Protect Against Viral Induced Cancers

Boost *Muscle Strength* at Any Age

**BERRIES Combat OBESITY**

Reduce Risk of Frailty and Falls
Restore Youthful Immune Function
How Broccoli Guards Against Breast Cancer
Impede Arterial Plaque Buildup
Fight Systemic Aging

The plant compounds in AMPK Metabolic Activator help boost AMPK, a cell enzyme that mitigates mechanisms of aging and promotes vascular function while helping reduce belly fat.

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

ActivAMP® is a registered trademark of Gencor.

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.
REPORTS

26 HOW BERRIES REDUCE OBESITY DAMAGE
Mixed berry extracts contain bioactive compounds that help combat the harmful effects caused by excess weight. Berry extracts can reduce the size of fat cells, promote fat burning, and improve insulin sensitivity.

46 INHIBIT ARTERIAL PLAQUE
Two plant extracts can reduce arterial plaque progression by 95% while promoting plaque stability to lessen the risk of acute arterial occlusion.

57 GREEN TEA AND BROCCOLI COMBAT BREAST CANCER
Compounds in green tea and broccoli can reprogram genes in treatment-resistant malignant cells to make them more susceptible to eradication by conventional therapies. The combination of green tea and broccoli can reduce tumor size in difficult-to-treat cancers.

66 RESTORE YOUTHFUL IMMUNE FUNCTION
Immu senescence underlies many diseases of aging. Cistanche, Reishi mushrooms, and Pu-erh tea have been shown to reverse harmful changes that occur in the immune system with age.

76 REPAIR SUN DAMAGED LIPS
A unique lip balm containing plants extracts with vitamins and minerals can prevent and repair damage from ultraviolet radiation and aging. The result is enhanced skin moisture and long-lasting relief that restores youthful softness and suppleness.

DEPARTMENTS

7 AS WE SEE IT: VIRAL INDUCED CANCERS
Largely affecting men, the incidence of neck and head cancers caused by HPV is surging. Eleven million American males are infected with this virus. The healthy diet and supplement programs Life Extension® readers follow offer a degree of protection, and the right regimen may even promote a protective antibody response.

19 IN THE NEWS
New evidence for Mediterranean diet; selenium reduces mortality; coffee inhibits arrhythmia; and vitamins lower pancreatic cancer risk.

87 HEALTHY EATING
In her book, Juice + Nourish: 100 Refreshing Juices and Smoothies to Promote Health, Energy, and Beauty, naturopath Rosemary Ferguson provides juicing recipes specifically tailored for everything from stress to lack of strength. We provide a few for you to try.

93 SUPER FOODS: BASIL
In addition to taste, the herb basil contains unique phytochemicals that can play a role in respiratory health, fight bacteria, and possibly reduce cancer risks.

95 AUTHOR INTERVIEW: MISSION BETRAYED: HOW THE VA REALLY FAILS AMERICA’S VETS BY MICHAEL J. MANN, MD
In his new book, Mission Betrayed: How the VA Really Fails America’s Vets, Michael J. Mann, MD, draws on his years with the widely criticized agency to deliver a compelling exposé of the dysfunctional Veterans Health Administration.
Personal Consultation with Life Extension
Blood Testing and Analysis
The Most Complete Line of Life Extension Supplements

Ensuring the highest quality, Life Extension continually searches the globe for state-of-the-art technologies and a network of experienced professionals who can test, develop, package, and deliver advanced health products.

Connect with Life Extension on the Web!
Facebook.com/LifeExtension
For instant access to special offers and promotions, product news, and exclusive health and wellness information.

Twitter.com/LifeExtension
For up-to-the-minute health tips, breaking industry news, and the latest updates in medical research.

Customer care is available to take your calls 24 hours a day, 7 days a week.

