of vital fat-soluble nutrients such as omega-3 fatty acids, along with vitamin D, vitamin K, lutein, and gamma tocopherol.

**Fiber Digesting Enzymes**

Normal human starch-digesting enzymes are collectively called amylases. Amylases break down the bonds between sugar molecules in starches, releasing the sugar for immediate absorption. A rapid release of sugars from starches produces the dangerous after-meal surge in blood glucose that damages heart muscle and blood vessels. Most otherwise healthy humans, therefore, have no need for supplementary amylase. In fact, amylase-blockers play a useful role in combating overweight and sugar surges.

On the other hand, humans do not have digestive enzymes to process cellulose, or plant fiber, that is
part of broccoli and other vegetables, which pass through the intestinal tract undigested by human enzymes. What happens when these foods are eaten is that organisms living in the large intestine break down the plant cellulose into molecules that are then fermented. This fermentation process draws fluid into the colon and produces bloating and gas, which keeps many people from eating healthy vegetables like broccoli.

To prevent these fiber-related complications, supplements with cellulose-digesting enzymes such as cellulase, hemicellulase, phytase, beta-glucanase, pectinase, and xylanase can convert cellulose into smaller molecules that can then pass harmlessly through the intestinal tract. The result is a smoother digestion of tough vegetable fiber and an increased availability for absorption of beneficial compounds contained in healthy plant foods.

Supplements containing cellulose-digesting enzymes break down plant fibers, such as those found in broccoli, but don’t release free sugars, and therefore don’t contribute to deadly after-meal glucose surges.

Digestive Enzyme Supplements

Digestive enzyme supplements appear to be a natural solution to many digestive problems associated with normal aging. Studies show that digestive enzyme preparations do in fact improve digestion and ameliorate many digestive symptoms.

Human studies have demonstrated beneficial effects from digestive enzyme supplements. In one small study, vital measures such as total serum protein and white blood cell counts increased significantly following supplementation. In a larger, placebo-controlled study of a digestive enzyme supplement, patients had significantly higher global improvement scores than controls, and reported fewer episodes of abdominal pain, nausea, vomiting, heartburn, bloating, flatulence, and appetite loss.

Avoiding Rapid Starch Breakdown

Starches are long complex chains of simple sugars. They are often referred to as “complex carbohydrates.”

It used to be thought that complex carbohydrates do not raise blood sugar as quickly or as much as simple sugars (sucrose and fructose), but we now know that some starches are more glycemic than some sugars. In this sense, they do not remain “complex” for very long in your digestive tract before converting to rapidly absorbed glucose.

Those seeking to reduce after-meal glucose surges should restrict sugary and starchy food intakes, since most starchy foods rapidly break down into sugar.

Wheat, oats, potatoes, corn, and rice are all very starchy foods. Grains are made into bread, cereal, and pasta, as well as crackers, biscuits, cookies, cakes, pie crust, tortilla, and anything else made with flour. Any of these foods made from grain can sharply spike blood glucose.

When eating starchy foods, taking amylase-blocking compounds like chlorogenic acid found in green coffee bean extract can help reduce the breakdown of starches into rapidly absorbed glucose.

Most people should reduce consumption of sugars and starches and not take digestive enzymes containing amylase that facilitate the rapid breakdown of starches into blood glucose.

Epidemic of Digestive Discomforts

If you find yourself reaching for drugs like Alka-Seltzer® or Pepto-Bismol® to relieve chronic digestive problems, you could have bigger health problems than you realize. Those OTC drugs might temporarily ease your symptoms, but they’re doing absolutely nothing to target the underlying cause of the problem. If that underlying cause goes unchecked, you could be setting yourself up for a host of health issues that are much more devastating than gas or bloating such as food intolerance and malnutrition (in older adults).
### Optimal Enzyme Formulation That Avoids Rapid Starch Breakdown

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protein-Digesting Enzymes</strong></td>
<td></td>
</tr>
<tr>
<td>Protease complex</td>
<td>Breaks down whole proteins and smaller peptides into single amino acids.</td>
</tr>
<tr>
<td>Trypsin</td>
<td>Breaks down whole proteins into shorter oligopeptides that are further reduced to amino acids by other proteases.</td>
</tr>
<tr>
<td>Chymotrypsin</td>
<td>Breaks down whole proteins and shorter oligopeptides.</td>
</tr>
<tr>
<td><strong>Fat-Digesting Enzymes</strong></td>
<td></td>
</tr>
<tr>
<td>Lipase complex</td>
<td>Breaks down complex fats into simple free fatty acids.</td>
</tr>
<tr>
<td><strong>Fiber-Digesting Enzymes</strong></td>
<td></td>
</tr>
<tr>
<td>Cellulase</td>
<td>Breaks down cellulose, a normally indigestible plant fiber.</td>
</tr>
<tr>
<td>Hemicellulase</td>
<td>Breaks down hemicellulose, a structural (and indigestible) component of plant cell walls.</td>
</tr>
<tr>
<td>Phytase</td>
<td>Breaks down phytic acid, a grain- and seed-derived sugar containing an indigestible form of phosphorus, releasing phosphorus for biological uses.</td>
</tr>
<tr>
<td>Beta-glucanase</td>
<td>Breaks down otherwise indigestible fibers including cellulose.</td>
</tr>
<tr>
<td>Pectinase</td>
<td>Breaks down pectin, the jelly-like matrix in plant cell walls, releasing juice and nutrients.</td>
</tr>
<tr>
<td>Xylanase</td>
<td>Helps break down hemicellulose into xylose, a simple sugar that helps feed intestinal bacteria.</td>
</tr>
</tbody>
</table>

Example of an enzyme formulation that provides optimal digestion of proteins, fats, and cellulose (plant fiber). Note the absence of amylase, the enzyme category that breaks down dietary starches into blood sugar-boosting simple sugars.
ARE YOU OBTAINING THE PROPER ENZYMES?

**How Starch and Fiber Differ—And Why it Matters to You**

Nature produces two major kinds of long-chain molecules (polysaccharides) out of simple sugars. These molecules are identical except for the way the simple sugars are linked together.

In *complex carbohydrates* (starches), the simple sugars are linked together with a bond labeled “alpha.” Humans possess digestive enzymes (mostly amylases) capable of breaking this alpha bond and releasing large amounts of free glucose. That free glucose is responsible for causing the after-meal surge in blood sugar that’s known to be so deleterious to health.

But polysaccharides with a so-called “beta” bond between the sugars are entirely unaffected by human digestive enzymes. Beta bonded polysaccharides (collectively called *cellulose*) are much stiffer than dietary carbohydrates; they make up most of the structural parts of plants such as leaves and stems, including most cruciferous vegetables.

Starches are broken down into sugars in the small intestine and then absorbed, but cellulose is not. When cellulose fibers reach your large intestine, they are subject to digestion by microorganisms living there. Those bacteria have enzymes capable of breaking down cellulose, and they do so vigorously; fermenting it to release smaller molecules and gas. And that produces the bloating, flatulence, and other uncomfortable symptoms that can follow a meal rich in indigestible plant fibers such as broccoli.

The trick when supplementing with digestive enzymes, then, is to include enzymes that partially break down indigestible cellulose, while avoiding enzymes that hasten digestion of dietary carbohydrates to release simple sugars that threaten your health. For those individuals for whom blood sugar spikes are a health risk factor, avoid supplements containing *amylase* or oligosaccharidases. Aim instead for supplements containing helpful fiber-digesting enzymes including *cellulase*, *hemicellulase*, *phytase*, *beta-glucanase*, *pectinase*, and *xylanase*. These enzymes can promote more comfortable digestion without exposing you to a dangerous *after-meal* glucose surge.

Drugs like Prilosec® and Prevacid® suppress stomach acid secretion, but do so at the expense of poorer digestion. Even when stomach acid production is blocked, gastric contents and bile secreted by the liver can still reflux back into the *esophagus* and cause heartburn and irritation that lead to serious disease. Those who suffer *esophageal reflux* don’t want undigested food remaining in the stomach any longer than it has to.

The proper enzyme formula facilitates more rapid digestion that can help resolve common digestive discomforts.

**Summary**

Gradual deterioration of digestive function doesn’t have to be an inevitable part of aging. The right combination of enzymes can mitigate the embarrassing, uncomfortable, and occasionally dangerous consequences of incomplete food digestion.

Digestive enzyme supplements promote complete digestion of food in the stomach and upper small intestine. That prevents undigested food from reaching the colon, where normal bacteria ferment it to produce gas, liquid, and the unpleasant symptoms of a poorly-regulated digestion.

The main problem with most digestive enzyme supplements is that they facilitate the breakdown of starches into simple sugars that are rapidly absorbed as glucose into the bloodstream. Because of its widespread deleterious effects on health, excess glucose is a leading cause of disability and death in modern societies.

Even if one consumed no carbohydrates, the body would still have plenty of glucose because the liver efficiently converts protein (and fatty acids) into glucose through a process known as *gluconeogenesis*.

It is far more logical to take a digestive enzyme supplement loaded with *protease* and *lipase*, and specialized *cellulases*. That way, one facilitates digestion of vital *amino acids*, *plants*, and *fat-soluble nutrients* without creating dangerous *glucose spikes*.

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

41. Available at: http://www.elmhurst.edu/~chm/vchembook/547cellulose.html/Accepted October 1, 2012.
DHEA is a critically important hormone, but its production declines sharply as we age. Scientists are discovering numerous health benefits when aging people restore their DHEA to youthful ranges. Life Extension offers a wide range of DHEA supplements to satisfy individual needs.

**DHEA 25 mg • 100 Capsules**
The minimum dose of DHEA for most healthy aging people is 25 mg a day, though optimal doses are often higher in men. These 25 mg capsules are a popular way to consume the precise amount of DHEA your body may need. A bottle containing 100 25 mg capsules of DHEA retails for $18; if a member orders four bottles during Super Sale, the price is reduced to $10.13 per bottle. Contains rice.

**DHEA 15 mg • 100 Capsules**
While published studies show the greatest benefit occurs when 50-75 mg of DHEA is consumed each day, some women only need a low dose of DHEA. Just one of these 15 mg capsules a day is all some women need to bring DHEA levels back to youthful levels. A bottle containing 100 15 mg capsules of DHEA retails for $12; if a member orders four bottles during Super Sale, the price is reduced to $6.75 per bottle.

**DHEA 50 mg • 60 Capsules**
The optimal daily dose of DHEA for most people is 50 mg. These economical 50 mg capsules enable most people to conveniently consume the optimal dose of DHEA in just one capsule. A bottle containing 60 50 mg capsules of DHEA retails for $16; if a member orders four bottles during Super Sale, the price is reduced to $9.45 per bottle. Contains rice.

**DHEA 25 mg • 100 Dissolve-in-Mouth Tablets**
A bottle containing 100 25 mg dissolve-in-mouth tablets of DHEA retails for $14; if a member orders four bottles during Super Sale, the price is reduced to $7.93 per bottle. Some people want to take DHEA in sublingual tablet form to avoid first pass through the liver, though published studies show that swallowing DHEA capsules consistently boosts blood DHEA levels already within normal range. Contains corn.

CAUTION: Do not use DHEA if you are at risk for or have been diagnosed as having any type of hormonal cancer, such as prostate or breast cancer.

To order the DHEA supplement that’s right for you, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Human studies suggest that supplementary enzymes may improve digestion and help minimize post-meal glucose surges.\textsuperscript{1,2} Since proteins, plant fibers, and fats are broken down differently, one needs the proper spectrum of enzymes for optimal digestion.\textsuperscript{1,2}

A new multi-enzyme formula facilitates both optimal nutrient absorption and broad relief from digestive discomforts without promoting after-meal glucose surges.\textsuperscript{2,3}

**TWELVE PREMIUM ENZYMES**

*Extraordinary Enzymes* provides a potent array of protease, cellulase, and lipase enzymes specially formulated to adapt to a variety of stomach acid pH conditions and powerfully support digestion.

With a total of twelve different enzymes, this unique formula supports the digestion of just about any food that may pose a problem for you—whether a protein, fiber, or fat. *Extraordinary Enzymes* provides a blend of powerful enzymes to help your system convert a variety of foods to energy and readily absorb the nutrients in the foods you consume. This formulation may enhance protein content in your body and allow for better fat utilization.\textsuperscript{4,5}

Together, these enzymes work by an all-natural, synergistic process to help provide nutritional support for a healthy digestive system.

The twelve enzymes in value-priced *Extraordinary Enzymes* are:

<table>
<thead>
<tr>
<th>Enzyme</th>
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<tr>
<td>Protease SP (Bacillus sp., Aspergillus oryzae)</td>
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<td>Protease S (Aspergillus melleus)</td>
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<tr>
<td>Acid Protease (Aspergillus niger)</td>
<td>10 SAPU</td>
</tr>
<tr>
<td>Lipase (Candida rugosa, Rhizopus oryzae, Aspergillus niger)</td>
<td>4,000 FIP</td>
</tr>
<tr>
<td>Cellulase (Trichoderma longibrachiatum)</td>
<td>2,400 CU</td>
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<tr>
<td>Trypsin (Porcine)</td>
<td>20,000 USP</td>
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<td>Chymotrypsin (Porcine)</td>
<td>3,336 USP</td>
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<td>Phytase (Aspergillus niger)</td>
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</table>

**WHAT’S NOT IN EXTRAORDINARY ENZYMES?**

Unlike commercial digestive enzyme supplements, amylase is intentionally left out of *Extraordinary Enzymes*. The reason is that amylase breaks down starches into glucose that is rapidly absorbed into the bloodstream.\textsuperscript{2}

*Extraordinary Enzymes* facilitates the healthy breakdown of plant fibers that cause people to avoid healthy vegetables because of digestive discomforts. Most people will take one capsule before the two heaviest meals, which provides 400 mg of natural digestive enzymes each day.

A bottle of 60 capsules of *Extraordinary Enzymes* retails for $26. If a member buys four bottles during Super Sale, the price is reduced to $16.20 per bottle.

Contains milk, soybeans, tree nuts (coconut), and wheat.

**References**


To order Extraordinary Enzymes, 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.
Back in 1983, Life Extension® was the first to introduce CoQ10 as a proven method to enhance mitochondrial energy production. CoQ10 has since gained universal recognition for its role in supporting cellular performance throughout the body.¹⁻⁶

In an unprecedented breakthrough, a compound called PQQ (pyrrolo-quinoline quinone) has been shown to support mitochondrial biogenesis—the spontaneous generation of new mitochondria in aging cells.⁷ PQQ is available as a low-cost dietary supplement.

Mitochondria are cellular energy generators that supply virtually all the power your body requires for a healthy life span. An abundance of published studies underscores the critical importance of the mitochondria to overall health, especially as we age.⁸⁻¹⁴ Energy-intensive organs like the heart and brain are dense with mitochondria.

Until recently, the only natural ways for aging individuals to increase the number of mitochondria in their bodies were long-term calorie restriction or exhaustive physical activity—which are difficult or impractical for most people to implement.

PQQ offers a viable alternative.
**The Ultimate Cell Rejuvenator**

The enormous amount of energy generated within the mitochondria exposes them to constant free radical attack. The resulting *mitochondrial decay* is a hallmark of aging.

PQQ protects and augments delicate mitochondrial structures to promote youthful cellular function in three distinct ways:

- **Antioxidant power.** Like CoQ10, PQQ is a highly potent antioxidant. Its extraordinary molecular stability enables it to facilitate thousands of biochemical reactions in the mitochondria, without breaking down, for maximum antioxidant and bioenergetic support.15

- **Favorably modulates gene expression.** PQQ activates genes that promote formation of new mitochondria7—and beneficially interacts with genes directly involved in mitochondrial health. These same genes also support healthy body weight, normal fat and sugar metabolism, and youthful cellular proliferation.16

- **Mitochondrial defense.** Mitochondria possess their own DNA, distinct from the DNA contained in the nucleus. Unfortunately, compared to nuclear DNA, mitochondrial DNA is relatively unprotected. PQQ’s antioxidant potency and favorable gene expression profile act to support mitochondrial defense.

**Vital Protection for the Aging Heart and Brain**

PQQ is an essential nutrient, meaning your body cannot make it on its own. A growing body of research indicates that PQQ’s unique nutritional profile supports heart health and cognitive function—alone and in combination with CoQ10.17,18 This comes as no surprise, given how much energy these vital organs need.

Research shows that PQQ supports heart cell function in the presence of free radicals and promotes blood flow in heart muscle.19

When taken in combination with CoQ10, just 20 mg per day of PQQ has been shown to promote memory, attention, and cognition in maturing individuals.20

**A Breakthrough Weapon in the Battle Against Aging**

Life Extension® has identified a purified, highly potent form of PQQ from Japan that is produced through a unique fermentation process. The result is the highest quality PQQ available on the market today called BioPQQ™.

A bottle containing 30 20 mg vegetarian capsules of PQQ Caps with BioPQQ™ retails for $40. If a member buys four bottles during Super Sale, the price is reduced to $24.30 per bottle.

BioPQQ™ is a trademark of MGC (Japan).
Inflammation is an underlying culprit behind virtually all age-related diseases.\textsuperscript{1,2} That’s why nutrients like curcumin, fish oil, and vitamin D have become so popular.

Less understood is that as maturing people suffer chronic inflammatory insults, they simultaneously encounter impairment of beneficial immune responses necessary to kill foreign invaders and malignant cells.

Aging destroys the delicate balance between destructive and protective inflammatory responses.\textsuperscript{1-4} Fortunately, scientists have discovered a method to turn back this lethal process!\textsuperscript{5-9}

In this article, you’ll learn about a new discovery that can boost immune function while suppressing damaging inflammatory reactions.\textsuperscript{5-13} >
Chronic inflammation damages cells throughout our body, including the delicate linings of our arteries and our precious brain cells. About 25% of all cancers are associated with chronic inflammation that causes mutations that lead to malignant changes.\(^\text{14}\)

A certain degree of healthy inflammation is needed, however, to protect us when the body encounters infectious agents,\(^3\) trauma, and malignant cells.

With aging there is an imbalance that results in low-level systemic inflammation slowly destroying tissues, while our ability to mount a strong immune response to pathologic killers is diminished. This imbalance underlies virtually all diseases of aging and early death.\(^{1,2}\)

Scientists have found that oil from the seed of the black cumin plant (Nigella sativa) can reverse this age-related process.\(^ {5-9}\)

New discoveries reveal that black cumin seed oil contains potent but non-toxic compounds that suppress excessive inflammatory molecules\(^ {5-7}\) while at the same time stimulating the normal, acute inflammation we need to fight infections and kill cancers.\(^ {8,9,13}\)
Balanced Inflammation

So how do our bodies distinguish between “good” inflammation and “dangerous” inflammation?

When optimally balanced, our bodies’ chemical and cellular systems fine-tune the inflammatory response, providing enough immediate action to stop an invader, and then, at the correct moment, shut it down when the threat is gone.

But when age unbalances this system, our bodies gradually shift into a chronically inflamed state called immunosenescence. At the same time, we increasingly develop immunosenescence, a loss of immune function that leaves us vulnerable to dangerous infections and cancers, both of which require a vigilant and potent immune system for their prevention.

In recent years, hundreds of studies have emerged indicating that black cumin seed oil critically rebalances the body’s inflammatory factors. Through this delicate balancing effect, this powerful seed oil battles a broad range of conditions, including allergies, asthma, cancer, cardiovascular disease, diabetes, rheumatoid arthritis, and colitis.

Managing Arthritis

One of the earliest recorded uses of black cumin seed oil was for the prevention and treatment of arthritis. Nearly 52 million modern Americans suffer from some form of the disease, almost 23% of the adult population. Both major forms of arthritis, rheumatoid and osteoarthritis, involve excessive inflammatory responses.

Black Cumin Seed Oil Boosts Immunomodulation

Black cumin seed oil joins a small handful of nutraceuticals now known to modulate the immune system in both directions. In addition to suppressing dangerous chronic inflammation, black cumin seed oil has been shown to boost appropriate immune function. The result is enhanced protection against both infections and cancer.

In other words, black cumin seed oil offers true immune system balancing, promoting healthy immune function when it’s needed, while suppressing excessive immune activity (inflammation), when it’s deleterious.

Black cumin seed oil achieves this immunological balancing act by means of several distinct but interrelated mechanisms.

First, black cumin seed oil stimulates actions of patrolling immune system cells on the lookout for invading organisms or abnormal cancer cells. The oil triggers an increase in the activity of macrophages (cells that engulf and destroy abnormal cells) and helper T-cells (cells that marshal natural killer cells and direct them to their targets).

Mice injected with the oil were dramatically protected against cytomegalovirus, a version of the herpes virus that can infect humans and cause birth defects and other consequences. While control animals still had detectable virus in their systems at 10 days, treated mice were virus-free, the result of enhanced macrophage and T-helper-cell activity.