Visit the Life Extension Nutrition Center Store
• The Most Complete Line of Life Extension Supplements
• Blood Testing and Analysis
• Personal Consultation with Life Extension Product/Wellness Specialist

Life Extension
3600 West Commercial Blvd., Fort Lauderdale, FL 33309
Editorial offices: 954-766-8433 • fax: 954-491-5306

Customer Service: 800-678-8989
Email: customerservice@LifeExtension.com
Wellness specialists: 800-226-2370 • Wellness email: wellness@LifeExtension.com

At Life Extension Magazine® we value your opinion and welcome feedback. Please mail your comments to Life Extension Magazine, Attn: Letters to the Editor, PO Box 407198, Fort Lauderdale, FL 33340 or email us: LEmagazine@LifeExtension.com

Publisher • LE Publications, Inc.
Editorial
Editor-in-Chief • Philip Smith
Executive Managing Editor • Renee Price
Medical Editor • Hernando Latorre, MD, MSc
Senior Copy Editor • Laurie Mathena
Senior Staff Writer • Michael Downey
Associate Writer • Garry Messick
Creative Director • Robert Vergara
Art Director • Alexandria Maldonado

Chief Medical Officer
Steven Joyal, MD

Scientific Advisory Board
Örn Adalsteinsson, PhD • Richard Black, DO • John Boik, PhD • Aubrey de Grey, PhD
Frank Eichhorn, MD • Deborah F. Harding, MD • Steven B. Harris, MD
Peter H. Langsjoen, MD, FACC • Dipnarine Maharaj, MD • Ralph W. Moss, PhD
Michael D. Ozner, MD, FACC • Jonathan V. Wright, MD, MD, Xiaoaii Wei, PhD

Senior Vice President Product Development and Scientific Affairs
Andrew Swick, MS, PhD

Contributors
Steve Collins • Michael Downey • Gary Goldfaden, MD • Robert Goldfaden
Gary Greenberg • Garry Messick • Jason Meyers • Stephanie Ross • Janet Seiken

Advertising
Vice President of Marketing • Rey Searles • rsearles@lifeextension.com
National Advertising Manager • Tamu Mills • 404-347-1755

Senior Director of Sales and Business Development
Carolyn Bouchard • cbouchard@lifeextension.com • 954-202-7685

Circulation & Distribution
Life Extension • 3600 West Commercial Blvd., Fort Lauderdale, FL 33309
Editorial offices: 954-766-8433 • fax: 954-491-5306

Life Extension
Life Extension Nutrition Center
Nutrition Center of Florida, Inc. 5990 North Federal Highway, Fort Lauderdale, FL 33308-2633 • 954-766-8144
Monday-Friday 9 am-8 pm, Saturday 9 am-6 pm, Sunday 11 am-5 pm

Visit the Life Extension Store®
5990 North Federal Highway, Fort Lauderdale, FL 33308-2633

Visit Life Extension
Connect with us online and on the go to learn about the latest updates in medical research.

#1 Rated Catalog/Internet Merchant—3-Time Winner
Ratings based on results of the 2018 ConsumerLab.com Survey of Supplement Users.

LIFE EXTENSION (ISSN 1524-198X) Vol. 24, No. 11 ©2018 is published monthly except bi-monthly in April by LE Publications, Inc. at 3600 West Commercial Blvd., Fort Lauderdale, FL 33309-3338. LE Publications, Inc. All rights reserved. Published 13 times a year. Subscription rate: $40 per year in the United States. US $47 in Canada. US $60 in other countries. Mail subscriptions or address changes to: LE Publications, Inc., P.O. Box 407198, Fort Lauderdale, FL 33340-7198, USA. Or phone us toll-free at: 1-800-841-5433. Canada Subscriptions: Publications mail agreement number 40028967. Return undeliverable Canadian addresses to PO Box 503, RPO West Beaver Creek, Richmond Hill, ON L4B 4R6. You will be sent your first issue within six weeks after LE Publications, Inc. receives your subscription fee. Periodicals Postage paid at Fort Lauderdale, FL and at additional mailing offices. POSTMASTER: Send address changes to Life Extension, P.O. Box 407198, Ft. Lauderdale, Florida 33340-7198, USA. Printed in USA. The articles in this magazine are intended for informational purposes only. They are not intended to replace the attention or advice of a physician or other health-care professional. Anyone who wishes to embark on any dietary, drug, exercise, or other lifestyle change intended to prevent or treat a specific disease or condition should first consult with and seek clearance from a qualified health-care professional. LEGAL NOTICE: Health claims contained in articles and advertisements in this publication have not been approved by the FDA with the exception of FDA approved qualified health claims for calcium, antioxidant vitamins, folic acid and EPA and DHA omega-3 fatty acids, and selenium as noted where applicable. Life Extension® does not endorse any of the businesses or the products and/or services that may appear in advertisements for non-Life Extension branded products or services contained in Life Extension magazine except to state that they are advertisers who may have paid Life Extension for placement of an advertisement in this publication. Life Extension disclaims any and all responsibilities or warranties as to the accuracy of information contained in advertisements for non-Life Extension branded products or services. For Canadian customers send change of address promotions, product news, and exclusive health and wellness information.

For instant access to special offers and promotions, product news, and exclusive health and wellness information. For up-to-the-minute health tips, breaking industry news, and the latest updates in medical research.

Customer care is available to take your calls 24 hours a day, 7 days a week.

Visit the Life Extension Nutrition Center Store
• The Most Complete Line of Life Extension Supplements
• Blood Testing and Analysis
• Personal Consultation with Life Extension Product/Wellness Specialist

Visit Life Extension
Connect with us online and on the go to learn about the latest updates in medical research.

#1 Rated Catalog/Internet Merchant—3-Time Winner
Ratings based on results of the 2018 ConsumerLab.com Survey of Supplement Users.
Put a pause to the cause

Menopause is more than just hot flashes...

**Menopause 731™** is a clinically studied extract of **Siberian rhubarb**.
Used in Germany since **1993**, this plant extract provides **hormone-free** menopause management including:

- Hot flashes
- Night sweats
- Irritability

**Siberian rhubarb** can enable maturing women to feel more youthful even after menopause.

---

**Retail Price** | **Your Price**
--- | ---
1 box $36 | $27
4 boxes each $24

**Item #02204** - 30 tablets

---

For full product description and to order **Menopause 731™**, call **1-800-544-4440** or visit **www.LifeExtension.com**

**ERr 731™** is a registered trademark of Chemisch-Pharmazeutische Fabrik Göppingen Carl Müller Apotheker GmbH & Co.

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

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

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

Thomas F. Crais, MD, FACS, a board-certified plastic surgeon, was medical director of the microsurgical center in New Orleans, LA, and currently practices in Sun Valley, ID.

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

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

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

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

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

Carmen Fusco, MS, RN, CNS, is a research scientist and clinical nutritionist in New York City who has lectured and written numerous articles on the biochemical approach to the prevention of aging and degenerative diseases.

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

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

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

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

Garry F. Gordon, MD, DO, is a Payson, AZ-based researcher of alternative approaches to medical problems that are unresponsive to traditional therapies. He is president of the International College of Advanced Longevity Medicine.

Richard Heifetz, MD, is a board-certified anesthesiologist in Santa Rosa, CA, specializing in the delivery of anesthesia for office-based plastic/cosmetic surgery, chelation therapy, and pain management.

Roberto Marasi, MD, is a psychiatrist in Brescia and in Piacenza, Italy. He is involved in anti-aging strategies and weight management.

Maurice D. Marholin, DC, DO, is a licensed chiropractic physician and board-certified osteopathic family physician. While training at the University of Alabama, he completed Fellowships in Clinical Nutrition and Behavioral Medicine. He is currently in private practice in Clermont, FL.

Prof. Francesco Marotta, MD, PhD, of Montenapoleone Medical Center, Milan, Italy, is a gastroenterologist and nutrigenomics expert with extensive international university experience. He is also a consulting professor at the WHO-affiliated Center for Biotech & Traditional Medicine, University of Milano, Italy and hon. res. professor, Human Nutrition Dept, TWU, USA. He is the author of over 130 papers and 400 congress lectures.

Philip Lee Miller, MD, is founder and medical director of the Los Gatos Longevity Institute in Los Gatos, CA.

Michele G. Morrow, DO, FAAFP, is a board-certified family physician who merges mainstream and alternative medicine using functional medicine concepts, nutrition, and natural approaches.

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

Herbert Pardell, DO, FAAIM, practices internal medicine at the Emerald Hills Medical Center in Hollywood, FL. He is a medical director of the Life Extension Foundation.