Thymoquinone, an active component of black cumin seed oil, specifically boosts survival and activity of other key cells in the immune response to infection or cancer, namely so-called CD-8 T-cells. These cells are the field troops that actively hunt down and kill infected or cancerous cells, after activation by T-helper and macrophage cells. This activity, known as “conditioning,” amplifies the effectiveness of these vital immune system cells against cancer and infectious diseases.

These effects appear in humans treated with black cumin seed oil as well, according to a study presented at a recent international conference. That study reported a 55% increase in the activity of T-helper cells, and a 30% increase in natural killer cell function, following black cumin seed oil supplementation.

Black cumin seed oil is a powerful anti-inflammatory agent, capable of suppressing the chronic inflammation that underlies aging and its many symptoms. Now it is showing tremendous promise at combating the gradual loss of immune function we suffer with advancing age. These twin properties give black cumin seed oil unprecedented dual coverage as an age-preventing, health-promoting supplement.
Black cumin seed oil has shown benefits in managing rheumatoid arthritis, a highly inflammatory condition. In addition to the joints, rheumatoid disease can afflict the heart, liver, nerves, and blood-forming cells.

A human study of black cumin seed oil has produced encouraging results. Forty women with rheumatoid arthritis had a one month washout period, during which they took a placebo capsule twice daily, followed by one month of taking 500 mg of black cumin seed oil twice daily. Subjects experienced a significant improvement on a standard 28-point scale used to assess how rheumatoid arthritis is affecting the body as a whole. Additionally, there was a reduction in the number of swollen joints and in the duration of morning stiffness. Remarkably, there was an overall reduction of symptoms in 42.5% of the patients.

Black cumin seed oil has been shown to be effective in experimental models of osteoarthritis, the most common form of arthritis in humans. Treatment with thymoquinone, a component of black cumin seed oil, reduced levels of a protein-melting enzyme, known as MMP (matrix metalloproteinase), that destroys bone and joint tissue in osteoarthritis.

Allergies and Asthma

Eight percent of Americans—18 million people—endure environmental allergies such as hay fever. Another 8.2% of Americans—18.7 million—suffer from asthma.

These conditions are related. Both are driven by an overreaction of the immune system and resulting inflammation.

Nasal congestion and weepy eyes are the recognized symptoms of hay fever, the most common environmental allergy. Underlying these symptoms are marked increases in a host of pro-inflammatory factors. These inflammatory factors include cytokines, such as interleukins, antibodies called IgE, and immune cells called eosinophils.

Lab studies show that black cumin seed oil and its active constituents have beneficial effects on all of these inflammatory factors. Thymoquinone, a component found in black cumin seed oil, was found to alter production of interleukins—both suppressing inflammatory interleukins and boosting anti-inflammatory interleukins.

Mice treated with black cumin seed oil were found to have reduced numbers of eosinophils, cytokines, and inflammatory cells in their lung tissue. These changes were equivalent to those induced by dexamethasone, a potent, immune-suppressing steroid used to treat arthritis.

What You Need to Know

**Target the Inflammatory Imbalance of Aging with Black Cumin Seed Oil**

- Aging changes the way your immune system functions, increasing inappropriate inflammation while suppressing appropriate immune responses.
- The result of this inflammatory and immunological imbalance is a host of chronic, age-related diseases that contribute to early death.
- The components of black cumin seed oil have unique properties that restore a youthful and optimal inflammatory balance to the immune system's components.
- Through this mechanism, black cumin seed oil has the potential to mitigate—and even reverse—chronic diseases such as arthritis, allergies, asthma, colitis, and cardiovascular disease.
- Studies show that it is possible to achieve a better overall immunological balance, one that promotes health and defeats inflammation, by supplementing with black cumin seed oil.
A human study of 66 patients with allergic rhinitis produced compelling results. Treatment with black cumin seed oil resulted in a sharp decrease in IgE antibodies in nasal secretions, accompanied by significant reductions in nasal congestion and itching, runny nose, sneezing attacks.23

Black cumin seed oil also shows great promise in managing asthma, with its many inflammatory and allergic components. Lab studies show that both the seed oil and its thymoquinone constituent trigger relaxation of the trachea and large airways (bronchi), both of which can go into spasm during an asthma attack.22,24 The thymoquinone found in black cumin seed oil produces a sharp reduction in inflammatory mediators known as interleukins and leukotrienes, both of which play a role in asthma and allergy-related conditions.25,26

**What Is Black Cumin Seed Oil?**

Black cumin is one of the most ancient of herbal remedies. Though it has been used as a spice, black cumin should not be confused with common cumin (*Cuminum cyminum*).5 In many folk traditions, black cumin’s antioxidant properties made it an attractive food preservative.5

Oil extracted from black cumin seeds contains a variety of components, all of which have potent free radical scavenging properties.5,7 Of these, thymoquinone is the best understood. In addition to its antioxidant powers, thymoquinone suppresses the activities of enzymes that produce inflammatory cytokines such as interleukins and leukotrienes.

But black cumin seed oil doesn’t stop at suppressing inflammation. It contains other powerful ingredients that augment the immune system’s patrolling surveillance and “killer” cells responsible for identifying threats such as infection and cancer cells.6

It’s this ability to restore balance to the aging immune system that justifies black cumin seed’s traditional names “seeds of blessing” and “panacea.”5,7

**Colitis and Gastro-Protection**

*Colitis*—meaning inflammation of the colon, or large intestine—is most commonly seen in inflammatory bowel disease, including Crohn’s disease. The Centers for Disease Control estimates that up to 1.4 million Americans suffer from this condition.27

There is still no medical cure.

However, black cumin seed oil and its components exert powerful effects that can slow colonic inflammation.6 Lab studies reveal that pre-treating animals with thymoquinone as extracted from black cumin seed oil completely prevents experimentally-induced colitis.28

Importantly, treatment with black cumin seed oil lowers levels of *pro-inflammatory cytokines*.29

Studies have shown that both black cumin seed oil and thymoquinone strongly protect the delicate stomach lining against the injurious effects of alcohol and other toxins, and even against the effects of stress.30,31 Markers of tissue oxidation were sharply reduced.30
Cardiovascular Disease

Atherosclerosis is a major consequence of chronic inflammation—making it an appropriate target for therapy with anti-inflammatory black cumin seed oil, with its powerful antioxidant effects. Working together, these two mechanisms lower the risk of atherosclerosis and consequently, heart attacks, strokes, and other artery diseases.

Animals supplemented with black cumin seed oil demonstrated lower levels of dangerous LDL-cholesterol, and higher levels of HDL cholesterol, which may be protective.32,33

Black cumin seed oil neutralizes lipid oxidation and reduces the impact of oxidized LDL, a major trigger for the atherosclerotic plaques that block blood flow to cause heart attacks and strokes.33

Black cumin seed oil has a major impact on a destructive process known as ischemia-reperfusion injury. This serious damage occurs to tissue and organs when, following blockage of an artery, the oxygen-rich blood flow is then restored. This complex phenomenon releases a massive outpouring of reactive oxygen species that can damage tissue as severely as the original blockage! Ischemia-reperfusion injury is responsible for many of the debilitating long-term effects seen in survivors of strokes and heart attacks.

For example, the powerful protection provided by black cumin seed oil against ischemia-reperfusion injury has now been convincingly demonstrated in the kidney—one of the main targets of the insidious effects of atherosclerosis.34

How Does Black Cumin Seed Oil Work?

Black cumin seed oil is a complex mixture of antioxidant, anti-inflammatory, and immunomodulatory components. These capabilities have made it useful in fighting diseases related both to excessive inflammation (virtually all age-related conditions) and to the impaired immune response of old age.6

Here are the major processes that have been identified as black cumin seed oil’s mechanisms of action:

1. Antioxidant: Black cumin seed oil contains powerful antioxidants that reduce intracellular products of oxidation, boost natural cellular antioxidant systems, and scavenge free radicals before they can do harm.6,35

2. Anti-Inflammatory: Black cumin seed oil’s constituents that have multiple anti-inflammatory mechanisms:

- Suppress activity of the “master inflammatory regulator” complex NF-kappaB.36
- Inhibit important enzyme systems such as 5-LOX and COX1 that produce inflammatory mediators called leukotrienes and prostaglandins.26,37,38
- Reduce production of a compound called 5-HETE, a precursor of inflammatory molecules.38,39
- Inhibit production and activity of interleukins, cytokines with complex immune modulating properties. Black cumin seed oil constituents reduce production of inflammatory interleukins, and may boost production of anti-inflammatory ones.40-42

3. Immune-Modulating Effects: In addition to suppressing chronic inflammation and free radicals, black cumin oil contributes to beneficial immune responses:

- It boosts the infection- and cancer-fighting abilities of specific cells in the immune system.6,7
- Black cumin seed constituents trigger appropriate activation of pro-inflammatory cytokines in the face of stimulation by dangerous bacterial structural molecules, a function vital for developing acute inflammatory responses to infections.8,9
Summary

The twin problems of increased harmful chronic inflammation combined with decreased beneficial immune responses are major contributors to aging, chronic disease, and early death.

The oil of black cumin seed has historically been used to combat conditions we now understand to be related to these fundamental, age-related, inflammatory and immunological disturbances.

Modern scientific analysis shows that black cumin seed oil contains components that re-establish optimal inflammatory balance—powerfully suppressing chronic inflammation, while at the same time promoting healthy immune responses.

As a result of that delicate immunological balancing, supplementation with black cumin seed oil has the potential to slow—and even reverse—many of the most devastating aging-related conditions.

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

References


Bone Restore combines critical bone boosting nutrients into one superior formula.

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

Bone Restore contains magnesium citrate, which is one of the most absorbable forms of magnesium.

The retail price for 150 capsules of Bone Restore is $26. If a member buys four bottles during Super Sale, the price is reduced to $15.53 per bottle. (Item# 01711)

The same Bone Restore formula without vitamin K2 (MK-7) is available as well. The retail price for 150 capsules is $22.50. If a member buys four bottles during Super Sale, the price is reduced to $13.16 per bottle. (Item# 01611)

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

Just five capsules of Bone Restore provide:

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<th>Quantity</th>
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<tr>
<td>Highly Absorbable Calcium</td>
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<td>(as DimaCal® dicalcium malate, TRAACS® calcium glycinate chelate, calcium fructoborate)</td>
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<tr>
<td>Vitamin D3</td>
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<td>Vitamin K2 (as menaquinone-7)</td>
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<td>Magnesium</td>
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<td>Boron (calcium fructoborate as patented FruiteX B® OsteoBoron®)</td>
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<td>Zinc (as TRAACS® zinc glycinate chelate)</td>
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<td>Manganese</td>
<td>1 mg</td>
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To order Bone Restore, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
As we age, a balanced immune and inflammatory response becomes critical to guarding our health.\(^1\)\(^-\)\(^3\)

Research has shown Black Cumin Seed Oil to be particularly effective.\(^4\)\(^-\)\(^7\)

**UNIQUE MOLECULAR COMPLEX**

Scientists have determined that black cumin seeds contain a broad spectrum of active compounds.\(^5\) Combined, these compounds provide powerful and wide-ranging immune support and promote healthy inflammatory response.\(^6\)\(^-\)\(^9\)

**DUAL IMMUNE SUPPORT**

A number of biological factors contribute to the body’s normal inflammatory activity, including cell-signaling chemicals and hormone-like messengers.\(^9\) In a series of scientific studies, Black Cumin Seed Oil has been shown to support the normal effectiveness of these inflammatory factors.\(^6\)\(^-\)\(^7\)

Also, an aging, healthy immune system needs to orchestrate the activity of macrophages and helper T-cells that work together to identify and destroy dangerous microbes and abnormal cells. Black Cumin Seed Oil was also shown to support the optimal function of these vitally important defensive activities.\(^9\)\(^1\)\(^1\)

**A BALANCED INFLAMMATION RESPONSE**

By acting on both immune factors and inflammatory factors, Black Cumin Seed Oil supports a healthy immune system—which is increasingly important as we age—and facilitates a healthy inflammatory response!

The suggested daily dosage of two softgels of Black Cumin Seed Oil provides:

- Thymocid™ organic Black Cumin seed oil (Nigella sativa) 1,000 mg

A bottle containing 60 softgels of Black Cumin Seed Oil retails for $16. If a member buys four bottles during Super Sale, the price is reduced to $9.45 per bottle. (Item# 01709)

Since curcumin possesses some of the properties of black cumin seed oil, some people might want to take both nutrients in the same capsule.

The suggested daily dose of two softgels of Black Cumin Seed with Bio-Curcumin® provides:

- Super Bio-Curcumin® (BCM-95®) (Curcuma longa) extract 400 mg
- Thymocid™ organic Black Cumin Seed Oil (Nigella sativa) 1,000 mg

A bottle containing 60 softgels of Black Cumin Seed Oil with Bio-Curcumin® retails for $32. If a member buys four bottles during Super Sale, the price is reduced to $20.25 per bottle. (Item# 01710)

To order Black Cumin Seed Oil or Black Cumin Seed Oil with Bio-Curcumin®, call 1-800-544-4440 or visit www.LifeExtension.com.
## Discount Prices For Premium-Quality Products

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

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

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

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Our Low Retail Price</th>
<th>SUPER SALE Member-Volume Discount Price Per Bottle</th>
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<tr>
<td><strong>Super Omega-3 EPA/DHA with Sesame Lignans &amp; Olive Fruit Extract</strong></td>
<td>$32</td>
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<td>120 softgels, Item # 01482</td>
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<td>Super purified EPA/DHA fish oil plus sesame lignans and potent olive fruit extract</td>
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<td>to provide critical omega-3 fatty acids and essential components of the Mediterranean</td>
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<td>diet.</td>
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<td><strong>Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™</strong></td>
<td>$62</td>
<td>$35.10 (ten-bottle purchase)</td>
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<td>100 mg, 60 softgels, Item # 01426</td>
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<td>The superior ubiquinol form of CoQ10 plus a natural compound (shilajit) shown to</td>
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<td>double mitochondrial CoQ10 levels.</td>
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<td><strong>Life Extension Mix™ • 315 tablets, Item # 01755</strong></td>
<td>$98</td>
<td>$46.91 (ten-bottle purchase)</td>
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<td>High-potency multi-nutrient formula now with the selenite form of selenium in</td>
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<td>addition to L-selenomethionine and Se-methyl L-selenocysteine.</td>
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<td><strong>Vitamin D3 • 5,000 IU, 60 softgels, Item # 01713</strong></td>
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<td>High-potency vitamin D in a new softgel to provide greater absorption into the</td>
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<td>bloodstream.</td>
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<td><strong>Ultra Natural Prostate Formula with AprèsFlex™ &amp; Standardized Lignans</strong></td>
<td>$38</td>
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<td>60 softgels, Item # 01695</td>
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<td>Comprehensive prostate protection utilizing nettle, pygeum, saw palmetto, boswellia,</td>
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<td>and other botanical extracts plus boron.</td>
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<td><strong>CoffeeGenic™ Weight Management™ with Green Coffee Extract • 90 capsules, Item # 0170</strong></td>
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<td>More potent formula now includes 200 mcg of long-acting MK-7 form of vitamin K2</td>
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<td>plus 1,000 mcg of K1 and 1,000 mcg of the MK-4 form of vitamin K2.</td>
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<td><strong>PQQ Caps with BioPQQ™ • 10 mg, 30 vegetarian capsules, Item # 01500</strong></td>
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<td>Promotes mitochondrial biogenesis (generation of new mitochondria) in aging cells.</td>
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<td>A hormone that declines with aging, benefits overall health.</td>
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<td><strong>Mitochondrial Energy Optimizer with BioPQQ™ • 120 capsules, Item # 01568</strong></td>
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<td>To maintain healthy cellular function, protein structural integrity, and</td>
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<td>mitochondrial biogenesis.</td>
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<td><strong>Super Bio-Curcumin® • 400 mg, 60 vegetarian capsules, Item # 00407</strong></td>
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<td>Super-absorbable formulation promotes healthy lipids, joint function, and healthy</td>
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<td>DNA. Absorbs up to six times greater than conventional curcumin.</td>
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<td><strong>Super Zeaxanthin with Lutein, Meso-Zeaxanthin, and C3G</strong></td>
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<td>60 softgels, Item # 01685</td>
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<td>Supports night vision and macular density.</td>
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<td><strong>Optimized Resveratrol with Synergistic Grape-Berry Actives</strong></td>
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<td>250 mg, 60 vegetarian capsules, Item # 01430</td>
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<tr>
<td>High potency trans-resveratrol with quercetin, plus trans-pterostilbene and fisetin</td>
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<tr>
<td>to support DNA “longevity genes.” One per day resveratrol formula.</td>
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<th>Product Name</th>
<th>Item #</th>
<th>Retail Price Per Bottle</th>
<th>Member-Volume Discount Price Per Bottle</th>
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<tr>
<td><strong>Bone Restore with Vitamin K2</strong></td>
<td>01711</td>
<td>$26</td>
<td>$15.53</td>
</tr>
<tr>
<td>High-potency bone protection formula with FruiteX B® OsteoBoron®, Magnesium citrate, and now K2. Available with or without vitamin K2.</td>
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<td><strong>Cognitex with NeuroProtection Complex</strong></td>
<td>01697</td>
<td>$74</td>
<td>$43.20</td>
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<tr>
<td>Optimal support for the brain. Includes glyceryl-phosphoryl-choline, vinpocetine, phosphatidylserine, Sharp-PS® GOLD PS-DHA, uridine 5'-monophosphate, and others. Available with or without pregnenolone.</td>
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<tr>
<td><strong>Cardio Peak with Standardized Hawthorn and Arjuna</strong></td>
<td>01700</td>
<td>$36</td>
<td>$21.60</td>
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<tr>
<td>Powerful cardiotonic botanical extracts modulate a broad spectrum of cardiovascular risk factors.</td>
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<td><strong>Reishi Extract Mushroom Complex</strong></td>
<td>01708</td>
<td>$30</td>
<td>$18.23</td>
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<tr>
<td>Standardized mushroom extract to restore and regulate immune system function.</td>
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<tr>
<td><strong>Triple Action Cruciferous Vegetable Extract</strong></td>
<td>01468</td>
<td>$24</td>
<td>$14.85</td>
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<tr>
<td>Comprehensive cruciferous plant extract formulation, with IBC, DIM, apigenin, and other DNA-protecting vegetable concentrates.</td>
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<tr>
<td><strong>Prelox® Natural Sex for Men</strong></td>
<td>01373</td>
<td>$52</td>
<td>$32.40</td>
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<tr>
<td>Supports healthy endothelial function and blood flow for maximum male performance.</td>
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<td><strong>Super R-Lipoic Acid</strong></td>
<td>01208</td>
<td>$49</td>
<td>$30.38</td>
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<tr>
<td>Superior efficacy compared to alpha-lipoic acid—supplies 240 mg of stabilized R-lipoic acid.</td>
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<tr>
<td><strong>ArthroMax™ Advanced with UC-II® and AprèsFlex™</strong></td>
<td>01618</td>
<td>$36</td>
<td>$21.60</td>
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<tr>
<td>Promotes joint health and may promote comfortable joint structure and function.</td>
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<tr>
<td><strong>Extraordinary Enzymes</strong></td>
<td>01706</td>
<td>$26</td>
<td>$16.20</td>
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<td>Powerful digestive support to promote nutrient absorption while minimizing breakdown of starches into sugar.</td>
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<td><strong>Krill Healthy Joint Formula</strong></td>
<td>01600</td>
<td>$32</td>
<td>$19.58</td>
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<tr>
<td>Healthy joint formula provides targeted support for aging joints through a proprietary blend of krill oil, hyaluronic acid, and astaxanthin. One softgel a day formula.</td>
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<td><strong>Natural Stress Relief</strong></td>
<td>00987</td>
<td>$28</td>
<td>$16.20</td>
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<tr>
<td>With lemon balm extract to help relieve stress and sleeplessness, and pure L-theanine to promote relaxation without drowsiness.</td>
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<tr>
<td><strong>Gamma E Tocopherol with Sesame Lignans</strong></td>
<td>00759</td>
<td>$32</td>
<td>$19.58</td>
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<tr>
<td>Provides the critical gamma tocopherol form of vitamin E plus sesame lignans to enhance the free radical scavenging benefits of alpha and gamma tocopherols.</td>
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<tr>
<td><strong>Black Cumin Seed Oil with Bio-Curcumin®</strong></td>
<td>01710</td>
<td>$32</td>
<td>$20.25</td>
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<tr>
<td>Dual support for a balanced immune and inflammation response.</td>
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<tr>
<td><strong>Super Booster Softgels with Advanced K2 Complex</strong></td>
<td>01680</td>
<td>$42</td>
<td>$25.65</td>
</tr>
<tr>
<td>A convenient one per day softgel that includes optimal potencies of gamma-tocopherol, sesame lignans, lycopene, lutein, ginkgo, chlorophyllin, and both forms of vitamin K2.</td>
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<td><strong>Neuro-Mag™ Magnesium L-Threonate</strong></td>
<td>01603</td>
<td>$40</td>
<td>$24.30</td>
</tr>
<tr>
<td>Optimal form of magnesium to protect synaptic density of neurons.</td>
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CERAMIDES
Nourish Skin from Within

When we are young, our bodies manufacture ample ceramide molecules to keep our skin healthy.1-3

These ceramides are a major component of our skin’s surface. They protect against moisture loss to keep skin youthful and supple.4 Functionally, ceramides supports the skin’s matrix, keeping it firm.2,4

However, with age, ceramide production declines, and skin begins to sag and wrinkle.3

Scientists have found a way to extract ceramides from whole grain wheat that allows aging humans to nourish their skin’s structure from within. Research has shown that ceramides derived from wheat inhibit the elastase enzymes that destroy the skin’s elastin, which results in loss of flexibility and increased wrinkling.5 Natural ceramides provide continuous maintenance for skin and allow it to sustain its healthy protective function and vital moisture.

This article will examine the laboratory data on whole wheat-derived ceramides for restoring structure to human skin. Impressive clinical data show how supplementing with these ceramides produces smoother, more youthful skin free of the itching and flaking that is so common with age.2,3,6
Researchers have discovered a number of plant-based ceramides that are available from grains such as rice, corn, and wheat.\textsuperscript{4} A little over a decade ago a French company decided to explore the potential of \textit{wheat-derived ceramides} for use as a skin moisturizer that could be taken orally. This would allow the ceramides to reach the skin's outer layer in a natural fashion, being delivered by the bloodstream and gently nudged into the extracellular matrix, where they would restore the healthy moisture barrier function of the skin.\textsuperscript{4}

That same company went on to develop the first ceramide-rich extract of wheat. They used exclusively whole-grain, non-genetically modified wheat as the raw material.\textsuperscript{4,8} The new wheat extract contains purified oils, and has been tested to prove that it has no gluten or other allergy-provoking components.\textsuperscript{4}

The product was an instantaneous hit in Japan, where since 1997 it has been used in many popular “beauty drinks” and nutritional supplements.\textsuperscript{4} A number of interrelated studies have now validated that healthy consumer response.\textsuperscript{4-6}

Several early laboratory studies demonstrated that a powdered form of the wheat extract, which is equally potent as the oil form, could hydrate and restore \textit{youthful structure} to human skin after being subjected to disruption of its protective barrier function.\textsuperscript{5} In addition, this study found a substantial reduction in free radicals in the skin, and showed that the wheat extract could inhibit the \textit{elastase enzymes} that ordinarily would destroy elastin and contribute to loss of flexibility and increased wrinkling.\textsuperscript{5}

**Human Clinical Trials**

Clinical studies with the wheat ceramide extract began in 2005, after an encouraging pilot study.\textsuperscript{6} Women with dry to very dry skin received either a placebo or \textbf{200 mg/day} of a powdered form of the wheat ceramide extract; treatment continued for 3 months.

There was a significant improvement in skin hydration as evaluated three ways, by a machine, by a dermatologist’s examination, and by the patients’ own subjective scores.\textsuperscript{6} Furthermore, women in the wheat extract group, but not the placebo group, experienced a significant reduction in dry patches, roughness,
and itching. These effects are exactly what one would expect as the ceramides made their way through the bloodstream to the skin.

A second, larger study was then done to evaluate the wheat ceramide extract in its oil form.

In that study, women with dry to very dry skin took 350 mg of the wheat ceramide oil, or a placebo, daily for three months, in a randomized, double-blind fashion. Again, a series of different measures was used to determine the impact of the supplement.

Skin hydration was objectively measured by a technique called “corneometry.” By this measure, the supplement (but not the placebo) significantly increased skin hydration of the arms, legs, and overall, with the greatest impact on the arms, where skin hydration had increased by more than 35%, compared to less than 1% in the placebo group.

Subjects also rated their own perceptions of the effects of the treatment (supplement or placebo). At all measurement points in the study, the wheat extract scored better on the following measures: roughness, uniformity of complexion, facial skin hydration, leg skin hydration, suppleness, itchiness, and overall state of the skin.

No significant adverse effects or side effects were reported, and the supplement proved slightly superior to the placebo in terms of acceptability.

This study was a compelling demonstration of the power of a whole-grain wheat ceramide supplement to improve many of the essential features of the skin’s barrier function, features that are typically lost to aging and environmental exposure. Simply put, women who supplemented with this product experienced measurable improvements in “beauty from within.”

Summary

The centuries-long quest for “beauty from within” is now a reality, thanks to oral supplements derived from the whole wheat grain. A wheat-derived supplement rich in ceramides, which form 35 to 40% of the “cement” in skin’s outermost layer can restore moisture and reduce dry, flaky, itchy skin.

Ceramides and other rare lipids are natural constituents of the wheat grain. By taking these compounds internally, skin can be nourished naturally, delivering ceramides directly to skin through the bloodstream, where they are taken up and deposited into the barrier layer, or stratum corneum.

Boosting your skin’s ceramide levels can bring back its natural moisture levels yielding a healthy and youthful complexion — from the inside out!
How Your Skin Ages

Skin is a complex, multilayered organ with a myriad of functions. The most visible manifestations of skin aging occur mostly in the outermost layers.

To understand how aging changes your skin, we need to review the normal structure of the outer layer of skin, called the **stratum corneum**, and what becomes of it over time.

The stratum corneum is composed of flattened, hard, dead skin cells that resemble overlapping bricks, which start as living cells in the lower skin layers. As they are pushed closer to the surface, they flatten out and die, providing a thin but very tough barrier.\(^9\)

But these flat cells would flake away immediately if they weren’t held together by a kind of flexible skin cement, which is **35 to 40% ceramides**.\(^4\) If you think of the stratum corneum cells as bricks, the skin cement is the mortar between them that holds them in place.

Together, these flat cells and the more flexible, lipid-rich cement provide a natural seal that acts as a two-way barrier: it keeps out germs, toxins, and other contaminants, while keeping in moisture to maintain a healthy, flexible, and supple skin texture.\(^10\)

Cells in the stratum corneum are constantly replaced from living cells in the deeper skin layers; the outer layers of skin (ie, epidermis) are replaced roughly every **39 days**.\(^11\) And the ceramides and other lipids in the extracellular matrix are constantly replenished by nutrients brought to the deeper skin layers by the bloodstream.\(^12\)

At least, that’s how it all works in youth.

As we age, our skin, like so many of our other organs, slows down. Studies show that after age 50 or so, new outer layer skin cells take more than **50% longer** to reach the surface, an indication of delayed proliferation.\(^13\)

Worse, the amount of specialized lipids in the extracellular matrix declines with age and ceramides are among the first to go.\(^1,3\) As a result, the “cement” that holds the skin cells together is weakened and loses much of its moisture barrier function.\(^2\) Lost moisture results in the dry skin that is common in older adults.\(^2,14\)

Finally, the skin, like every other organ, falls victim to the ravages of chronic oxidant stress and inflammation.\(^15\) Together these omnipresent threats trigger production of enzymes that degrade vital skin proteins. Among their chief targets are collagen, the main structural skin protein, and elastin, which gives skin its suppleness and flexibility.\(^16\) Chronic exposure to sunlight aggravates these processes.\(^3,17-19\)

One look at a typical older person’s skin tells the story. Lost moisture in the stratum corneum leaves the skin surface pale and dry with fine wrinkles.\(^3\) Inflammatory changes can produce itching, redness, and dry patches. Loss of collagen thins the skin, while declining elastin renders it less flexible; these changes produce the larger wrinkles we associate with age.\(^20-22\)

While topical products aim to replenish skin oils from the outside, the skin’s natural sealing agents such as ceramides and other specialized lipids, come from inside the body. They’re derived from precursor molecules delivered by the bloodstream, that then make their way up through the deeper skin layers, ultimately being deposited in the stratum corneum.\(^12\) No matter how good your topical skin cream or lotion is, it cannot replace the structural barrier created by ceramides.
If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.

References
The older eyes get, the more susceptible they become to an array of debilitating issues that can hamper eyesight and cripple quality of life. With just a few drops of the proper eye lubricant, eye irritation stemming from dryness may be alleviated. Brite Eyes by Life Extension® provides a powerful dose of two well-established lubricants in every drop, soothing eye discomfort without irritation. Hydroxymethylcellulose and glycerin are FDA-approved for ophthalmic use and are uniquely preserved with potent antioxidants and anti-glycating agents.

The Brite Eyes formula is buffered in a way to make it soothing to the eye. The suggested use of Brite Eyes III is to apply 1 to 2 drops in each eye every day. Each box of Brite Eyes III contains two individual vials that provide 5 mL each. The reason for putting Brite Eyes into individual vials is to reduce the risk of bacterial contamination. Having small vials also makes it convenient for consumers to keep Brite Eyes readily accessible at home, the office, in one’s purse or pocket, and other places where access to a soothing eye drop is needed.

Eye support is essential to preventing age-related vision problems.

To order Brite Eyes III, call 1-800-544-4440 or visit www.LifeExtension.com
Ceramides are essential for preserving healthy-looking skin. That's why they're included in so many anti-aging face creams.

Your body's production of ceramides declines with age. That's bad news, since ceramides make up 35-40% of the binding matrix that maintains moisture balance and protects the skin's surface. It's therefore critical that ceramides lost to aging are replaced.

Restore Ceramides Naturally from Within!
The ceramides that young skin naturally produces to retain its supple appearance are identical to those present in wheat! Wheat-derived oils have been used topically for centuries as a natural moisturizer. But you can't get enough ceramides from topically applied wheat oil to have a long-term impact on your skin's appearance. And they don't appear in sufficient concentration in your diet.

That's why Life Extension® brought together these skin-nourishing oils in a concentrated oral formula called Skin Restoring Phytoceramides with Lipowheat™. Lipowheat™ is a proprietary ceramide blend that offers nutritional support for aging skin to complement the topical products you may already be using.

The Moisturizing Pill the Japanese Have Enjoyed for a Decade!
Lipowheat™ ceramides have been available to Japanese women as a functional food since 2000. The hydrating action of Lipowheat™ ceramides have proven effective in clinical trials.

To take one example, after just three months ingesting 200 mg per day of Lipowheat™, a group of people suffering from dry, flaking skin reported dramatic improvement in the look and feel of their skin. These results were verified by electrochemical analysis showing that 95% of participants exhibited improved skin hydration. Even better, all subjects who at the onset of the study experienced chronic itching reported sharply decreased itching or complete elimination of the problem by the end of the study!

Aging Americans can now offset the visible impact of the gradual decline in their ability to produce enough ceramides by using Skin Restoring Phytoceramides with Lipowheat™.

One bottle containing 30 350 mg liquid capsules of Skin Restoring Phytoceramides with Lipowheat™ retails for $25. If a member buys four bottles during Super Sale, the price is reduced to $15.53. Contains wheat.

Lipowheat™ is a trademark of LAVIPHARM Group of Companies.

References

To order Skin Restoring Phytoceramides with Lipowheat™
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.
YOU MAY BE ONE OF THEM.
Optimal uptake of magnesium may now be obtained in a highly absorbable form called Neuro-Mag™ available in capsules or tasty natural lemon-flavored powder.

HALF OF AGING HUMANS IN THE DEVELOPED WORLD ARE MAGNESIUM DEFICIENT!1

A Critical Brain Booster. . .
Magnesium is needed for more than 300 biochemical reactions in the body.2 Long known for its role in cardiovascular3,5 and bone health,6 researchers are now focusing intensely on magnesium’s benefits for cognitive function.2

It is very hard for your body to maintain optimal levels of magnesium in the brain.1 This is of special concern for maturing individuals, as magnesium deficiency increases over time.1

Absorbs Into the Brain
Most commercially available magnesium supplements are not readily absorbed into the central nervous system.

To overcome this obstacle, an innovative form of magnesium is being introduced called Neuro-Mag™, shown to specifically target the aging brain and nervous system.

In pre-clinical models, magnesium L-threonate contained in Neuro-Mag™ boosted magnesium levels in spinal fluid by an impressive 15% compared to no increase with conventional magnesium.2

Even more compelling, animal models revealed improvements of 18% for short-term memory and 100% for long-term memory using the Neuro-Mag™ form of magnesium.2

Capsules or Powder... Value Priced
The suggested daily dose of three Neuro-Mag™ Magnesium L-Threonate Capsules provides 2,000 mg of Magnesium-L-Threonate. While this supplies a modest 144 mg of elemental magnesium, its superior absorption into the bloodstream and nervous system make it a preferred choice for aging humans to supplement with.

This same brain health-supporting magnesium is also available in a good tasting powder mix called Neuro-Mag™ Magnesium L-Threonate Powder. In addition to its appealing natural lemon flavor, the one-scoop per day serving size supplies the same amount of magnesium plus 500 mg of calcium (as calcium lactate gluconate—a highly soluble form of calcium) and 1,000 IU of vitamin D3.

A bottle containing 90 vegetarian capsules of Neuro-Mag™ Magnesium L-Threonate or 30 scoops of Neuro-Mag™ Magnesium L-Threonate Powder retails for $40. If a member buys four bottles during Super Sale, the price is reduced to $24.30 per bottle. Contains corn.

References

Magtein™ is a trademark of Magceutics, Inc, distributed exclusively by AIDP, Inc. Patent pending.
**ENHANCED HEART MUSCLE FUNCTION**

**Cardiotonics** have traditionally been used to improve heart function and vitality. Formulated for optimum heart muscle health, **Cardio Peak™ with Standardized Hawthorn and Arjuna** provides dual cardiotonic support.

Extensive research demonstrates that the botanical extracts Hawthorn and Arjuna deliver optimum support for normal heart muscle function and coronary artery health.¹⁻¹⁷

**Hawthorn: Peak Cardiotonic Support**

Used for centuries in Europe for heart health, the cardiotonic effects of Hawthorn extract have been well documented in numerous clinical trials.¹⁻¹²

Hawthorn contains specific bioflavonoid complexes targeted to help promote normal circulation and efficient heart muscle function.²⁻⁵

Studies indicate that the constituents in Hawthorn powerfully support:

- Strong contractile force of human heart muscle.³
- Protection for heart muscle cells from oxidant damage.¹⁻²
- Normal gene expression to promote cardiovascular health.²⁻³⁻⁴
- Improved cardiovascular performance.¹¹

**Arjuna: Boosting Heart-Health Benefits**

Traditionally used for cardiovascular health, **arjuna** extract complements the effects of hawthorn in support of enhanced heart function.¹⁶⁻¹⁷ A number of scientific studies have shown that arjuna delivers strong support for:

- Enhanced heart muscle tone, improving its “squeeze” and increasing the amount of blood it can pump each second without exhaustion.¹⁶
- Healthy endothelial function.⁸
- Improved exercise endurance.¹⁷

A comprehensive program that includes diet, exercise, and lifestyle changes is important to your cardiovascular health. For unique cardiotonic support for a strong and healthy heart, **Cardio Peak™ with Standardized Hawthorn and Arjuna** may become a key element in your daily regimen!

To order **Cardio Peak™ with Standardized Hawthorn and Arjuna**, call 1-800-544-4440 or visit www.LifeExtension.com

The suggested **twice daily** dosage of 2 capsules of **Cardio Peak™ with Standardized Hawthorn and Arjuna** provides:

- **Rejuna™ Arjuna** *(Terminalia arjuna)* 1,500 mg
  10:1 extract (bark) [std. to 40% polyphenols (600 mg)]

- **Hawthorn-Derived Oligomeric Proanthocyanidins (OPCs)**
  [from standardized Hawthorn *(Crataegus monogyna* and *Crataegus laevigata*) extract (leaf and flower)] 60 mg

A bottle of 120 vegetarian capsules of **Cardio Peak™ with Standardized Hawthorn and Arjuna** retails for $36. If a member buys four bottles during **Super Sale**, the price is reduced to **$21.60** per bottle.

**References**


Rejuna™ is a trademark of Verdure Sciences, Inc

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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.
CoQ10: The Longevity Factor

Would you like to potentially add 9 years to your life expectancy? That’s what research on the nutrient coenzyme Q10 (CoQ10) implies is possible.¹

CoQ10 is well known for its heart and vascular health benefits.² By helping the cellular powerhouses known as mitochondria burn fuel more effectively, CoQ10 is able to protect not only the heart but every cell in your body.³

That’s why scientists are growing increasingly fascinated with the role of CoQ10 in tissues beyond the cardiovascular system.² There is evidence for CoQ10’s protective effects in the brain and nervous system, in asthma and chronic lung disease, in diabetes and the metabolic syndrome, on ocular health, and even on the aging immune system.

Most excitingly, there’s early support for the idea that CoQ10 supplementation can extend the life span of both primitive animals and mammals, laying the groundwork for a similar pro-longevity effect in humans. >
CoQ10 Extends Life Span

According to the mitochondrial theory of aging, oxidant damage to the mitochondria is at the root of aging itself. Simply put, the more oxidative damage to mitochondria, the shorter the life span of the individual.

Therefore, if we can make mitochondria burn energy more cleanly and efficiently, we can decelerate the aging process. That would mean not only longer life, but a healthier one.

CoQ10 is an essential component of the mitochondrial energy transfer system. When CoQ10 levels fall, mitochondrial dysfunction skyrockets, and aging is accelerated.

However, when CoQ10 is added back to ailing or aging mitochondria, their function rebounds. Studies show that when supplemented with CoQ10, older worms in the species *C. elegans* experience a slowing down of the aging process and an extended life span.
COQ10: THE LONGEVITY FACTOR

Even studies that don’t show life span extension demonstrate a return to youthful behaviors and functions in response to CoQ10 supplementation. Even studies that don’t show life span extension demonstrate a return to youthful behaviors and functions in response to CoQ10 supplementation.8

These benefits aren’t restricted to primitive invertebrates, however: Research demonstrates that mice supplemented with CoQ10 live longer. In one case, supplemented animals experienced an 11.7% increase in mean life span, and a 24% increase in maximum life span. That increase translates into the equivalent of humans gaining over 9 years, based on today’s life expectancy of 78.5 years.9

The benefits of CoQ10 supplementation in mice aren’t restricted solely to extending the quantity of life, however. Lifelong dietary supplementation with CoQ10 decreased objective measures of aging even in middle-aged animals.10

CoQ10 appears to achieve these exceptional effects through a multi-targeted set of mechanisms.

It is now evident that CoQ10 directly influences the expression of multiple genes involved in aging, especially those regulating inflammation.11-13 This so-called “epigenetic” effect is at the very forefront of scientific attempts to understand how environmental factors such as nutrition influence our genetic load.

Taken all together, CoQ10’s antioxidant, anti-inflammatory, and epigenetic mechanisms combine to offer remarkable protection for a host of body systems, especially those hit hardest by mitochondrial aging.

CoQ10 Preserves Brain Structure, Slows Neurodegeneration

Mitochondrial dysfunction from chronic oxidation and the resulting chronic inflammation are a root cause of neurodegenerative conditions like Alzheimer’s, Parkinson’s, Huntington’s, and ALS (Lou Gehrig’s disease).6,14-18

CoQ10 is attracting ever-increasing attention as scientists look for a way to prevent these diseases and treat their causes, rather than simply treating symptoms, which is the best that current medicine can offer.17,19

Alzheimer’s disease is the largest cause of dementia among Americans, estimated to affect more than 5 million people; it is the sixth leading cause of death.20 While many factors contribute to risk for Alzheimer’s, age and oxidant stress in the brain are major contributors to this disease.15,16,21 Accumulated oxidant stress leads to production and deposition of an abnormal protein called amyloid β-peptide, which is itself a trigger for more oxidation and inflammation.21

Eventually, brain cells overwhelmed by amyloid β-peptide lose their function and die, producing the loss of memory, cognition, and physical function we associate with the disease.

Animal studies have shown that CoQ10 significantly reduces damage to neurons in the brain areas affected by Parkinson’s disease after the animals were exposed to a pesticide that has been associated with Parkinson’s development in humans.

Neurons
CoQ10 shows great promise in laboratory and animal studies of Alzheimer’s disease. By slowing oxidant damage, CoQ10 is proven to reduce deposition of destructive amyloid β-peptide proteins in brain cells. It reduces the amyloid β-peptide-induced oxidation that contributes to the vicious cycle of oxidation-inflammation-oxidation that accelerates the disease process. Finally, and perhaps most importantly, CoQ10 added to amyloid β-peptide-affected brain cells causes the destructive protein to become destabilized and weakened even after it is formed. This unique CoQ10 mechanism has the potential for reversing Alzheimer’s disease at the molecular level.