Lambert Titus K. Parker, MD, is an internist and a board-certified anti-aging physician, practices integrative medicine from a human ecology perspective with emphasis on personalized brain health, biomarkers, genomics and total health optimization. He serves as the Medical Director of Integrative Longevity Institute of Virginia, a 501(c)3 Non-Profit Medical Research Institute. He also collaborates on education and research for Hampton Roads Hyperbaric Therapy.

Ross Pelton, RPh, PhD, CCN, is scientific director for Essential Formulas, Inc.

Patrick Quillin, PhD, RD, CNS, is a clinical nutritionist in Carlsbad, CA, and formerly served as vice president of nutrition for Cancer Treatment Centers of America, where he was a consultant to the National Institutes of Health.

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.

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

Michael R. Rose, MD, a board-certified ophthalmologist with the Rose Eye Medical Group in Los Angeles, CA, is on the staff 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.

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

Ronald L. Shuler, BS, DDS, CCN, LN, is involved in immunology for the prevention and treatment of cancer, human growth hormone secretagogues, and osteoporosis. He is board-certified in anti-aging medicine.

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.
**Scientific Advisory Board**

**Örn Adalsteinsson, PhD**, is chairman of the Life Extension® Scientific Advisory board. He holds a master’s and doctorate 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*.

**Richard Black, DO**, is a dedicated nuclear medicine physician practicing as an independent contractor out of Cleveland, Ohio. Dr. Black is board certified in internal medicine and nuclear medicine, and is licensed to practice medicine in multiple states throughout the United States.

**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 anti-cancer drugs. He conducted his postdoctoral training at Stanford University Department of Statistics.

**Aubrey de Grey, PhD**, is a biomedical gerontologist and Editor-in-Chief of *Rejuvenation Research*, the world’s highest-impact peer-reviewed journal focused on intervention in aging. He received his BA and PhD from the University of Cambridge in 1985 and 2000 respectively. Dr. de Grey is a Fellow of both the Gerontological Society of America and the American Aging Association and sits on the editorial and scientific advisory boards of numerous journals and organizations.

**Frank Eichhorn, 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 Castrignius, Planegg, Munich. In his integrative approach to prostate cancer he works 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 double board-certified in internal medicine and sleep disorder medicine. She also earned the Cenegenics certification in age management medicine. She is a faculty member of the 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, cryotherapy, and ischemia research. His research interests include antioxidant and dietary-restriction effects in animals and humans.

**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.

**Dipnarine Maharaj MD, MB, ChB, FRCP (Glasgow), FRCP (Edinburgh), FRCPath., FACP**

Dr. Dipnarine Maharaj is the Medical Director of the South Florida Bone Marrow Stem Cell Transplant Institute and is regarded as one of the world’s foremost experts on adult stem cells. He received his medical degree in 1978 from the University of Glasgow Medical School, Scotland. He completed his internship and residency in Internal Medicine and Hematology at the University’s Royal Infirmary.

**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 PBS documentary *The Cancer War*. Dr. Moss has independently evaluated the claims of various cancer treatments and currently directs The Moss Reports, an updated library of detailed reports on more than 200 varieties of cancer diagnoses.

**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*, *The Complete Mediterranean Diet*, and *Heart Attack Proof*. For more information visit www.drozner.com.

**Jonathan V. Wright, MD**, is medical director of the Tahoma Clinic in Tukwila, WA. He received his MD from the University of Michigan and has taught natural biochemical medical treatments since 1983. Dr. Wright pioneered the use of bioidentical estrogens and DHEA in daily medical practice. He has authored or co-authored 14 books, selling over 1.5 million copies.

**Xiaoxi Wei, PhD**, is a chemist expert in supramolecular assembly and development of synthetic transmembrane nanopores with distinguished selectivity via biomimetic nanoscience. She has expertise in ion channel function and characterization. She founded X-Therma Inc., a company developing a radical new highway towards non-toxic, hyper-effective antifreeze agents to fight unwanted ice formation in regenerative medicine and reduce mechanical icing.
Super Bio-Curcumin® features a patented extract from turmeric root that absorbs up to 7 times better than standard curcumin.

Advanced Bio-Curcumin® contains the same optimal potency of curcumin with the added benefits of ginger and additional turmeric extracts.