Animal studies demonstrate reduced oxidative stress and amyloid β-peptide deposition when CoQ10 is added to feed. CoQ10 supplementation in such animals improves cognitive performance and memory both with CoQ10 alone and when vitamin E is added. These studies provide a useful model of what recovery from Alzheimer’s disease might look like in humans.

Human patients with Alzheimer’s disease are known to have lower levels of reduced CoQ10 in their spinal fluid, an indication of the intense oxidant stress in their brains.

**CoQ10 and Parkinson’s Disease**

Parkinson’s disease is the second most common aging-related disorder in the world. Like Alzheimer’s, it is the result of oxidant stress triggering production of an abnormal, inflammatory protein. In Parkinson’s the protein is called alpha-synuclein, which damages neurons in regions of the brain that control motor function as well as cognition. Symptoms include slowed movements, weakness, cognitive impairment, and eventually dementia.

CoQ10 is showing real promise in human studies of Parkinson’s disease. Unlike current treatments, which improve symptoms without changing disease progression, CoQ10 may fundamentally alter and slow the otherwise inevitable decline of patients with Parkinson’s.

For example, animal studies have shown that CoQ10 significantly reduces damage to neurons in the brain areas affected by Parkinson’s disease after the animals were exposed to a pesticide that has been associated with Parkinson’s development in humans.

CoQ10 at doses of 300 to 1,200 mg/day have been used in clinical research, though up to 2,400 mg/day is well tolerated. In studies using the higher doses, improvements on several Parkinson’s disease rating scales have been observed. In one important
study, **1,200 mg/day** produced substantial slowing of disease progression compared with placebo.\(^3\)

A 2011 meta-analysis (a large study combining data from smaller trials) concluded that **1,200 mg/day** of CoQ10 was well-tolerated by Parkinson’s disease patients, and provided significant improvement on numerous measures of disease severity and progression.\(^3\)

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**CoQ10 Preserves Brain Function, Fights Migraine, Mental Illness**

CoQ10 is essential not only in preventing brain structural deterioration, but in maintaining normal function at all ages. Studies are revealing some startling associations in two areas of brain function in particular: migraine headaches and common mental health problems such as depression and schizophrenia.

**Migraine headaches** occur in an estimated **8.7 million** women and **2.6 million** men in the United States producing moderate to severe disability. More than **3 million** women and **1 million** men are estimated to suffer 1 or more attacks/month.\(^3\)

The exact chain of events leading up to a migraine is unclear, but it may be related to brain energy levels, as indicated by low CoQ10 levels in people with migraines (almost **33%** of a population with migraine had levels below the standard in one study).\(^4\) Studies of CoQ10 supplementation in children, adolescents, and adults show substantial decreases in the frequency of migraine episodes, number of days with migraine symptoms, headache disability, and frequency of nausea, a common feature of migraines.\(^2\)\(^4\)

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CoQ10 is so effective in managing migraine headaches that it is now listed among the 11 most effective “drugs” for preventing migraines by the Canadian Headache Society.\(^4\)

**Major depression, bipolar disorder, and schizophrenia,** long considered separate entities, are now recognized as having common roots in **mitochondrial dysfunction** and elevated brain oxidative stress levels.\(^4\) People with these conditions have higher markers of oxidant damage and lower cellular antioxidant levels than do healthy controls, and CoQ10 is typically lower than normal.\(^4\) In one study, **51.4%** of depressed patients’ CoQ10 levels fell below the lowest values in control subjects.\(^4\)

CoQ10 deficiency is particularly marked in people whose depression responds poorly to medication, a possible indication that the deficiency needs to be corrected in order for prescription meds to work.\(^4\)

A major breakthrough in our understanding of the causes of mental illness came in 2011 and 2012, when researchers discovered that oxidative and other related stresses in the brain were capable of creating new molecular configurations that triggered an autoimmune response in the brains of people with depression and schizophrenia.\(^4\)\(^5\)\(^6\)\(^7\)

Restoring natural levels of antioxidants such as CoQ10 is therefore an attractive approach in these conditions. One study of depression in older adults with bipolar disorder found a significant reduction in symptom severity during treatment with CoQ10 at **1,200 mg/day**.\(^5\)

The **ubiquinol** form of CoQ10 is far better **absorbed**, so a much lower dose, perhaps around **400 mg/day** of...
CoQ10 Fights Metabolic Syndrome and Diabetes

In both metabolic syndrome and diabetes, tissue levels of oxidant stress are markedly elevated. Not surprisingly, levels of the antioxidant CoQ10 are reduced in humans and lab animals with these conditions.

Low CoQ10 levels are now recognized as being closely correlated with problematic long-term blood sugar control and many of the complications of diabetes, including diabetic neuropathy (nerve damage), nephropathy (kidney damage), and of course endothelial dysfunction and the resulting cardiovascular damage.

Fortunately, supplementation with CoQ10 is a remarkably simple way to restore deficient levels and get better long-term control of blood sugar. Human studies show that adding CoQ10 to the already healthful Mediterranean diet further reduces oxidant stress and fat oxidation in the period immediately following a meal, when your body is especially vulnerable to damage.

This has beneficial effects on long-term blood sugar control. Supplementation with 200 mg/day of CoQ10 (in the ubiquinol form) reduced levels of hemoglobin A1c, a marker of blood sugar control over time, to

ubiquinol should provide benefits seen when much higher doses of the more common ubiquinone form of CoQ10 is used.

Finally, some medications in common use against depression, such as amitryptiline, are capable of lowering CoQ10 levels in the blood, further reducing available energy in the brain. Thus, people taking such drugs are especially likely to benefit from CoQ10 supplementation.

CoQ10 Protects Lung Function

Your lungs face the most immediate threat of oxidant damage because they interact directly with the 21% oxygen in air you breathe. It’s not surprising, therefore, that the major diseases of the lung, asthma and chronic obstructive pulmonary disease (COPD), involve a severe imbalance of oxidation and the body’s natural preventive measures, including CoQ10.

Levels of CoQ10 are markedly lower in both asthmatics and patients with COPD. Conversely, supplementing with CoQ10 offers substantial benefits. In one study, asthmatic patients on chronic steroid treatment to reduce inflammation were able to significantly reduce the amount of steroids they had to give themselves each day. And a study of COPD patients showed improvements in exercise performance, tissue oxygenation, and heart rate on CoQ10 supplementation at 90 mg/day.

Statin Drugs Drastically Deplete CoQ10

Drugs in the so-called “statin” category are an effective pharmaceutical means of lowering blood lipids, and they may play a role in protecting against Alzheimer’s disease.

But statins, like all prescription medicines, have concerning side effects. One important effect of statin treatment is a reduction in blood levels of CoQ10, which may account for some of the muscle pain and other side effects experienced by many people on these drugs.

New evidence suggests that low CoQ10 levels in the brain may be related to cognitive dysfunction in animals treated with the statin drug atorvastatin (Lipitor). Those taking a statin drug are strongly urged to ensure adequate supplementation with CoQ10.
In less than a decade, we’ve seen the emergence of remarkable new findings about CoQ10 and its cardiovascular benefits. Here are some highlights:

CoQ10 supplements improve the function of the heart’s dominant left ventricle during the vital diastolic, or relaxation phase. This is critical because the diastolic phase is when the heart receives its own surge of blood flow, and statin drugs impair diastolic function.73

Eight weeks of CoQ10 supplementation at 300 mg/day improved heart muscle function during the systolic, or pumping phase, by enhancing mitochondrial performance and endothelial function.74

The addition of CoQ10 to enalapril, a blood pressure drug, promoted normalization of endothelial function and enhanced blood pressure control in patients with “essential hypertension.”75

The combination of CoQ10 with selenium, another important coenzyme with antioxidant powers, cut the death rate from cardiovascular disease by more than half (to 5.9% from 12.6%) in a group of older adults.76

CoQ10 plus aged garlic extract, another supplement known to improve endothelial function and slow atherosclerosis, reduced blood vessel stiffness and slowed arterial calcium accumulation in a group of firefighters.77,78

Summary

The enzyme cofactor CoQ10 can help your mitochondria burn more cleanly and efficiently. That reduces the amount of oxidant stress and damage to mitochondria, helping to slow pathologic aging processes.

Reducing mitochondrial damage and enhancing performance with CoQ10 supplementation are well known to support cardiovascular function. Scientists are now discovering that CoQ10 contributes to a longer life, the result of the supplement’s augmentation of mitochondrial function in brain structure and function, lung defense mechanisms, and disorders related to poor glycemic control and the metabolic syndrome.

Total body health depends heavily on maintaining mitochondrial integrity. CoQ10 represents an efficient way to optimize mitochondrial output by maintaining coenzyme Q10 blood levels in youthful ranges.

If you have any questions on the scientific content of this article, please call a Life Extension® Health Advisor at 1-866-864-3027.
COQ10: THE LONGEVITY FACTOR

References


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

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

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

Commercial supplements often contain the cheapest form of nutrients that don’t provide optimal benefits. For example, the 50 IU of synthetic vitamin E contained in Centrum® Silver® Adults 50+ may provide relatively little vitamin E to the bloodstream compared to the 100 IU of natural vitamin in Two-Per-Day.

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

A bottle containing 120 tablets of Two-Per-Day Tablets retails for $20. If a member buys four bottles during Super Sale, the price is reduced to $12.15 per bottle. (Item #01714) A bottle containing 120 capsules of Two-Per-Day Capsules retails for $22. If a member buys four bottles during Super Sale, the price is reduced to $13.50 per bottle. (Item #01715)

Each bottle of Two-Per-Day lasts 60 days, so members can obtain the benefits of this high-potency formula for as little as $6.07 per month during Super Sale.

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

To order Life Extension Two-Per-Day Tablets or Two-Per-Day Capsules, call 1-800-544-4440 or visit www.LifeExtension.com

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Maintain Macular Density

The macular pigment is composed of lutein, zeaxanthin, and meso-zeaxanthin. The density of the macula is essential to proper vision. Macular density declines naturally over time.

Eating lots of lutein- and zeaxanthin-containing vegetables can help maintain the structural integrity of the macula. However, since meso-zeaxanthin is not part of the typical diet, it cannot be easily replaced. Young people convert lutein into meso-zeaxanthin inside their macula. Some aging people, however, lose their ability to convert lutein into meso-zeaxanthin.

The Super Zeaxanthin formula provides zeaxanthin, lutein and meso-zeaxanthin to help maintain macular density.

Falling down is responsible for 70% of accidental deaths in older people. Poor lighting conditions are often the culprit.

Fortunately, C3G derived from black currant extract supports eyesight in dark conditions by promoting the healthy function of delicate structures within the retina that support night vision.

Super Zeaxanthin contains a potent dose of C3G to nourish cells throughout the body.

Comprehensive Ocular Protection in One Daily Softgel

The Super Zeaxanthin formula provides ingredients that have been shown to promote healthy eyesight. Just one softgel of Super Zeaxanthin with Lutein, Meso-Zeaxanthin and C3G provides:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Dosage</th>
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<tr>
<td>OptiLut®, Lutein Plus® and MZ®</td>
<td>38 mg</td>
</tr>
<tr>
<td>Marigold (Tagetes erecta) extract (flower) [free lutein equivalent 10 mg]</td>
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<tr>
<td>Zeaxanthin &amp; Meso-zeaxanthin blend</td>
<td>3.75 mg</td>
</tr>
<tr>
<td>[Paprika (capsicum annuum) extract (fruit), OptiLut®, Lutein Plus® and MZ® Marigold Extract (flower)]</td>
<td></td>
</tr>
<tr>
<td>C3G (Cyanidin-3-glucoside)</td>
<td>2.2 mg</td>
</tr>
<tr>
<td>[from European black currant (Ribes nigrum) extract (fruit)]</td>
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</tbody>
</table>

The retail price for a bottle containing 60 softgels of Super Zeaxanthin with Lutein, Meso-Zeaxanthin and C3G is $22. If a member buys four bottles during Super Sale, the price is reduced to $13.37 per bottle.

To order Super Zeaxanthin with Lutein, Meso-Zeaxanthin and C3G, call 1-800-544-4440 or visit www.LifeExtension.com

Enhanced Night Vision!

EYE PROTECTION FORMULA

OptiLut® is a registered trademark of NutriScience Innovations, LLC.
LuteinPlus® and MZ® are registered trademarks of Nutriproducts Ltd., 7 Marfleet, CB22 5LA, UK, licensed under US Patents 6,218,436 & 6,320,632.

References

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

Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ contains PrimaVie® shilajit that doubles levels of CoQ10 in the mitochondria.1

Combining CoQ10 and shilajit produced a 56% increase in energy production in the brain, and in muscle there was a 144% increase in energy production.2

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

Shilajit boosts CoQ10’s beneficial effects by stabilizing CoQ10 in the superior ubiquinol form, which prolongs its action at the cellular level.3,4 Additionally, shilajit facilitates the more efficient delivery of CoQ10 into the mitochondria, which results in enhanced cellular energy.5-9

Shilajit helps the mitochondria convert fats and sugars into the body’s main source of energy, ATP (adenosine triphosphate).5-9

Combining ubiquinol CoQ10 with shilajit generates a powerful synergy that supports more youthful cellular energy production than CoQ10 alone.2,4,5

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

References

PrimaVie® is a registered trademark of Natreon, Inc. Kaneka QH® is a registered trademark of Kaneka Corporation.

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.
Comprehensive Pomegranate Protection!

FULL-SPECTRUM POMEGRANATE FORMULA

Few nutritional sources have gained as much scientific validation as pomegranate.⁠¹

The vast majority of research has focused on extracts from the fruit. Only recently have scientists identified the synergistic action of compounds specific to other parts of the pomegranate—most notably its seeds and flowers.

**The Next-Generation Pomegranate Formula**

Life Extension® offers an advanced, cutting-edge pomegranate formula that brings together novel phytonutrients for the first time in a unique, high-potency blend.

**Full-Spectrum Pomegranate™** combines standardized extracts from the whole fruit and flower, along with pomegranate seed oil, to support system-wide health. In addition to the highly absorbable antioxidant powerhouses found in pomegranate fruit,²-⁴ **Full-Spectrum Pomegranate™** augments these polyphenols with newly discovered biologically active compounds from other parts of the pomegranate plant.

These little-known nutrients include: punicanolic acid, a member of the triterpene family of essential oils that provides cellular support to help with inflammation,⁵ and pomegranate, to combat age-related metabolic changes.⁶

This superior formula supplies the complete nutritional profile of the pomegranate plant. Just one softgel of Full-Spectrum Pomegranate™ provides polyphenols equivalent to 12.3 ounces of pomegranate juice concentrate (or 30 pomegranates) plus a proprietary blend of seed oil and flower extract.

One softgel of Full-Spectrum Pomegranate™ contains:

- **POMELLA® Pomegranate** ............................................... 400 mg
  (Punica granatum) Extract (fruit) [std. to 30% punicalagins (120 mg)]

- **PomComplete™ Pomegranate** ............................. 137.5 mg
  (Punica granatum) Blend [flower extract and seed oil (standardized to 22% (30 mg) puninic acid)]

**Full-Spectrum Pomegranate™**

A bottle containing 30 softgels of Full-Spectrum Pomegranate™ retails for $24. If a member buys four bottles during Super Sale, the price is reduced to $14.18 per bottle. Item # 01423

Contains soybeans.

References:

To order Full-Spectrum Pomegranate™, call 1-800-544-4440 or visit www.LifeExtension.com

POMELLA® extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Science, Inc.

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.
**Ultimate Protection for Systemic Cellular Inflammation**

*Excess* levels of the enzyme 5-*lipooxygenase* or 5-LOX set in motion inflammatory responses that have been linked to common degenerative effects in aging individuals.¹⁻⁵

*Normal* aging results in higher-than-desired levels of 5-LOX.

The typical American diet adds to the danger. Foods rich in *omega-6 fatty acids* like red meat, poultry, and eggs, along with high-glycemic carbohydrates, trigger overproduction of *arachidonic acid*. In response to high levels of *arachidonic acid*, the body produces the 5-LOX enzyme.

5-LOX breaks down *arachidonic acid* to pro-inflammatory compounds like leukotriene B₄, a molecule that attacks joints, arterial walls, and other tissues. 5-LOX itself facilitates undesirable cell division changes.

The good news is that extract of the Indian plant *Boswellia serrata* has been shown to neutralize 5-LOX.

**Higher Absorbable Boswellia**

Used for centuries to help with inflammatory issues, boswellia acts as a natural 5-LOX inhibitor, intervening at the cellular level to block its unwanted effects.

Confirmatory data reveal that a compound contained in boswellia called AKBA (3-O-acetyl-11-keto-β-boswellic acid)⁹ is the key to its beneficial action.

The problem is that boswellia is not readily absorbed into the blood.⁹

For this reason, a patent-pending, *standardized* form of boswellia called AprèsFlex™ has been introduced that absorbs into the blood 52% more than previously available boswellia extracts.⁹

Each 100 mg vegetarian capsule of 5-LOX Inhibitor with AprèsFlex™ is standardized to provide 20% of active AKBA from boswellia. Most people need only one capsule a day.

A bottle containing 60 100 mg vegetarian capsules of 5-LOX Inhibitor with AprèsFlex™ retails for $22. If a member buys four bottles during Super Sale, the price is reduced to $13.50 per bottle.

References

*It should be noted that although Life Extension®’s previous 5-LOXIN™ formulation contained at least a 30% concentration of AKBA, the new AprèsFlex™ formula delivers more AKBA into the bloodstream, offering greater efficacy at a 20% concentration. AprèsFlex™ has been added to the new ArthroMax™ and Ultra Natural Prostate Formulas.*

AprèsFlex™ is a trademark of Laila Nutraceuticals exclusively licensed to PLThomas–Laila Nutra LLC. International patents pending.

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.
The Ellison Medical Foundation is the largest private funder of research on aging and the second overall funder—second only to the federal government’s National Institute on Aging.

Since its inception in 1998, Ellison’s Medical Foundation has provided more than $300 million to fund basic biomedical research on aging, life span, and age-related diseases and disabilities—including telomeres, longevity genes, DNA and mitochondrial damage, Alzheimer’s disease, neural development, degeneration, and cognitive decline, and more.

The Ellison Medical Foundation’s approach is different, innovative, and bold. As the late Nobel
That’s why every year, the Ellison Medical Foundation awards a total of $40 million in four-year grants to 25 New Scholars and 25 Senior Scholars for basic research on the biology of aging. At the end of the four years, the scholars present their findings at the Colloquium for New and Senior Scholars.

Below is a sampling of discoveries presented at this year’s colloquium. Although they are quite technical in nature, the potential impact they could have on the future of anti-aging research and healthy human life span makes them an important part of Life Extension’s mission to provide readers with the very latest scientific information.

All of the research was done on model organisms, which means we don’t yet know how these studies will translate into humans. However, using these model organisms, these scientists are paving the way for the future of anti-aging and longevity research—and could very well hold the key to future life-changing discoveries.
The Discovery: Resveratrol Can Help Increase Life Span By Relieving Endoplasmic Reticulum Stress, An Underlying Factor in Age-Associated Diseases

Dr. Matt Kaeberlein was a 2008 New Scholar reporting on his four-year grant work at the 2012 Colloquium. Like Dr. Imai, Dr. Kaeberlein was a pioneer in discovering the life-extending effects of sirtuins in yeast.5

Dr. Kaeberlein has recently been studying the relationship between aging and endoplasmic reticulum stress. The endoplasmic reticulum (ER) is a collection of membranes within cells where proteins are created and folded. Chaperone molecules assist with the folding process. Folding of proteins is important because if proteins are not folded into the right shape, they may not function properly. Too many mis-folded proteins in the endoplasmic reticulum results in a phenomenon described as endoplasmic reticulum stress, or “ER stress.”

Unrelieved ER stress can lead to massive cell death, and is believed to be an underlying factor in many diseases associated with aging, including atherosclerosis, diabetes, and neurodegenerative disease.6

It is possible that resveratrol can help increase life span by helping the body protect against ER stress. When cells are subject to ER stress, they try to rectify the problem by increasing the number of chaperone...
molecules and by increasing the size of the endoplasmic reticulum. Resveratrol has been shown to extend the life span of nematode worms by helping promote this ER stress protection response.

New Scholar, Dr. Hyung Don Ryoo, also studied the effect of ER stress on longevity—except he used fruit fly retinas. Dr. Ryoo demonstrated that in addition to increasing chaperone molecules and increasing endoplasmic reticulum volume, cells could also relieve ER stress by inducing increased degradation of the misfolded proteins. Dr. Ryoo showed that unrelieved ER stress can lead to cell death by a particular cell-signaling pathway.