Suggested dose for either Bio-Curcumin® formula is one capsule or softgel daily for otherwise healthy individuals.
Most people associate viruses with the flu or common cold. Few understand that viruses cause about 15% of all cancers.\(^1\)\(^2\)

One such virus is oral human papillomavirus (HPV). It is present in 1 of every 9 American men.\(^3\)

HPV mutates cellular DNA in a way that causes certain cancers.

In women, this usually manifests as cervical malignancies\(^4\) that can be screened for (Pap smear) and are easy to cure when caught early.\(^5\)

In men, HPV infection is causing more head and neck cancers than it does cervical cancers in women.

Head and neck cancers are not as easy to screen for and require toxic treatments.\(^6\)\(^7\)

Head and neck cancers (oropharyngeal squamous cell carcinoma) are more common in men than in women. They have increased 300% in men over the past 20 years.\(^3\)\(^7\) A prime culprit is HPV infection.

For those who abstain from sex or are in monogamous relationships, their risk of HPV is lower. Those with multiple partners are at high risk, especially males.

This editorial describes risk factors behind head and neck cancers as well as what may be done to circumvent viral-induced malignancies.
Actor Michael Douglas was diagnosed with head and neck cancer in 2010.

As with other benevolent celebrities (like Suzanne Somers and Ben Stiller, who let the world know about their health issues), Michael Douglas went on national TV to warn that head and neck cancers are no longer confined to tobacco users.

Michael Douglas made it clear that his head and neck cancer was not caused by tobacco, but instead by his (promiscuous) lifestyle.

He described the chronic throat pain he endured during and after harsh radiation treatments, which appear to have been curative. Many patients undergo both surgery and radiation.

Jamie Dimon, CEO of JP Morgan Chase Bank, found himself in a similar predicament in 2014, and he has been apparently put into a complete response with conventional treatment.

Head and neck cancers have been historically linked to alcohol and tobacco use, but HPV is increasingly the underlying culprit.

### Startling Statistics

More than 64,000 Americans (47,650 men/17,040 women) will develop head and neck cancer this year.8

Most are over age 50 when diagnosed.8

An estimated 13,000 deaths will occur from head and neck cancer this year.8

To put this in perspective, about 50,000 Americans die annually of colorectal cancer.9

Colorectal cancer death rates are declining for reasons that include better screening and healthier diets.9

Head and neck cancers are surging. Of the estimated 13,000 annual deaths from this malignancy, about 10,000 occur in men and 3,000 in women.8

Yet there is little advocacy for head and neck cancer prophylaxis or screening.

### Risk Factors for Head and Neck Cancers

In earlier decades, head and neck cancers were rare except among those who used tobacco or indulged in excessive alcohol ingestion.10

Over the past several decades, physicians began noting a growing number of newly diagnosed patients with head and neck cancer that never smoked and were not heavy drinkers.11,12

What many of these head and neck cancer patients have in common are multiple sex partners. This enables a dangerous strain of human papillomavirus (HPV-16) to be continuously transmitted.12

The only encouraging news about HPV-induced head and neck cancers is that they respond better to conventional therapy than head and neck cancers caused by tobacco. (This is because HPV-16 damages DNA differently than tobacco.)11,13

This is of little consolation when one considers the pain of surgery, high-intensity radiation therapy, and the risks for secondary cancers that radiation creates.

### Magnitude of Risk Increase

Tobacco and alcohol consumption are still the main risk factors for head and neck squamous cell carcinoma.14

Human papillomavirus (HPV) infection also plays a causative role in head and neck cancers that occur in the oropharynx.15-18

The oropharynx is part of the throat and includes the base of tongue, tonsils, soft palate, and the cavity behind nose and mouth that connects to the esophagus.

A study published in 2017 assessed the independent effects of tobacco, alcohol,
Another 2017 study provided unsettling data for some of us. After adjusting for smoking, alcohol, and low education, those infected with HPV-16 had a:

- **4-fold greater odds** of overall **head and neck cancers**
- **10-fold greater odds** of **oropharyngeal cancer**

Oropharyngeal refers to the roof of the mouth, the tongue, tonsils, and part of the throat behind the mouth and nasal cavity. HPV-16 infection is implicated as a **causative factor** behind **oropharyngeal cancers**, even in those who don’t smoke or heavily ingest alcohol.