The Discovery: Innate Immunity is Regulated by a Protein That Controls Gene Expression

A weakened immune system in the elderly plays a significant role in their susceptibility to infection—and in many cases leads to death. A person between 50 and 64 years old is nearly 10 times more likely to die from influenza than a person in the 5-49 age group. A person over 65 years old is more than 10 times more likely to die from an influenza-associated death as a person in the 50-64 age group.

At the Colloquium, New Scholar Dr. Dennis Kim reported on his studies of the decline in innate immunity with age in nematode worms. Kim showed

The Basics of Anti-Aging Research

Most of the Ellison Scholars do their research on model organisms to discover aging processes that could be present in humans. For basic aging research, much of the work is done with Brewer’s yeast, nematode worms (C. elegans, a tiny worm the size of a comma), fruit flies (Drosophila), and several species of rodents (mice and rats). The short life span of the model organisms (a few days for yeast, a few weeks for nematodes and fruit flies, and a few years for mice and rats) makes them ideal for life span studies.

Yeast is a convenient model for the cell biology of aging because it consists of only one cell. C. elegans nematode worms also make convenient models because the development of all 959 cells (including 302 neurons) of the adult worm have been mapped thoroughly.

Using these models, researchers have discovered that sirtuin proteins (proteins that can silence genes) have the ability to extend life span in yeast. Later, resveratrol (which is a sirtuin activator) was shown to extend life span in fruit flies and nematode worms. More recently another sirtuin activator extended the life span of obese mice reducing inflammation and increasing insulin sensitivity.

The discoveries made with model organisms could lead to benefits for the health and longevity of humans.
that as nematodes age, they become increasingly vulnerable to death by bacteria.

He found that innate immunity is regulated by PMK-1 (a protein that controls gene expression), and he identified genes that PMK-1 regulates. Kim discovered that by an age of 15 days, nematodes have less than 16% of the PMK-1 protein seen in the larval stage, and that genes regulated by PMK-1 show sharply reduced expression with aging as well.

When I asked Kim what causes the decline in PMK-1 protein with age, he replied that this essential question remains to be answered. If there is a human equivalent to PMK-1, and if the cause of PMK-1 decline is discovered, Kim’s research could lead to ways to reduce the vulnerability of elderly humans to infectious diseases.

The Discovery: “Jumping Genes” Can Contribute to Cancer and Aging

Nobel laureate Dr. Barbara McClintock won her prize in Physiology or Medicine for her discovery of transposable elements (“jumping genes”), DNA sequences that can change position within the genome of a single cell. At least 25 human genetic diseases have been attributed to “jumping genes.”

New Scholar Dr. Victoria Belancio demonstrated that genomic instability due to “jumping genes” can contribute to cancer as well as aging.

Life Extension® Supports Ongoing Anti-Aging Research

The Life Extension Foundation® is evaluating the anti-aging research projects that are coming to the end of their four-year Larry Ellison grants to see which ones can be extended with new funding from Life Extension®.

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

References

The Importance of Hormones in the Anti-Aging Equation

There is no more obvious example of the failure of conventional medicine than in the use of hormone replacement for post-menopausal women. Conventional medicine uses FDA-approved Premarin® (pregnant mare’s urine) as estrogen, and Provera® (a synthetic version of progestin) as progesterone for hormone replacement therapy (HRT). But just because it’s FDA approved doesn’t make it safe—and the Women’s Health Initiative study proved that.

The Women’s Health Initiative study, which only used Premarin® and Provera® in post-menopausal women, was so devastating that it had to be halted early due to evidence of increased breast cancer, cardiovascular disease, and stroke in the Premarin®-Provera® group.1

Although many in conventional medicine regard this failure of FDA-approved drugs as proof that any hormone replacement in post-menopausal women is dangerous, that’s the equivalent of throwing the proverbial baby out with the bathwater. Hormone replacement therapy can have dramatic health and life-extending benefits for women, provided the hormones used are bioidentical—or those that are chemically identical to those that naturally occur in the human body. (An important note: natural human estrogen consists of estradiol, estrone, and estriol, with estriol being a much weaker estrogen than estradiol or estrone. Bioidentical hormone replacement is often not bioidentical in the sense that a greater than natural percentage of estriol has been used to avoid the cancer-promoting effects of estradiol.)

A4M presenter Dr. Kent Holtorf wrote an extensive review in the journal Postgraduate Medicine2 demonstrating that hormones bioidentical to natural human estrogens and progesterone do not have the risks associated with their horse-urine or synthetic counterparts.

Dr. Holtorf is not surprised at all by the negative results of the Women’s Health Initiative, especially given the evidence that Provera® negates the cardioprotective effects of estrogen, in contrast to progesterone, which boosts those effects.2 Estriol, on the other hand, selectively binds estrogen receptors that inhibit cell proliferation, potentially preventing breast cancer. (Ironically, the FDA opposes the use of estriol.)

My interest in life extensionists in far-off lands was a major motivation for me to attend the American Academy of Anti-Aging Medicine conference in Thailand. Despite its name, the American Academy of Anti-Aging Medicine (A4M) has done an impressive job of organizing anti-aging conferences all over the world.

Life extension is nothing new to Asia, of course. While ancient Western alchemists were trying to turn lead into gold, Eastern alchemists were searching for the elixir of immortality. Even today, the wish for a long life is still more frequently heard in Asia than in the West.

Although a variety of topics were covered at the conference—including both cosmetic rejuvenation and health and wellness—the most notable topics that stood out were those involving the role hormones play in the aging process.
Conventional medicine mistakenly equates Provera® with human progesterone and Premarin® with human estrogens on grounds that no clinical trials have directly compared bioidentical sex hormones with nonbioidentical sex hormones. Dr. Holtorf has replied that “evidence-based medicine does not mean that data should be ignored until a randomized trial of a particular size and duration is completed” noting that estriol has been used for decades without reported safety concerns and that Premarin® contains the non-human estrogen equilin sulfate, which promotes cancer.²

An Alternative to Bioidentical Hormones

It’s possible to achieve some of the effects of bioidentical hormones without taking hormone replacement therapy, as Dr. Sandford Swartz pointed out during his talk at the A4M conference. Dr. Swartz, who has been living in Thailand for 20 years, is enthusiastic about Pueraria mirifica, a plant that grows exclusively in Thailand. Pueraria mirifica contains the plant estrogen miroestrol, which has similar effects to estradiol.

Although miroestrol is not bioidentical to any human estrogen, it could still provide many beneficial effects for women. And since many women in Thailand take Pueraria mirifica daily, it could be one of the reasons why the incidence of breast cancer in Northern Thailand (particularly the Nakhon Phanom province along the Laotian border) is among the lowest in the world...less than 10% of that in the United States.³ ⁴ Pueraria mirifica has been shown to reverse vaginal atrophy in postmenopausal women.³ ⁴ The Thai equivalent of the FDA has approved Pueraria mirifica as a treatment for menopause.

Before searching for Pueraria supplements online, you should be aware that cheaper and less effective (if not harmful) variants of Pueraria (such as Pueraria candoleii) are being shipped out of Thailand and marketed as if they were Pueraria mirifica.

Hormones and Men

Hormone replacement therapy is not just for women. Holtorf also supports testosterone replacement in men, referring to evidence that testosterone has declined substantially in all American men in recent decades.⁶ Some would argue that supplemental testosterone increases the risk of prostate cancer, but Holtorf argued that no well-designed study has proven that the risk of prostate cancer increases with testosterone replacement.⁷ He suggested that testosterone receptors become less sensitive with age, and that using 50% above youthful levels of testosterone might be required in order to achieve appropriate testosterone levels.

Exercise plays an important role in hormone levels as well. Dr. Tanjung Subrata presented the results...
The most common complaint is chronic fatigue, followed by excessive sleepiness. This could be an important factor in the treatment of those with traumatic brain injuries. (*Life Extension Magazine*® did an extensive report on Dr. Gordon’s traumatic brain injury treatment program utilizing hormones in the January 2012 issue.)

**NINE ADDITIONAL ANTI-AGING TOPICS COVERED AT THE A4M CONFERENCE**

**Skin Cells Promote Self-Renewal**

In 2003, Dr. Christoph Ganss founded the world’s first tissue bank for stem cells of the skin (called TICEBA). His motto for TICEBA is “back up your life,” because of the variety of stem cells that can be found in skin. Ganss said that 2-5% of cells in the skin meet the criteria for mesenchymal stem cells. Mesenchymal stem cells have a great capacity for self-renewal, can differentiate into bone, cartilage, or fat and can be used for type II diabetes, cardiac regeneration, multiple sclerosis, and many other conditions.

**Growth Factors Reverse Recent Hair Loss**

The presentation by Dr. Ahmed Al-Qahtani was one of the few sessions I attended in the esthetics/cosmetics series. When he said that 50% of people experience hair loss by age 50, he was including the effects of menopause in women with male pattern baldness. In his practice, he has made use of the recent discovery of the potential for growth factors to induce hair regrowth. Growth factors are more effective for reversing recent hair loss (where follicles have become dormant) than for frank baldness. It’s important to note that although the effects of growth factors are noticeable, they are far less dramatic than what is seen for hair transplants.

**Personalized Cancer Treatment Clinic**

Dr. Greg Burzynski is board certified in internal medicine, and works in a personalized cancer treatment clinic in Texas the Burzynski Clinic, founded by his father, Stanislaw Burzynski. The clinic analyzes the cancer genome of patients and currently uses “antineoplastons” (anti-cancer agents not currently approved by the FDA) that target numerous cancer genes. The clinic uses acupuncture for the pain, anxiety, and depression associated with cancer. The patients receive curcumin and fish oil supplements. When I asked him why he does not analyze...
the genome of his patients as well as their cancer cells, he told me that it is mainly a matter of keeping the cost affordable, but he acknowledged that doing so could be useful.

**The World’s Best Medical Spas**

Eric Light was founder and first president of the International Medical Spa Association. Unlike other spas, medical spas are more concerned with health and therapy rather than beauty and pampering. He said that 72% of people surveyed would rather feel healthy on the inside than look good on the outside and this percentage increases with age. Noting that Thailand is a popular destination for “medical tourists” seeking treatments that are not available or are too expensive in their native country (Bangkok Hospital has a Japanese wing), he identified Thailand’s Kamalaya (www.kamalaya.com) as one of the best medical spas anywhere.

**Flavonoids Increase Life Span**

Dr. Cimen Karasu is the head of the Department of Medical Informatics in the Faculty of Medicine at Gazi University in Turkey. She has authored more than a hundred papers appearing in peer-reviewed journals. Dr. Karasu’s talk was largely a review of the damaging effects of free radicals and advanced glycation end-products (AGEs). She noted that flavonoids have been shown to increase the life span of nematode worms.21 She reviewed the benefits of a number of natural polyphenols, including quercetin and pomegranate extracts.22,23 She is starting a company in Turkey which will market a formulation based on olive leaf polyphenols.24,25

**Algae’s Health Benefits**

Doctor Randall Merchant is a Professor of Anatomy and Neurobiology in Virginia. He spoke about the benefits of Chlorella, a unicellular green algae that has the highest chlorophyll content of any known...
organism. *Chlorella* has been shown to protect against DNA damage and telomere shortening due to free radicals,\(^6\) to boost the immune system,\(^7\) and to protect against environmental dioxin toxins.\(^8\)

**Mushrooms Enhance Immunity**

Dr. Jennifer Wan is an Associate Professor at the University of Hong Kong. She spoke of the benefits of the mushroom *Phellinas spp*, which can stimulate cell-mediated immunity,\(^9\),\(^10\),\(^11\) can protect against free radicals,\(^12\),\(^13\) and is effective against a number of inflammatory agents.\(^14\) She noted the long and distinguished history of the use of mushroom in traditional Chinese and Korean medicine.

**Summary**

Although the FDA views anti-aging medicine as an endeavor without scientific merit, the A4M conferences represent a broad tent of scientific quality. Although the Thailand A4M conference has been the largest A4M conference in Asia, the first A4M conference in Shanghai, China, scheduled for the following year is expected to attract three times as many participants. The excitement that A4M is generating in Asia is very encouraging for the future of anti-aging medicine.

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

**References**

2. Holtorf K. The bioidentical hormone debate: are bioidentical hormones (estradiol, estriol, and progesterone) safer or more efficacious than commonly used synthetic versions in hormone replacement therapy? *Postgrad Med*. 2009 Jan;121(1):73-85.


Top Off Your TESTOSTERONE Naturally

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

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

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

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

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

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

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.
Scientists have identified multiple mechanisms by which green tea extract helps protect against LDL oxidation, neuronal oxidation, and a host of other structural and functional age-related changes. LIFE EXTENSION MIX™ provides more green tea extract than found in commercial formulations.

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

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

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

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

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

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

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

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

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

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

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

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

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

**Vegetable-Fruit Complex**
- Green tea extract (decaf.) (45% EGCG) 325 mg
- Broccoli sprout concentrate 525 mg
- Olive juice extract (providing polyphenols, hydroxytyrosol, oleuropein) 12.5 mg
- Grapeseed proanthocyanidin extract (Leucoselect™) 25 mg
- Grape (vitis vinifera) extract (BioVin™) 25 mg
- Luteolin (Pureolin™ and SMART™) 8 mg
- Lycopene (natural tomato extract) (Tomat-O-Red™) 3 mg
- Lutein (marigold extract) 15 mg
- Cyanidin-3-Glucoside (C3G) (from blackcurrant extract) 1.25 mg
- Pterostilbene (from pTeroPure™) 0.5 mg

**Water-Soluble Vitamins and Enzymatic Activators**
- Vitamin C 2000 mg
  - as: ascorbic acid, calcium, magnesium & niacinamide ascorbates, ascorbyl palmitate, acerola extract
- Natural Folate (from lemon extract) 400 mcg
- Biotin 3,000 mcg
- Trimethylglycine (TMG) (from sugar beets) 100 mg
- Vitamin B1 (thiamine HCl) 125 mg
- Vitamin B2 (riboflavin) 50 mg
- Vitamin B3 (niacin) 73 mg
- Vitamin B5 (calcium pantothenate) 600 mg
- Pyridoxal 5'-phosphate (vitamin B6) 100 mg
- Vitamin B12 (hydroxocobalamin acetate) 600 mcg

These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
The Most Complete Multivitamin Available Today

Published scientific studies document that people who eat the most fruits and vegetables have much lower incidences of health problems. Few people, however, consistently eat enough plant foods to protect against common age-related decline,1-3 and commercial multivitamins do not provide all of the vital plant components needed to maintain good health. Life Extension Mix provides a broad array of vegetable/fruit extracts.

Life Extension Mix™ now contains the sodium selenite form of selenium in addition to L-selenomethionine and Se-methyl-L-selenocysteine.

Fat-Soluble Vitamins

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A (90% Betatene® beta-carotene + 10% acetate)</td>
<td>5,000 IU</td>
</tr>
<tr>
<td>Vitamin D3 (cholecalciferol)</td>
<td>2,000 IU</td>
</tr>
<tr>
<td>Vitamin C (as calcium ascorbate, ascorbic acid, ascorbyl palmitate, magnesium ascorbate, niacinamide ascorbate, acerola extract)</td>
<td>2,000 mg</td>
</tr>
<tr>
<td>Ascorbyl palmitate (fat-soluble vitamin C)</td>
<td>250 mg</td>
</tr>
<tr>
<td>Vitamin E (natural delta-alpha tocopheryl succinate and delta-tocopherol)</td>
<td>100 IU</td>
</tr>
<tr>
<td>Natural mixed tocopherols (providing gamma, delta, alpha, and beta tocopherols)</td>
<td>60 mg</td>
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Amino Acid Complex

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>N-acetyl-L-cysteine</td>
<td>600 mg</td>
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<tr>
<td>Taurine</td>
<td>200 mg</td>
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</table>

Mineral Complex

<table>
<thead>
<tr>
<th>Element</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenium (from Se-methyl L-selenocysteine)</td>
<td>100 mcg</td>
</tr>
<tr>
<td>Selenium (from L-selenomethionine—SelenoPure™)</td>
<td>50 mcg</td>
</tr>
<tr>
<td>Selenium (from sodium selenite)</td>
<td>50 mcg</td>
</tr>
<tr>
<td>Zinc (monomethionine) (OptiZinc®)</td>
<td>20 mg</td>
</tr>
<tr>
<td>Zinc (succinate)</td>
<td>15 mg</td>
</tr>
<tr>
<td>Boron (as boron citrate/aspartate/glycinate)</td>
<td>3 mg</td>
</tr>
<tr>
<td>Calcium</td>
<td>218 mg</td>
</tr>
<tr>
<td>Copper (as copper glycinate chelate TRACCS™)</td>
<td>1 mg</td>
</tr>
<tr>
<td>Chromium (as Crominex® 3+ chromium stabilized with Capros® and PrimaVie® Shilajit)</td>
<td>500 mcg</td>
</tr>
<tr>
<td>Potassium chloride (37.4 mg elemental)</td>
<td>71.3 mg</td>
</tr>
<tr>
<td>Molybdenum (sodium molybdate)</td>
<td>125 mcg</td>
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<tr>
<td>Manganese (gluconate)</td>
<td>1 mg</td>
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<tr>
<td>Iodine (potassium iodide)</td>
<td>150 mcg</td>
</tr>
<tr>
<td>Magnesium oxide (335.96 mg elemental)</td>
<td>560 mg</td>
</tr>
<tr>
<td>Magnesium citrate (35.28 mg elemental)</td>
<td>261.3 mg</td>
</tr>
<tr>
<td>Magnesium glycinate (11.74 mg elemental)</td>
<td>100 mg</td>
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<td>Magnesium taurinate (7.83 mg elemental)</td>
<td>100 mg</td>
</tr>
<tr>
<td>Magnesium arginate (5.87 mg elemental)</td>
<td>100 mg</td>
</tr>
<tr>
<td>Magnesium ascorbate (3.40 mg elemental)</td>
<td>58.1 mg</td>
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</table>

Cholinergic Complex

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choline (from bitartrate)</td>
<td>120 mg</td>
</tr>
<tr>
<td>Phosphatidylcholine (from soy)</td>
<td>150 mg</td>
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<tr>
<td>Inositol</td>
<td>250 mg</td>
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</tbody>
</table>

Each one of these selenium compounds provides unique biological benefits. The new Life Extension Mix™ also provides a small amount of gamma tocopherol (40 mg) as a part of natural mixed tocopherols which includes natural vitamin E. Most members take an additional 200 mg of gamma tocopherol in other supplements. During Super Sale, the full daily dose of Life Extension Mix™ can be obtained for as little as $1.34 per day.

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

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

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

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

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

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

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

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

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

Contains soybeans.

References


To order call toll-free 1-800-544-4440 or visit www.LifeExtension.com
Ultra Natural Prostate with AprèsFlex™ and Standardized Lignans softgels combines cutting-edge ingredients that have been scientifically substantiated to protect the prostate gland and maintain its healthy function.*

The latest addition to this formula is AprèsFlex™, an extract of *Boswellia serrata* that has been shown in studies to have **two times the bioavailability** of the leading boswellia extract. AprèsFlex™ inhibits the dangerous enzyme 5-lipoxygenase. Boron is included because of studies showing it may help slow elevation of prostate-specific antigen (PSA).

The formula provides **saw palmetto extract** and **Graminex® Flower Pollen Extract™** to interfere with DHT activity and help regulate inflammatory reactions in the prostate.* **Lycopene** is a carotenoid that is included in the formula to help maintain healthy DNA gene function in prostate cells.

In order to boost its anti-estrogen capabilities, **Ultra Natural Prostate Formula** incorporates **HMRlignan™**, derived from Norway spruce, **flax lignans**, and **nettle root extract**.

Since normal aging can lead to potentially unsafe levels of prostaglandins in the prostate, **Pygeum africanum** extract is included to help suppress prostaglandins and thereby promote prostate comfort.* **Beta-sitosterol** has been added because it is the most biologically active component of *pygeum* and enhances its protective effects.

The daily dose of two softgels of Ultra Natural Prostate Formula with AprèsFlex™ and Standardized Lignans Formula provides:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>USPlus® Saw Palmetto (C02 DeepExtract™)</td>
<td>320 mg (std to 85%-95% total fatty acids and sterols)</td>
</tr>
<tr>
<td>Graminex® Flower Pollen Extract™</td>
<td>252 mg</td>
</tr>
<tr>
<td>AprèsFlex™ (Boswellia serrata) extract</td>
<td>70 mg</td>
</tr>
<tr>
<td>Pumpkin seed oil (Cucurbita pepo) extract</td>
<td>200 mg (standardized to 85% total fatty acids)</td>
</tr>
<tr>
<td>Stinging nettle root extract (Urtica dioica)</td>
<td>240 mg</td>
</tr>
<tr>
<td>Pygeum extract</td>
<td>100 mg</td>
</tr>
<tr>
<td>Lycopene</td>
<td>10 mg</td>
</tr>
<tr>
<td>Phytosterol complex</td>
<td>678 mg (standardized to 26.6% free beta-sitosterol)</td>
</tr>
<tr>
<td>Proprietary blend of HMRlignan™</td>
<td>20.15 mg</td>
</tr>
<tr>
<td>Norway Spruce and ActiFlax™ Flax Lignan extracts</td>
<td>3 mg</td>
</tr>
<tr>
<td>Boron</td>
<td>3 mg</td>
</tr>
</tbody>
</table>

The retail price for one bottle of **Ultra Natural Prostate Formula with AprèsFlex™ and Standardized Lignans** is $38. If a member buys four bottles during **Super Sale**, the price is reduced to **$23.63** per bottle. If a member buys 12 bottles during **Super Sale**, the price is reduced to **$21.60** per bottle.

Contains soybeans and corn.

To order Ultra Natural Prostate Formula with AprèsFlex™, 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.*
When you stop and think about it, since consuming nutritious food is an important part of any longevity program, a chef who understands the value of a diet geared towards anti-aging could be just as valuable as a nutritionist. In the case of Chef Salomon Montezinos, what you have is a man who is passionate about not only food, but how it is prepared and how it can nourish the human body.

In Chef Sal’s own words that begin his book, Discovering Raw Alkaline Cuisine, he states: “I am a chef. It is my passion...it is what I love. I am not a doctor, a dietician, a nutritionist, or a scientist. I am a human being that has experienced the results on my body of a variety of different foods over my lifetime.”

And the experience Chef Sal is referring to isn’t just in his own kitchen; he has put his culinary expertise to work in some of the most highly rated and extravagant restaurants in the world, including Switzerland’s St. Moritz Palace Restaurant, Lausanne’s Beau Rivage, Bern’s Palace Hotel, and the Hotel Gutsch in Lucerne. While his early exploits preparing food took place in such culinary-rich countries like France, Holland, and Switzerland, he also spent time in Spain, Israel, Singapore, Indonesia, and Malaysia.
Arrival in the United States

When Chef Sal finally made it to the United States in 1970, he had a palate filled with world experience that he was ready to share with Americans. In almost no time, he opened up a restaurant in Philadelphia, Pennsylvania called Déjà vu that was named one of the finest French Restaurants in the US by Bon Appétit Magazine. The success of the restaurant was not just a local affair and it was not fleeting. The restaurant was a focal point of Philly cuisine for a long time.

“Déjà vu was the focus of our lives at that time. I cooked, oversaw the staff, and ran the day-to-day function of the restaurant. One night, Francis Ford Coppola came in for dinner and offered me a bit part in his latest upcoming movie, The Godfather III, but I turned him down because I said I was too busy!” Chef Sal says. “I can laugh now, but that’s a tough memory to digest. However, I still do have the page he signed in the guest book that night, declaring Déjà vu ‘the finest restaurant in the world!!’”

After so many years of success in Philadelphia, Chef Sal and his wife decided that they needed a change of pace, so they sold their house and their restaurant and moved to Palm Beach, Florida.

Taking Florida by Storm

Within a short time of the move to Florida, Chef Sal was involved in three restaurants; the first two were given his last name, Montezinos, and were located in Orlando and Palm Beach. The third restaurant was called Angelique and was located in Boca Raton. All three restaurants garnered rave reviews, but Angelique was proclaimed one of the best restaurants in America by Esquire Magazine.

“In these restaurants, I expanded and refocused my repertoire of menu items to concentrate on the seafood and organic fresh fruits and vegetables that are abundant in the tropical environment that exists in The Sunshine State,” he says. “Just smelling and eating those foods gave me a feeling of happiness.”

Eventually, running three restaurants started to wear on Chef Sal and his wife and daughter, so he made a drastic choice to give up the life of a hands-on owner/chef/restaurateur and become an executive chef in some well-known restaurants. He did this for a little while, but found it unsatisfying, so he took an offer with another company to be the corporate executive chef for three restaurants in Florida, Chicago, and Hawaii. This proved to be a better fit, but not a lasting one, as an offer to move back to Philadelphia and become the executive chef at a first-class hotel/condominium in Rittenhouse Square proved too good to turn down.

The move back to Philadelphia seemed to be perfect, as Chef Sal enjoyed running the restaurant and he and his wife lived close to their daughter who was going to college in New York. Then, as happens in all of our lives at some point, tragedy struck. Chef Sal’s beloved wife, Susan, was diagnosed with pancreatic cancer and passed away in May of 2000.

Overcoming A Horrible Tragedy

“I was devastated,” Chef Sal says. “And I knew that I had no idea how to get beyond the grief and sadness that I woke up with and went to bed with every single day.”
By keeping his wife’s positive attitude in his heart and by following the courage she had nurtured in him to follow his dreams, he slowly worked his way through the grieving process. One of the ways he did this was to get to know himself again, and by his own admission, he began to take better care of his body.

“I began exercising, running, working out at the gym, eating a healthy diet, learning about the effects of foods, minerals, enzymes, vitamins, and positive thoughts on the body,” he says.

After a year of self-reflection and grieving, Chef Sal met Judy Castille, who would become his second wife 18 months later.

Moving On and Finding a New Passion

Along with improving his health and well being, Chef Sal began to encounter people who would spark his interest in raw cuisine and the alkaline diet.

“I met a woman named Debra Van Schaardenberg who is extremely knowledgeable about the effects of certain diets and how one’s blood reacts to those foods,” he says. “During the course of the time I spent developing healthy, raw, alkaline-based recipes, I would discuss these dishes with Debra.”

But why the focus on raw alkaline-based recipes? Chef Sal explains the benefits in laymen’s terms perfectly in his new book:

Many diets that you may be familiar with are either alkaline or acid based, but are not necessarily referred to that way. They have names like Atkins, Zone, and Stillman and they focus on high protein/low carbohydrates, high carbohydrates/low fat and various combinations thereof. Most of these diets are followed by people in an effort to lose weight. Weight might be the least of what is lost by adhering to an all-or-nothing diet: important minerals and vitamins essential to our bodies are lost as well.

There is a consensus that a raw, alkaline-based diet can help you lose weight. Naturally, ceasing to eat foods that are high in sugar, flour, and fat only stands to reason that you most likely would lose weight. Using this diet to simply lose weight is not its purpose; however if you choose to eat this way to achieve a weight goal, you will also receive many other – perhaps unexpected benefits.

It is important to understand how the combination of alkaline and acid forming foods works within our bodies to achieve and sustain normal pH levels. The foods we eat will leave behind either an alkaline or an acid ash once the food has been metabolized.

That ash has a direct effect on the pH levels in your body. pH refers to power of Hydrogen, meaning the concentration of hydrogen ions present in a substance. The neutral pH level is 7; water for instance has a pH level of 7. The pH levels in foods above 7 are alkaline forming foods; conversely, the pH levels in food below 7 are acid forming.

The Benefits of a Raw Alkaline Diet

Chef Sal explains that if there is too much alkaline ash in our bodies that makes our pH levels rise, we can end up with a condition known as alkalosis. If we have too much acid ash in our bodies, which makes our pH levels plummet, we can end up with acidosis.

Each of these conditions has strong negative symptoms and side effects that can lead to a host of illnesses. The beauty of the raw alkaline diet is that parasites, mold, yeast, and most harmful...
bacteria cannot survive in an alkaline environment.

“I have come to appreciate the feeling of extreme well being when I ingest a diet of raw, alkaline forming foods. I have also been a Life Extension® member for over 20 years. I take CoQ10, Green Coffee Extract, and Alpha Lipoic Acid. I am 74-years-old now and when I combine my diet regimen and supplements with my exercise routine, I feel better than I ever have my whole life. It’s all natural and it’s what works best for me,” Chef Sal says.

By following a raw-alkaline diet and making some of the delicious recipes in Chef Sal’s new book, this eating plan might work best for you as well!

For more information on Chef Sal or his new book, visit www.evolvewithflavor.com.

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

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### Pumpkin Mousse

**INGREDIENTS:**
- 1 ¾ cup pumpkin, pared, diced
- ½ ripe banana
- ½ cup prepared Irish moss gel
- ½ cup coconut milk
- ¼ cup coconut water
- ½ tbsp. coconut butter
- ½ cup almond milk
- 2 tbsp. coconut palm sugar
- 1 ½ tsp. cinnamon powder
- Sea salt

**PREPARATION INSTRUCTIONS:**
- Prepare Irish moss to package instructions to yield ½ cup gel, usually soaked overnight.
- Flavor diced pumpkin with small amount of coconut butter, palm sugar, nutmeg, and cinnamon (measured ingredients listed above are for main recipe).
- Place flavored pumpkin pieces on Teflex sheet and dehydrate for 2 hours at 105 degrees.
- Place all ingredients, including pumpkin, into blender and blend until smooth. Pour into glass bowl and cover; place in refrigerator to set.
- To serve, put mousse into martini glasses and top with candied pecans.

Note: To make a parfait, layer pumpkin mousse with vanilla ice cream, crushed candied pecans, and top with one candied pecan half.

### Green Smoothie

**INGREDIENTS:**
- 1 bunch arugula
- 4 Gala apples
- ½ lime with peel
- ½ banana, peeled
- 2 cups water
- 1 tsp. cinnamon
- 16 frozen white grapes
- 1 tsp. of raw ginger, peeled
- 1/8 tsp. cayenne pepper

**PREPARATION INSTRUCTIONS:**
- Place all ingredients in blender.
- Blend on high speed until thoroughly mixed and obtaining desired consistency.
- Dilute with more water if necessary.
Life Extension® Pycnogenol® French Maritime Pine Bark Extract is a natural botanical extract containing procyanidins, bioflavonoids, and other health-giving molecules that synergistically support the body’s natural defenses against major processes that characterize premature aging. Its effectiveness is backed by 40 years of study.

Life Extension® Pycnogenol® French Maritime Pine Bark Extract is designed to counteract premature-aging-related changes by providing support for the following mechanisms:

**MEMBRANE FUNCTION:** Pycnogenol® promotes the integrity and normal characteristics of cell membranes.  

**DNA FUNCTION:** Pycnogenol® helps support normal DNA function through antioxidant activity and possibly other mechanisms.  

**EASE INFLAMMATION:** Pycnogenol® helps ease inflammation by normal modulation of inflammatory cytokine molecules.  

**OXIDATIVE STRESS:** Pycnogenol® supports the normal functioning of healthy antioxidant systems to help suppress free radicals and protect DNA.  

**GLYCATION:** Pycnogenol® supports cellular metabolism of sugar, healthy fasting, and post-meal blood sugar levels already within normal range, and normal sugar absorption in the intestine.

Unlike other forms of pine bark extract, Pycnogenol® is a superior patented and standardized ingredient that has undergone extensive human clinical research to substantiate its numerous anti-aging properties. A bottle of Life Extension® Pycnogenol® French Maritime Pine Bark Extract containing 60 vegetarian capsules retails for $64. If a member buys four bottles during Super Sale, the price is reduced to $40.50 per bottle. The dose for most people is one capsule daily, so each bottle lasts two months.

Each capsule of Life Extension® Pycnogenol® French Maritime Pine Bark Extract provides:

Pycnogenol® dried French Maritime pine (Pinus pinaster) extract (bark) (std. to 65% procyanidins (65 mg)) 100 mg  
Vitamin C (as ascorbyl palmitate) 4 mg

**References**

6. Drug Dev Ind Pharm. 1998 Feb;24(2):139-44.  
19. Drug Dev Ind Pharm. 1998 Feb;24(2):139-44.  

Pycnogenol® is a registered trademark of Horphag Research Ltd. Use of this product may be protected by one or more U.S. patents and other international patents. Supported by over 40 years of research.

To order Pycnogenol® French Maritime Pine Bark Extract, 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.
Vitamin C’s popularity is undeniable—and so are its benefits! It has been over 80 years since this critical vitamin was isolated, and its importance in our diet cannot be overstated. However, since humans don’t manufacture vitamin C internally, it must be obtained through dietary sources or supplements.

This can be problematic because vitamin C is a water-soluble nutrient that is quickly oxidized and released by the body, which means that for those seeking vitamin C’s optimal health benefits, they have to consume the vitamin several times a day.1

Fortunately, a flavonoid antioxidant known as dihydroquercetin functions as a vitamin C “supercharger.” Studies demonstrate that dihydroquercetin acts to inhibit the oxidation of vitamin C, thereby helping to maintain its concentration and to recycle vitamin C throughout the body.2,3 This synergistic relationship between dihydroquercetin and vitamin C greatly enhances the efficacy of both molecules in the body’s organs and tissues.

Vitamin C with Dihydroquercetin was formulated for those seeking to obtain optimal efficacy and antioxidant protection from their vitamin C supplement. The suggested daily dose of one tablet of this formula supplies 1,000 mg of vitamin C (as ascorbic acid), along with 10 mg of dihydroquercetin-3-rhamnoside, a highly bioavailable form of dihydroquercetin derived from grape leaf extract.

A bottle containing 250 tablets of Vitamin C with Dihydroquercetin retails for $25.50. If a member buys four bottles during Super Sale, the price is reduced to $15.69 per bottle.

References

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.
Cauliflower
The Head of the Cruciferous Vegetable Family

While broccoli is the most well-known member of the cruciferous vegetable family, evidence is showing that cauliflower has important broad-spectrum health benefits as well. With its bioactive compounds, glucosinolates, and indole-3-carbinol, cauliflower shows great promise in providing substantial protection against cardiovascular disease, cancer, diabetes, and rheumatoid arthritis.

Cancer Protection

Phytochemicals are plant compounds that exhibit potent anti-inflammatory, antioxidant, and anti-proliferative properties, making them ideal cancer fighters. Cauliflower contains a high concentration of a class of phytochemicals known as glucosinolates, which are metabolized into isothiocyanates. A recent study published in the Journal of Medicinal Chemistry sheds light on how isothiocyanates in cauliflower exert their anticancer activity. Normal cells contain gene p53, which help suppress cancer cell growth. However, if a mutation in gene p53 occurs, it can have the opposite effect which allows abnormal cell division that leads to the formation of cancer. Researchers have discovered that
Superfoods

Improving Cardiovascular Health

In a study published in the American Journal of Clinical Nutrition, a high intake of cruciferous vegetables like cauliflower reduced the risk of dying from cardiovascular disease by 31%. A growing body of evidence indicates that several diverse compounds in cauliflower might be responsible for this cardioprotective effect.

While the content of cholesterol in LDL particles has been the standard for assessing cardiovascular risk, research indicates that the number of LDL particles is a stronger predictor for developing atherosclerosis and future vascular events including heart attack and stroke. Since each LDL particle contains one apolipoprotein (apoB), apoB provides a direct count of the number of LDL particles in circulation. Therefore, reducing apoB leads to a lower LDL particle number and reduced heart disease risk.

Scientists at the University of Hawaii at Manoa investigated the impact of indole-3-carbinol (I3C), a compound found in large amounts in cauliflower, on apoB secretion in cultured liver cells. After exposing the liver cells to I3C, they observed a 56% reduction in apoB secretion that resulted from a decline in the creation of triglycerides and cholesterol esters in the cells, thereby improving heart health.

Cauliflower-rich I3C has also demonstrated the ability to improve platelet function. In a study published in Phytotherapy Research, indole-3-carbinol was shown to significantly inhibit platelet aggregation (stickiness) that can induce a blood clot and cause heart attack or stroke.

Another cardiovascular benefit of cauliflower relates to its high fiber content, which might have a protective effect against high levels of C-reactive protein, an inflammatory marker associated with predicting cardiovascular disease risk. Researchers examined the relationship between dietary fiber intake and C-reactive protein levels in more than 3,900 men and women aged 20 and older. After adjusting for confounding factors such as age, gender, physical activity and BMI, those with the highest fiber intake had a 51% lower risk for elevated C-reactive protein levels compared with those with the lowest intakes.

Furthermore, cauliflower is an excellent source of folate and vitamin B6 that might lessen the likelihood of a heart attack. In a study comparing the intake of both vitamins in 507 first time heart attack patients with 478 controls, researchers concluded those who consumed the highest intake of folate and vitamin B6 reduced their heart attack risk by 44% and 66%.

isothiocyanates effectively bind to this defective protein and remove it from the cell, thereby restoring the normal function of gene p53 in blocking cancer cell growth.

Other research shows that the isothiocyanate sulforaphane combats cancer through different mechanisms. It significantly induces Phase II liver enzymes, which detoxify and neutralize cancer causing agents. Additionally, sulforaphane also works by inhibiting a group of enzymes that alter gene expression and produce proteins involved in cancer initiation.

These multiple modes of action help explain the strong protective effect of cauliflower consumption against various forms of cancer. In one such study reported in the Journal of the National Cancer Institute, consuming more than one serving of cauliflower a day produced a 61% reduction in lung cancer risk. Another study showed that just one serving of cauliflower a week was associated with a 27% lower risk of bladder cancer.

Italian scientists compared cruciferous vegetable intake, including cauliflower, among individuals with and without several common cancers. The results revealed that those who ate cruciferous vegetables at least once a week slashed their risk of oral, colorectal, and breast cancers by 17%, as well as esophagus and kidney cancers by 28% and 32%, respectively.

Researchers, indole-3-carbinol was shown to significantly inhibit platelet aggregation (stickiness) that can induce a blood clot and cause heart attack or stroke.
Internal Medicine in which people with low potassium blood levels had a 64% greater risk for type II diabetes.\textsuperscript{18}

Rheumatoid Arthritis Prevention

Regular consumption of cauliflower might decrease the risk of rheumatoid arthritis, an autoimmune inflammatory disease that targets and damages joints in the body. In research published in the American Journal of Epidemiology, greater than three servings of cauliflower a month was linked to a 17% lower risk of the condition after controlling for confounding factors including smoking, age, tea consumption, and total calorie intake.\textsuperscript{19}

Defending Against Diabetes

In recent years, scientists have begun to unravel the role of inflammation in the onset of type II diabetes. They have discovered that chronic inflammation induces insulin resistance, which in turn disrupts normal glucose tolerance and eventually leads to the development of type II diabetes.\textsuperscript{15} Strong evidence indicates that eating vitamin C rich foods like cauliflower can help modulate inflammation and reduce the risk for the disease. In one study, English researchers found a strong association between blood levels of vitamin C and diabetes risk, with the highest plasma levels of the vitamin reducing diabetes risk by a remarkable 62% in over 21,800 men and women aged 40 to 75 over a 12-year period.\textsuperscript{16}

As a rich source of potassium, cauliflower might help regulate glucose metabolism. Potassium is required by the beta cells in the pancreas to “sense” elevated blood sugar levels and respond appropriately by secreting the hormone insulin. However, in people with low levels of potassium, beta cells have decreased sensitivity to increased blood glucose levels and as a result reduce insulin output.\textsuperscript{17} Over time, this impairs glucose tolerance and increases diabetes risk. This was supported in a study published in the journal Archives of Internal Medicine in which people with low potassium blood levels had a 64% greater risk for type II diabetes.\textsuperscript{18}

Selecting and Storing Cauliflower\textsuperscript{1} • Cauliflower is freshest during the growing season from December through March.
• Pick cauliflower that has a full, creamy white head and tight bud clusters.
• Avoid cauliflower with the appearance of small brown spots.
• Place uncooked cauliflower with stem side down in plastic bag and store in refrigerator for up to a week.
Summary

Cauliflower contains a wealth of fiber and choline, along with powerful phytochemical compounds indole-3-carbinol and isothiocyanates. These health-promoting nutrients make incorporating cauliflower into your daily diet a smart strategy to protect against heart disease, cancer, diabetes, and rheumatoid arthritis.

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

References


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<tr>
<th>Nutrients</th>
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<td>Vitamin K</td>
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<td>Folate</td>
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<td>Vitamin B6</td>
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<td>Fiber</td>
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<tr>
<td>Vitamin B5</td>
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Each bottle of Super K lasts 90 days, so members pay as little as $6.08 a month for this high-potency blend of all three active forms of vitamin K. The retail price for a bottle containing 90 softgels is $30. If a member buys four bottles during Super Sale, the price is reduced to $18.23 per bottle.

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

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

References
1. Call 1-800-208-3444 to discuss general health and nutritional status can such as cancer, diabetes, cardiovascular disease, and more. Information about your order is placed, you will be such as cancer, diabetes, cardiovascular disease, and more. Information about your health and longevity, Life Extension® offers this innovative and convenient service at a very affordable price. Not only is comprehensive blood testing an important process from virtually anywhere in the United States. After your order is placed, you will be mailed either a requisition form to take to your local LabCorp Patient Service Center or a Blood Draw Kit; whichever is applicable (Please note: If a blood draw kit is used, an additional local draw fee may be incurred.)

3. Have your blood drawn.
4. Your blood test results will be sent directly to you by Life Extension.
5. Take the opportunity to discuss the results with one of our knowledgeable health advisors by calling 1-800-226-2370; or review the results with your personal physician.

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

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

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Blood Testing
The Ultimate Information

MOST POPULAR PANELS
Life Extension Member Pricing

COMPREHENSIVE PANELS

<table>
<thead>
<tr>
<th>PANEL</th>
<th>COST</th>
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<tr>
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<td>Homocysteine</td>
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<td>C-Reactive Protein (high sensitivity)</td>
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FEMALE LIFE EXTENSION PANEL

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MALE COMPREHENSIVE HORMONE PANEL

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THE CBC/CHEMISTRY PROFILE

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<tr>
<td>LDL Cholesterol</td>
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<td>Triglycerides</td>
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OVER 40 PARAMETERS TESTED CARDIOVASCULAR RISK PROFILE

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<td>ALT (SGPT)</td>
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<td>LDH</td>
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KIDNEY FUNCTION PANEL

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BLOOD PROTEIN LEVELS

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BLOOD COUNT/RED AND WHITE BLOOD CELL PROFILE

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<td>Monocytes (Absolute)</td>
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<td>Base (Absolute)</td>
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BLOOD MINERAL PANEL

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HEMOGLOBIN A1C (HBa1c) (LC001453)

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<td>Hemoglobin A1C evaluates long-term blood sugar control. Serum glucose sometimes reacts with important proteins in the body rendering them nonfunctional. Since this process, known as glycation is one of the leading theories of aging, Life Extension® believes everyone should check their A1C level.</td>
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VITAMIN D (25OH) (LC081950)

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<tr>
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FOOD SAFE ALLERGY TEST** (LCM73001)

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<td>This test measures delayed (IgG) food allergies for 95 common foods.</td>
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ASPIRINWORKS** (LC501620)

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<tbody>
<tr>
<td>Taking aspirin to prevent heart attack? Is it working? This is a random urine test used to measure your resistance to aspirin.</td>
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OMEGA SCORE*** (LC051620)

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<tr>
<td>Provides valuable information on your risk of developing heart disease, sudden heart attack, and cardiac death. The Omega Score™ also includes your AA:EPA ratio, allowing you to determine and track a major factor in total body inflammation.</td>
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COQ10** (COENZYME Q10) (LC120251)

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<tr>
<td>This test is used to check the blood level of CoQ10 and will enable more precise dosing for anyone seeking to achieve and maintain high levels of this critical antioxidant.</td>
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** This test requires samples to be shipped to the lab on dry ice for customers using a Blood Draw Kit and will incur an additional $35 charge. If the customer is having blood drawn at a LabCorp facility, this extra charge does not apply.  
*** This test is packaged as a kit, requiring a finger stick performed at home.
**Other Popular Panels**

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<thead>
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<th>Panel Name</th>
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<tr>
<td>ENERGY PROFILE (LC100005)</td>
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<tr>
<td>DHEA-SULFATE (LC004020)</td>
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</tr>
<tr>
<td>DIHYDROTESTOSTERONE (DHT)* (LC000142)</td>
<td>$99</td>
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<tr>
<td>ESTRADIOL (LC004515)</td>
<td>$33</td>
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<tr>
<td>INSULIN FASTING (LC004333)</td>
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<tr>
<td>PROGESTERONE (LC004317)</td>
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<tr>
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<tr>
<td>SOMATOMEDIN C (IGF-1) (LC010363)</td>
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<td>THYROID ANTIBODY PROFILE (LC100004)</td>
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<td>ANEMIA PANEL (LC100006)</td>
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<td>INFLAMMATION PANEL (LC100007)</td>
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**Popular Single Tests**

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<tr>
<td>ESTROGEN (LC004515)</td>
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<tr>
<td>DIHYDROTESTOSTERONE (DHT)* (LC000142)</td>
<td>$99</td>
</tr>
<tr>
<td>PROGESTERONE (LC004317)</td>
<td>$55</td>
</tr>
<tr>
<td>SEX HORMONE BINDING GLOBULIN (SHBG) (LC082016)</td>
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<tr>
<td>SOMATOMEDIN C (IGF-1) (LC010363)</td>
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**CARDIAC RISK**

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<td>Lp-PLA2 (PLAC TEST)* (LC123240)</td>
<td>$125</td>
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**TERMS AND CONDITIONS**

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

Signature of Life Extension Member

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

**Blood tests available only in the continental United States. Not available in Maryland.**

For non-member prices call 1-800-208-3444
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<th>Member Each</th>
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<td>ASTAXANTHIN - 2 mg, 30 softgels</td>
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<td>01073</td>
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<td>51526</td>
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<td>02124</td>
<td>BLUEBERRY EXTRACT - 60 veg. caps</td>
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<td>BLUEBERRY EXTRACT w/POMEGRANATE - 60 veg. caps</td>
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<td>BORON - 3 mg, 100 caps</td>
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**SUB-TOTAL OF COLUMN 1**

**SUB-TOTAL OF COLUMN 2**

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

**SUPER SALE SAVINGS ON ALL PRODUCTS**

To order call: 1-954-766-8433 or 1-800-544-4440

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Buyers Club Order Form

January 2013

Life Extension Members receive 25% off the retail price of all products.
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<td>00202</td>
<td>BOSWELLA - 100 caps</td>
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<td>00258</td>
<td>BOSWELLA TOPICAL CREAM - 4 oz</td>
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<td>01253</td>
<td>BRANCHED CHAIN AMINO ACIDS - 90 veg. caps</td>
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<td>00999</td>
<td>BREAST HEALTH FORMULA - 60 veg. caps</td>
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<td>00893</td>
<td>BRUTE EYES III - 2 vials, 5 ml each</td>
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<td>00136</td>
<td>BROMELAIN POWDER - 100 grams</td>
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<td>01203</td>
<td>BROMELAIN (SPECIAL COATED) - 500 mg, 60 enteric coated tablets</td>
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<td>BUTTERBUR EXT. w/STANDARDIZED ROSMARINIC ACID - 60 softgels</td>
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<td>01651</td>
<td>CALCIUM D-GLUCARATE - 200 mg, 60 veg caps</td>
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<td>CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 141 grams powder</td>
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<td>CALORIE CONTROL WEIGHT MANAGEMENT FORMULA w/COFFEEGENIC™ GREEN COFFEE EXTRACT BLUEBERRY FLAVOR - 60 individual packs</td>
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<td>CARDIO PAIN™ w/STANDARDIZED HAWTHORN &amp; ARALIA - 120 veg. caps</td>
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<td>L-CARNITINE - 500 mg, 30 veg. caps</td>
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<td>CARNOSOOTHE w/PROTECT™ - 60 veg. caps</td>
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<td>CARNOSINE (SUPER) - 500 mg, 90 veg. caps</td>
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<td>CAT MIX - 100 grams powder</td>
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<td>CHILDREN’S FORMULA LIFE EXTENSION MIX™ - 100 chewable tablets</td>
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<td>CHI-LESTM™ - 90 capsules</td>
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**SUB-TOTAL OF COLUMN 3**

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<td>CHROMIUM ULTRA - 100 veg. caps</td>
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<td>01504</td>
<td>CHROMIUM w/CROMINEX® 3+ (OPTIMIZED) - 500 mcg, 60 veg. caps</td>
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<td>CINSULIN® w/INSEA™ and CROMINEX® 3+ - 90 veg. caps</td>
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<td>CLA BLEND w/GUAIANA &amp; SESAME (SUPER) - 1000 mg, 120 softgels</td>
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<td>COGNITEX® w/PREGNENOLONE &amp; NEUROPROTECTION COMPLEX - 90 softgels</td>
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<td>COGNITEX® w/PREGNENOLONE &amp; NEUROPROTECTION COMPLEX - 90 softgels</td>
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<td>COGNITEX® BASICS - 60 softgels</td>
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<td>COMPLETE B-COMPLEX - 180 caps</td>
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<td>COPPER CAPSULES - 2 mg, 100 caps</td>
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<td>COQ10 w/THI MITCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 100 mg, 100 softgels</td>
<td>$46.50</td>
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<tr>
<td>01425</td>
<td>COQ10 w/THI MITCHONDRIAL SUPPORT™ (SUPER UBIQUINOL) - 50 mg, 50 softgels</td>
<td>$43.50</td>
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</table>

**SUB-TOTAL OF COLUMN 4**

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

**OFFER ENDS JANUARY 31, 2013**
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Retail Each</th>
<th>Member Each</th>
<th>Qty</th>
<th>Total</th>
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<tr>
<td>01451</td>
<td>COQ10 w/SUM MITOCHONDRIAL SUPPORT* (SUPER UBIQUINOL) 200 mg, 30 softgels</td>
<td>$62.00</td>
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<td>01397</td>
<td>CORNYCEPS CS-4TM - 60 veg. caps</td>
<td>29.99</td>
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<td>01053</td>
<td>COROLUS SUPER STRENGTH - 600 mg, 150 veg. caps</td>
<td>99.95</td>
<td>74.96</td>
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<tr>
<td>80140</td>
<td>COSMESIS ADVANCED UNDER EYE SERUM w/STEM CELLS - 33 oz</td>
<td>49.00</td>
<td>36.75</td>
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<tr>
<td>80139</td>
<td>COSMESIS AMBER SELF MICRODERMABRASION - 2 oz</td>
<td>49.00</td>
<td>36.75</td>
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<tr>
<td>80118</td>
<td>COSMESIS ANTI-AGING MASK - 2 oz</td>
<td>72.00</td>
<td>54.00</td>
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<tr>
<td>80134</td>
<td>COSMESIS ANTI-GLYCATION SERUM - 1 oz w/BLUEBERRY &amp; POMEGRANATE EXTRACTS</td>
<td>33.00</td>
<td>24.75</td>
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<tr>
<td>80133</td>
<td>COSMESIS ANTIOXIDANT FACIAL MIST - 2 oz</td>
<td>32.00</td>
<td>24.00</td>
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<tr>
<td>80127</td>
<td>COSMESIS ANTIOXIDANT REJUVENATING FOOT CREAM - 2 oz</td>
<td>45.00</td>
<td>33.75</td>
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<tr>
<td>80128</td>
<td>COSMESIS ANTIOXIDANT REJUVENATING FOOT SCRUB - 2 oz</td>
<td>59.00</td>
<td>44.25</td>
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<tr>
<td>80117</td>
<td>COSMESIS ANTIOXIDANT REJUVENATING HAND CREAM - 2 oz</td>
<td>64.00</td>
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<td>80121</td>
<td>COSMESIS ANTIOXIDANT REJUVENATING HAND SCRUB - 2 oz</td>
<td>58.00</td>
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<tr>
<td>80105</td>
<td>COSMESIS ANTI-REDNESS &amp; BLEMISH LOTION - 1 oz</td>
<td>74.95</td>
<td>55.88</td>
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<tr>
<td>80147</td>
<td>COSMESIS BIOLAVONOID CREAM - 1 oz jar</td>
<td>46.00</td>
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<td>80144</td>
<td>COSMESIS BROCCOLI SPROUT CREAM - 1 oz</td>
<td>46.00</td>
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<td>80120</td>
<td>COSMESIS CORRECTIVE CLEARING MASK - 2 oz</td>
<td>64.50</td>
<td>48.36</td>
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<td>80141</td>
<td>COSMESIS DNA REPAIR CREAM - 1 oz jar</td>
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<td>80108</td>
<td>COSMESIS ESSENTIAL PLANT LIPIDS REPARATIVE SERUM - 1 oz</td>
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<td>80123</td>
<td>COSMESIS FACE REJUVENATING ANTIOXIDANT CREAM - 2 oz</td>
<td>69.50</td>
<td>52.13</td>
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<td>80107</td>
<td>COSMESIS FINE LINE-LESS - 1 oz</td>
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<td>55.88</td>
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<tr>
<td>80131</td>
<td>COSMESIS HAIR SUPPRESS FORMULA - 4 oz</td>
<td>59.00</td>
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<tr>
<td>80137</td>
<td>COSMESIS HEALING FORMULA ALL-IN-ONE CREAM - 1 oz</td>
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<tr>
<td>80115</td>
<td>COSMESIS HEALING MASK - 2 oz</td>
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<tr>
<td>80102</td>
<td>COSMESIS HEALING VITAMIN K CREAM - 1 oz</td>
<td>79.50</td>
<td>59.63</td>
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<td>80139</td>
<td>COSMESIS HYALURONIC FACIAL MOISTURIZER - 1 oz</td>
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<tr>
<td>80110</td>
<td>COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER - 1 oz</td>
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<tr>
<td>80138</td>
<td>COSMESIS HYDRATING ANTI-OXIDANT FACE MIST - 4 oz</td>
<td>39.95</td>
<td>29.96</td>
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### SUB-TOTAL OF COLUMN 5

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<tr>
<td>80103</td>
<td>COSMESIS LIFTING &amp; TIGHTENING COMPLEX - 1 oz</td>
<td>$74.50</td>
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<td>80116</td>
<td>COSMESIS ULTRA LIP PLUMPER - 1/3 oz</td>
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<td>80101</td>
<td>COSMESIS ULTRA WRINKLE RELAXER - 1 oz</td>
<td>89.95</td>
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<td>80113</td>
<td>COSMESIS UNDER EYE REFINING SERUM - 1/2 oz</td>
<td>74.50</td>
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<tr>
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<td>COSMESIS UNDER EYE RESCUE CREAM - 1/2 oz</td>
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<td>55.88</td>
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<td>COSMESIS VITAMIN C SERUM - 1 oz</td>
<td>85.00</td>
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<td>COSMESIS VITAMIN D LOTION - 4 oz</td>
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<td>80145</td>
<td>COSMESIS VITAMIN E-ESSENTIAL CREAM - 1 oz</td>
<td>28.00</td>
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<tr>
<td>00862</td>
<td>CRAN-MAX® - 500 mg, 60 veg. caps</td>
<td>17.50</td>
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<tr>
<td>01424</td>
<td>CRAN-MAX® with UTI-VIT™ (OPTIMIZED) - 60 veg. caps</td>
<td>18.00</td>
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<tr>
<td>00609</td>
<td>CREATINE CAPSULES - 120 caps</td>
<td>10.95</td>
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<tr>
<td>00610</td>
<td>CREATINE POWDER - 500 grams</td>
<td>33.00</td>
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<td>01646</td>
<td>CREATINE WHEY GLUTAMINE POWDER - 645 grams (vanilla)</td>
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<td>01429</td>
<td>CR MIMETIC LONGEVITY FORMULA - 60 veg. caps</td>
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<td>03840</td>
<td>CRWAY GREAT GLUCOSE CONTROL CD</td>
<td>98.00</td>
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<td>00407</td>
<td>CURCUMIN* (SUPER BIO) - 400 mg, 60 veg. caps</td>
<td>38.00</td>
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</tbody>
</table>

**Deduction**: An additional 10% on all products during Super Sale

**SUPER SALE SAVINGS ON ALL PRODUCTS**

1-954-766-8433 or 1-800-544-4440

**COSMESIS HYALURONIC OIL-FREE FACIAL MOISTURIZER**

**COSMESIS HEALING VITAMIN K CREAM**

**COSMESIS HEALING MASK**

**COSMESIS HAIR SUPPRESS FORMULA**

**COSMESIS AMBER SELF MICRODERMABRASION**

**COSMESIS Anti-aging Mask**

**COSMESIS Anti-Glycation Serum**

**COSMESIS Anti-Oxidant Facial Mist**

**COSMESIS Antioxidant Clearing Mask**

**COSMESIS Anti-Oxidant Rejuvenating Foot Cream**

**COSMESIS Anti-Oxidant Rejuvenating Hand Cream**

**COSMESIS Anti-Oxidant Rejuvenating Hand Scrub**

**COSMESIS Anti-Redness & Blemish Lotion**

**COSMESIS BioLavonoid Cream**

**COSMESIS Broccoli Sprout Cream**

**COSMESIS Corrective Clearing Mask**

**COSMESIS DNA Repair Cream**

**COSMESIS Essential Plant Lipids Reparative Serum**

**COSMESIS Face Rejuvenating Antioxidant Cream**

**COSMESIS Fine Line-Less**

**COSMESIS Hair Suppression Formula**

**COSMESIS Healing Formula All-in-One Cream**

**COSMESIS Healing Mask**

**COSMESIS Healing Vitamin K Cream**

**COSMESIS Hyaluronic Facial Moisturizer**

**COSMESIS Hyaluronic Oil-Free Facial Moisturizer**

**COSMESIS Hydrating Anti-Oxidant Face Mist**
<table>
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<tr>
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<td>0125</td>
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<td>12.90</td>
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<td>0129</td>
<td>96</td>
<td>0.56</td>
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<td>0130</td>
<td>192</td>
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<td>53.76</td>
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<td>0131</td>
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<td>12288</td>
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*Note: Each row represents a different product with its respective quantity and price.*

**OFFER ENDS JANUARY 31, 2013**

To order online visit [www.LifeExtension.com/SuperSale](http://www.LifeExtension.com/SuperSale)
### Buyers Club Order Form

<table>
<thead>
<tr>
<th>No.</th>
<th>Product Description</th>
<th>Retail Each</th>
<th>Member Each</th>
<th>Qty</th>
<th>Total</th>
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<tr>
<td>00101</td>
<td>GLUCOSAMINE/CHONDROITIN CAPSULES - 100 caps</td>
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<td>00102</td>
<td>GLUCOSAMINE/CHONDROITIN CAPSULES - 60 caps</td>
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<td>$48.00</td>
<td>$38.40</td>
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<td>$384.00</td>
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### SUPER SALE SAVINGS ON ALL PRODUCTS

To order call: 1-954-766-8433 or 1-800-544-4440

**DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE**
### Buyers Club Order Form

<table>
<thead>
<tr>
<th>No.</th>
<th>Retail Each</th>
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<th>Qty</th>
<th>Total</th>
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<tr>
<td>00263</td>
<td>LIFE FLORA™ - 300 mg, 120 caps</td>
<td>$20.50</td>
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<td>LIVER EFFICIENCY FORMULA - 30 veg caps</td>
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<td>LIVER FORCE - 60 veg caps</td>
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<td>01639</td>
<td>5-LOX INHIBITOR W/ARPRESSLE™ - 100 mg, 60 veg caps</td>
<td>22.00</td>
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<td>L-LYSINE - 620 mg, 100 veg caps</td>
<td>9.00</td>
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<td>L-LYSINE POWDER - 300 grams</td>
<td>16.00</td>
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<td>LURALEAN® CAPS SPECIAL PROPOLMANNIAN PARTICLE SIZE - 120 veg caps</td>
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<td>00455</td>
<td>LYCOPENE EXTRACT (Mega) - 15 mg, 90 softgels</td>
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<td>MAGNESIUM CAPS - 500 mg, 100 veg caps</td>
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<td>MAGNESIUM CITRATE - 160 mg, 100 veg caps</td>
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<td>MAITAKE® SX-FRACTION - 90 veg tablets</td>
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<td>MELATONIN - 300 mcg, 100 caps</td>
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<td>01086</td>
<td>MELATONIN - 3 mg, 60 time-release veg caps</td>
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<td>MELATONIN - 10 mg, 60 caps</td>
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<td>MELATONIN - 3 mg, 60 lozenges</td>
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<td>MELATONIN TIME RELEASE - 300 mcg, 100 veg caps</td>
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<td>MELATONIN TIME RELEASE - 750 mcg, 60 veg caps</td>
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<td>01009</td>
<td>MEMORY UPGRADE™ - 600 grams powder</td>
<td>26.95</td>
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<td>METHYLCOBALAMIN - 1 mg, 60 lozenges (vanilla)</td>
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<td>METHYLCOBALAMIN - 5 mg, 60 lozenges (vanilla)</td>
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<td>MIGNA-EZZ™ (BUTTERBUR) - 60 softgels</td>
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<td>MILK THISTLE (CERTIFIED EUROPEAN) - 120 veg caps</td>
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### SUB-TOTAL OF COLUMN 11

LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS JANUARY 2013

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE

<table>
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<th>Retail Each</th>
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<td>MINERAL FORMULA FOR MEN - 100 veg caps</td>
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<td>01539</td>
<td>MINERAL FORMULA FOR WOMEN - 100 veg caps</td>
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<td>MIRAFORTÉ w/STANDARDIZED LIGNANS (SUPER) - 120 caps</td>
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<td>MITOCHONDRIAL BASICS w/BIOPEQQ™ - 30 caps</td>
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<td>01568</td>
<td>MITOCHONDRIAL ENERGY OPTIMIZER w/BIOPEQQ™ - 120 caps</td>
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<td>MIST ORAL III w/CQ10 - 2 fl oz</td>
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<td>00865</td>
<td>MK-7 - 90 mcg, 60 softgels</td>
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<td>MOUTHWASH w/POMEGRANATE - 16 oz</td>
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<td>00451</td>
<td>MSM (METHYLSULFONYLMETHANE) - 1000 mg, 100 caps</td>
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### SUB-TOTAL OF COLUMN 12

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<td>01534</td>
<td>a-ACETYL-L-CYSTEINE - 600 mg, 60 veg caps</td>
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<td>00688</td>
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<td>NATURAL APPETITE CONTROL - 90 softgels</td>
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<td>00984</td>
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<td>NATURAL RELIEF 1222™ - 2 oz</td>
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<td>NATURAL SLEEP+ - 3 mg, 60 veg caps</td>
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<td>NATURAL SLEEP+ (ENHANCED) w/MELATONIN - 30 caps</td>
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<td>NATURAL SLEEP MELATONIN® - 5 mg, 60 veg caps</td>
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<td>00987</td>
<td>NATURAL STRESS RELIEF - 30 veg caps</td>
<td>28.00</td>
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### ORDER FORM

- **Offer Ends January 31, 2013**
- To order online visit: www.LifeExtension.com/SuperSale
- **LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**
- **JANUARY 2013**
- **DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE**
### Buyers Club Order Form

<table>
<thead>
<tr>
<th>No.</th>
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<td>01602</td>
<td>NEURO-MAG™ L-THEIONATE W/CALCIUM &amp; VITAMIN D 205 grams - Lemon flavor</td>
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<td>NO-FLUSH NIACIN - 800 mg, 100 caps</td>
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<td>NUTRIM - 225 grams powder</td>
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<tr>
<td>01623</td>
<td>OLIVE LEAF VASCULAR SUPPORT - 500 mg, 60 veg. caps</td>
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<td>01619</td>
<td>OMEGA 3 EFA/DHA w/SESAME LIGNANS &amp; - 240 softgels OLIVE FRUIT EXTRACT (SUPER) (SMALL SOFTGEL)</td>
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<td>OMEGA-3 LEMON WHIRL - 16 oz bottle</td>
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<td>OMEGA-3 TROPICAL WHIRL - 16 oz bottle</td>
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<td>01701</td>
<td>ONE PER-DAY - 60 tablets</td>
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<td>01328</td>
<td>ONLY TRACE MINERALS - 90 caps</td>
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<td>00915</td>
<td>OPTIZINC® - 30 mg, 90 veg. caps</td>
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<td>01070</td>
<td>ORGANIC TOTAL BODY CLEANS™ - 14-day supply</td>
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**P**

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<td>PARA CAPS - 500 mg, 100 caps</td>
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<td>00073</td>
<td>PANCREATIN - 500 mg, 50 caps</td>
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<td>01323</td>
<td>PEAK ATP® WITH GLYCOCANN® - 60 veg. caps</td>
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<td>PECTA SOL-C® MODIFIED CITRUS PECTIN - 454 grams powder</td>
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<td>00673</td>
<td>PGX™ SOLUBLE FIBER BLEND (WELLIEX®) - 180 caps</td>
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<td>PHARMAGABAR® - 60 chewable tablets</td>
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<td>00368</td>
<td>PHOSPHATIDYLSERINE CAPS® - 100 mg, 100 caps</td>
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<td>01390</td>
<td>PHOSPHOMEGA® - 60 softgels</td>
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**SUB-TOTAL OF COLUMN 13**

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<td>POMEGRANATE™ (FULL-SPECTRUM) - 30 softgels</td>
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<td>00956</td>
<td>POMEGRANATE EXTRACT - 30 veg. caps</td>
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<td>00957</td>
<td>POMEGRANATE JUICE CONCENTRATE - 16 oz. liquid</td>
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<td>POTASSIUM IODIDE - 1 box, 14 tablets</td>
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<td>01500</td>
<td>PQQ CAPS W/BIOPOQ® - 10 mg, 30 veg. caps</td>
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<td>PQQ CAPS W/BIOPOQ® - 20 mg, 30 veg. caps</td>
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<td>PREGNENOLONE - 50 mg, 100 caps</td>
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<td>PREGNENOLONE - 100 mg, 100 caps</td>
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<td>00137</td>
<td>PRELOX® NATURAL SEX FOR MEN® - 60 tablets</td>
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<td>PRIMAL DEFENSE® - 90 caplets</td>
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<td>PROBiotic ALL-FLORA® - 60 veg. caps</td>
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<td>PROBiotic ANTI-AGING® - 90 veg. caps</td>
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<td>PROBiotic COLOR® - 90 veg. caps</td>
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<td>PROBOOST THYMIC PROTEIN A® - 4 mcg, 30 packets</td>
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<td>PROGESTACARE FOR WOMEN - 6 oz cream</td>
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<td>PROGREEN® - 15 stack pack</td>
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<td>PRO-M INTERNAL DEODORIZER - 500 mg, 100 veg. caps</td>
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<td>PROSTATE FORMULA W/APERISFLEX™ STAND. LIGNANS (ULTRA NAT) (60 softgels)</td>
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<td>PROTEIN - VANILLA - (Enhanced Life Extension) - 1 lb. powder</td>
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<td>PROTEIN - CHOCOLATE - (Enhanced Life Extension) - 1 lb. powder</td>
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<td>PROTEIN - NATURAL - (Enhanced Life Extension) - 1 lb. powder</td>
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<td>PTEROPURE™ - 50 mg Pterostilbene 60 veg. caps</td>
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<td>01075</td>
<td>PURE PLANT PROTEIN - Natural Vanilla 450 grams powder</td>
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<td>PUMPKIN SEED EXTRACT (WATER-SOLUBLE) - 60 veg. caps</td>
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<td>PYCNOGEL® FRENCH MARITIME PINE BARK EXTRACT - 100 mg, 60 veg. caps</td>
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**SUB-TOTAL OF COLUMN 14**

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

**Life Extension Members receive 25% off the retail price of all products.**
<table>
<thead>
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<tr>
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**SUB-TOTAL OF COLUMN 16**

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LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS JANUARY 2013

DEDUCT AN ADDITIONAL 10% ON ALL PRODUCTS DURING SUPER SALE
## Buyers Club Order Form

**JANUARY 2013 LIFE EXTENSION MEMBERS RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**

### SUPER SALE SAVINGS ON ALL PRODUCTS

To order call: 1-954-766-8433 or 1-800-544-4440

### TAL-SHITI COSMETICS • For information please call 1-800-544-4440 or visit www.LifeExtension.com

---

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<td>Z</td>
<td><strong>ZEAXANTHIN w/LUTEIN &amp; MESO-ZEAXANTHIN AND C3G (SUPER)</strong> - 60 softgels</td>
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* These products are not 25% off retail price.
**Not eligible for member discount or member renewal product credit.
***Due to license restrictions, this product is not for sale to customers outside of the USA.
*Member pricing not valid on this item.

**GIVE THE GIFT of HEALTH, with a LIFE EXTENSION GIFT CARD!**

**GIVE THE LIFE-ENHANCING BENEFITS OF LIFE EXTENSION® WITH A GIFT OF $10, $25, $50 OR $100**

To order a Life Extension Gift Card for someone special, call 1-800-544-4440.

**Membership Application**

I want to contribute to your research efforts to extend the healthy human life span. Enclosed is my first year’s membership donation of $75 to join the most elite group of longevity enthusiasts in the world. (Canadians add $7, all others outside the U.S. add $35)

Item code: MEMB1. Call for multiple year membership rates.

Name ____________________________

Address ____________________________

City ___________ ST ___________ ZIP ___________

Email ____________________________

Phone ____________________________

☑ Check enclosed (payable to Life Extension Foundation®)

☑ Charge my cc: ____________________________

Card # ____________________________

Exp. ____________________________

**If your number one priority is good health and a long life, please join our not-for-profit organization.**

**Four Easy Ways to Join**

1. Call toll-free 1-800-544-4440 2. Go to www.lef.org 3. Fax back to 1-866-728-1050 4. Mail to: Life Extension Foundation® • PO Box 407198 Ft. Lauderdale, FL 33340-7198 • Local Number: 954-766-8433

**MEMBERSHIP APPLICATION**

I want to contribute to your research efforts to extend the healthy human life span. Enclosed is my first year’s membership donation of $75 to join the most elite group of longevity enthusiasts in the world. (Canadians add $7, all others outside the U.S. add $35)

Item code: MEMB1. Call for multiple year membership rates.

Name ____________________________

Address ____________________________

City ___________ ST ___________ ZIP ___________

Email ____________________________

Phone ____________________________

☑ Check enclosed (payable to Life Extension Foundation®)

☑ Charge my cc: ____________________________

Card # ____________________________

Exp. ____________________________

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

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

**OFFER ENDS JANUARY 31, 2013**

To order online visit www.LifeExtension.com/SuperSale
## Buyers Club Order Form

### ORDER SUBTOTALS

| Sub-Total Column 1 | Sub-Total Column 2 | Sub-Total Column 3 | Sub-Total Column 4 | Sub-Total Column 5 | Sub-Total Column 6 | Sub-Total Column 7 | Sub-Total Column 8 | Sub-Total Column 9 | Sub-Total Column 10 | Sub-Total Column 11 | Sub-Total Column 12 | Sub-Total Column 13 | Sub-Total Column 14 | Sub-Total Column 15 | Sub-Total Column 16 | Sub-Total Column 17 | Sub-Total Column 18 | Sub-Total Column 19 |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|

### ORDER TOTALS

Sub-Total (Sub-total of Columns 1 through 19)

Super Sale Deduct 10% (Subtotal x 10%) Ends 01/31/13

Postage And Handling (Any size order, continental U.S.) $5.50

C.O.D.s (Add $7 for C.O.D. orders)

Shipping

Grand Total (Must be in U.S. dollars)

### LIFE EXTENSION FOUNDATION® MEMBERS ONLY

Member No.

Print membership number for member discount

### BILL TO ADDRESS

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Prices subject to change without notice. Please notify the Life Extension Foundation® of any address change.

Please mail to:

Life Extension Foundation®, Buyers Club, Inc.
P.O. Box 407198 • Ft. Lauderdale, Florida 33340-7198
Or call toll-free 1-800-544-4440 • Fax: 866-728-1050
Local Number: 954-766-8433

Order online at: www.LifeExtension.com

Please close this and any other Life Extension Foundation® mailers out.

Disease Prevention & Treatment Protocol

Buyers Club Order Form

Super Sale Savings on all products. Please mail to address.
Offer ends January 31, 2013

To order online visit www.LifeExtension.com/SuperSale

Buyers Club Order Form

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<td>$18.20</td>
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Sub-Total (U.S. Dollars)

$ | Shipping only $5.50 U.S. | $17.50 Canada | $12.50 Hawaii, Alaska, U.S. Virgin Islands, Puerto Rico | UK Flat rate | $25 USD

(Add $7 for C.O.D. | Add $16.00 for UPS overnight | Add $7.00 for UPS 2nd day air | International air mail costs will be added.)

Prices subject to change without notice. Please notify the Life Extension Foundation® of any address change.

Total

Please Mail To: Life Extension Foundation Buyers Club, Inc.
P.O. Box 407198 • Ft. Lauderdale, Florida 33340-7198
Or Call Toll Free 1-800-544-4440 • Fax: 954-728-1050 • Local Number: 954-766-8433

Other International Shipping Restrictions May Apply. Please visit www.lef.org/vitamins-supplements/shipping/shipping-information.htm for details.

Life Extension Foundation® Members Only

MEMBER NO.

Print membership No. for member discount.

Not a member? Join today!

I want to join the Life Extension Foundation.

Enclosed is $75 for annual membership. (Canadians add $70; all others outside the U.S. add $35.00. Send me: Disease Prevention & Treatment Protocol Book.

Name

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Address

City/State/Zip-Postal Code

Country

Phone

Fax

Visa/Mastercard/American Express/Discover

Exp. Date

Signature

COD

UPS Red Label

UPS Blue Label
Rich Rewards™

Lentil Vegetable Soup

One Smart Bowl of Soup™
A delicious vegetarian soup suitable for vegans
Processed food companies sell vegetable soups so cheaply because they load them with high-glycemic carbohydrates (rice, potatoes, pasta) that cost virtually nothing. They then add inexpensive ingredients like corn, sugar, and sometimes omega-6 fats (like cottonseed oil). So for less than $2, you get a relatively high-carb-calorie soup that provides virtually no health benefits. Life Extension® has formulated a lentil vegetable soup suitable for vegans that contains only garden-fresh ingredients, including lentils, mushrooms, tomatoes, carrots, extra-virgin olive oil, and a host of other beneficial plant foods.

Each serving of Rich Rewards Lentil Vegetable soup contains only 120 calories of the best-documented foods to maintain your precious health. You can consume the entire contents or use a smaller portion of the soup as part of a meal for you (or several people).

The entire container supplies about 3.5 servings of these lentils, mushrooms, and vegetables— with none of the glucose-spiking fillers found in commercial soups.

Rich Rewards Lentil Vegetable Soup is packaged in a re-closable bottle free of BPA. While the FDA says the BPA lining in most cans is safe, we at Life Extension have always used BPA-free containers.

The retail price for a 3.5 serving bottle of Rich Rewards Lentil Vegetable soup is $13. The member price during Super Sale is $8.78.

You can also order soups that contain vegetables like broccoli, cauliflower, and asparagus in extra-virgin olive oil with only 60-70 calories per serving at the same price as the new Lentil Vegetable Soup.

Cruciferous Vegetable Soups
You can also order soups that contain vegetables like broccoli, cauliflower, and asparagus in extra-virgin olive oil with only 60-70 calories per serving at the same price as the new Lentil Vegetable Soup.

<table>
<thead>
<tr>
<th>Soup Type</th>
<th>Retail Price</th>
<th>Super Sale Price</th>
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<tbody>
<tr>
<td>Cruciferous Vegetable</td>
<td>$11.95</td>
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<tr>
<td>Spicy Cruciferous Vegetable</td>
<td>$11.95</td>
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</table>

To order your fresh supply of Rich Rewards Lentil Vegetable soup, call 1-800-544-4440 or visit www.lef.org/soup
Maintaining healthy, flexible joints is essential to quality of life. Joint stiffness and discomfort can stand in the way of performing even simple everyday tasks.

Most people do not obtain critical nutrients shown to support youthful joint function and mobility.

To meet this urgent need, Life Extension introduced Krill Healthy Joint Formula, a patent-pending blend of deep-sea whole krill oil sourced in Antarctica, combined with hyaluronic acid and astaxanthin.

In a recent clinical trial involving over 100 maturing individuals, a 55% reduction in joint discomfort was observed in less than three months, with 63% of participants maintaining ease of motion.1

THREE SYNERGISTIC COMPOUNDS FOR SUPERIOR BENEFIT

The data reveals that the fatty acids found in krill oil are particularly effective for joint health.2 These unique fatty acids have been shown to specifically target joint tissue.2,3

Hyaluronic acid occurs naturally in the joints,4 where it acts to lubricate and cushion against repeated physical impacts.5 Because it forms a major component of cartilage and soft tissue,4 it is widely used to promote joint health.4-8

The difficulty has been that hyaluronic acid is a large molecule not well absorbed by the body. When combined with krill oil, it has been shown to reach significantly higher levels in the bloodstream than in standalone form.6,8

Krill oil is a natural source of the antioxidant carotenoid astaxanthin. Astaxanthin works in multiple ways, including suppression of free radical activity and enhanced mitochondrial function.9 It also maintains krill oil’s molecular stability.

Most commercially available krill oils do not contain significant amounts of astaxanthin because it is nearly eliminated during processing. Krill Healthy Joint Formula is fortified with astaxanthin, for maximum stability and superior benefit.

JUST ONE SOFTGEL DAILY

The suggested daily serving of one Krill Healthy Joint Formula softgel daily supplies 353 mg of this proprietary blend.

A bottle containing 30 softgels of Krill Healthy Joint Formula retails for $32. If a member buys four bottles during Super Sale, the price is reduced to $19.58 per bottle. Just one softgel a day of Krill Healthy Joint Formula duplicates a successful human clinical trial.

References

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

Contains crustacean shellfish (krill).
Licensed from Valensa International.
Zanthin® is a registered trademark of Valensa International, Inc.

To order Krill Healthy Joint Formula 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.
Super Omega-3 EPA/DHA

There’s no debating the power of omega-3 fatty acids. From support for heart health and brain function to help with inflammation, their broad-spectrum benefits have been firmly established in a wealth of studies.1-9

To ensure the purest, most stable, and easy-to-tolerate fish oil supplement, SUPER OMEGA-3 EPA/DHA is molecularly distilled. This proprietary technology ensures any environmental pollutants are reduced to extremely low levels. The result? Our fish oil enjoys a 5-star rating for purity, quality, and concentration from the International Fish Oil Standards program (IFOS)—the highest possible ranking from the world’s premier testing laboratory.

Sesame Lignans and Standardized Olive Fruit Extract for Enhanced Benefits

Fish oils (and other fatty acids) have a tendency to oxidize, rendering them nutritionally inferior. Scientific studies show that when added to fish oil, sesame lignans safeguard against oxidation and direct fatty acids toward pathways that help with inflammatory reactions.10

To further emulate the benefits of a Mediterranean diet, Super Omega-3 delivers standardized, high-potency olive fruit extract. Research shows that fish oil combined with olive oil helps with inflammation better than fish oil alone.11

Olive also contains the compounds hydroxytyrosol, tyrosol, and oleuropein. Together these nutrients counter the action of free radicals, delay aging in specialized skin cells, prevent undesirable LDL oxidation, and help maintain normal platelet activation.12-15

Super Omega-3 (4 regular size softgels) supplies the equivalent content of 6 tablespoons of extra virgin olive oil. Take two softgels twice daily with meals.

A bottle containing 120 softgels of Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract retails for $32. If a member buys four bottles during Super Sale, the price is reduced to $18.90 per bottle. If 10 bottles are purchased during Super Sale, the cost is $16.81 per bottle. (Item # 01482)

For those with sensitive stomachs, Super Omega-3 is also available with enteric coating and retails for $34. If a member buys four bottles during Super Sale, the price is reduced to $20.93 per bottle. If 10 bottles are purchased during Super Sale, the cost is $18.90 per bottle. (Item # 01484)

To order the most advanced fish oil supplement, Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract (with or without enteric coating), 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.

Contains fish (anchovy, mackerel), sesame, and corn.

Supportive but not conclusive research shows that consumption of EPA and DHA omega-3 fatty acids may reduce the risk of coronary heart disease. IFOS™ certification mark is a registered trademark of Nutrasource Diagnostics, Inc. These products have been tested to the quality and purity standards of the IFOS™ program conducted at Nutrasource Diagnostics, Inc.

A SMALLER SOFTGEL for easier swallowing!

Some members have requested we make Super Omega-3 available in a smaller capsule for easier swallowing. We have accomplished this by making half-size softgels available. A bottle containing 240 half-size softgels of Super Omega-3 EPA/DHA with Sesame Lignans and Olive Fruit Extract retails for $32. If a member buys four bottles during Super Sale, the price is reduced to $18.90 per bottle. If 10 bottles are purchased during Super Sale, the cost is $16.81 per bottle. (Item # 01619)

Just one serving of SUPER OMEGA-3 EPA/DHA with Sesame Lignans & Olive Fruit Extract provide:

EPA Pure+™ Extract (eicosapentaenoic acid) 1400 mg
DHA Pure+™ Extract (docosahexaenoic acid) 1000 mg
Olive Fruit Extract [std. to 6.5% polyphenols (39 mg), 1.73% hydroxytyrosol/tyrosol (10.4 mg), 0.5% verbascoside/oleuropein (3 mg)] 600 mg
Sesame Seed Lignan Extract 20 mg

References

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.
Scientists have discovered a natural way to modulate inflammatory responses to improve immune surveillance while reducing markers of chronic inflammation.

CoQ10 is best known for heart and brain health. New laboratory studies demonstrate that CoQ10 can extend life span by boosting mitochondrial efficiency, suggesting important longevity benefits for aging humans.

52 CERAMIDES NOURISH SKIN MATRIX
Youthful skin is rich in ceramides that moisturize the skin matrix keeping it firm and supple. Clinical studies document the ability of ceramides, when orally ingested, to nourish aging skin from within to avoid dryness and wrinkles.

97 SUPER FOODS
Cauliflower contains unique bioactive compounds that offer strong protection against cancer, diabetes, rheumatoid arthritis, and cardiovascular disease.