In some regions, HPV strains are thought to cause up to 60% of **oropharyngeal cancers**. This has resulted in an increased incidence among younger non-smokers that has been equated to as “**epidemic**” by some investigators.  

This magnitude of increased risk associated with HPV infection among heavy smokers and drinkers shown above is startling.

The question most readers of this magazine may ask is what about those who don’t smoke or heavily drink, but nonetheless are persistently exposed to HPV-16.

How Some Young People Avoid HPV

Eleven million American men are now infected with oral **human papillomavirus**. According to a 2017 report, the most likely to be infected are those who have had multiple oral sexual partners or who also have genital HPV infection.  

When looking at current promiscuous sexual behaviors, a significant percentage of the male population is at risk for **HPV-induced cancers**. Yet most of the public has no idea that cancer can be caused by this readily transmissible virus (HPV-16 and variants).

Younger people have access to the **HPV vaccine** that is partially effective in preventing cancers of the cervix, genitals, and anus, along with **head and neck cancer**. Some groups are vociferously against HPV vaccines because of side effect concerns.
Older individuals who have already been infected by HPV-16 do not appear to benefit from the vaccine.3

What Older People Should Do

Those who are in monogamous relationships or who abstain from contact with other people are at lower risk of persistent HPV infection.

Unlike chronic viruses (such as cytomegalovirus), a healthy immune system often clears HPV-16 before it inflicts enough DNA mutations to cause cancer.

For those who have had chronic HPV exposure, but follow healthy lifestyles, there is some encouraging news to report.

Our Life Extension® staff reviewed a large volume of data to ascertain if there were validated ways to protect against HPV-induced cancers.

To our surprise, the healthy diet and supplement programs most of you already follow appear to offer a degree of protection.

HPV-16 mutates DNA in ways that are different from the DNA damage inflicted by tobacco.

Nutrients like folate,22 lycopene,23 and cruciferous vegetable extracts (indole-3-carbinol24 and sulforaphane25) appear to help protect against viral-induced DNA damage.

We’ve long advocated the periodic use of cimetidine, a low-cost drug that requires no prescription, to boost immune function and suppress viral activity.26

Those who may be chronically exposed to HPV and other viruses may consider 800 mg of cimetidine each night for 1–2 months each year. Cimetidine should not be taken continuously as it can cause side effects in some people.

It is important to remember that HPV is often (but not always) cleared from the body. Persistent exposure to new HPV infections, however, results in chronic mutations to our cellular DNA that can lead to cancers.

Why Men Are More Vulnerable to Oral HPV Infection

HPV can survive in the flat, thin cells on the surface of the skin, cervix, vagina, anus, vulva, penis, mouth, and throat.7

The virus is spread through contact with infected skin, mucous membranes, and bodily fluids.7 This includes during intercourse or oral sex, as actor Michael Douglas pointed out years ago.

Virtually all sexually active people will acquire HPV at some point. The virus is usually wiped out by the immune system before it can sufficiently damage DNA to cause cancer.

Prescription Anti-HPV Therapies

Some people at very high risk for HPV or who suffer from immune senescence may consider a dual drug approach that involves therapies that exert powerful immune activation with increased cytotoxicity against viral-infected cells.

One of these more aggressive anti-viral approaches might involve a regimen of low-dose interleukin-2 (1.8 million units) injected under the skin (subcutaneous) for 3 days a week, combined with the vitamin A analog drug tretinoin (10 mg every 12 hours, five days a week). This might involve 3 or more consecutive weeks every 6 months or so.27

The cost of interleukin-2 and tretinoin are outrageous and may only be considered for high-risk individuals. These drugs came off patent long ago, but price gouging by the pharmaceutical industry persists.
In **women**, HPV infection usually sets off an **antibody** response that destroys the invader and then maintains **immune cells** that are ready to attack if HPV reappears. Men do **not** usually mount this aggressive **antibody** response.

A study titled *The HPV Infection in Men* collected genital, anal, and oral samples from over 4,000 (unvaccinated) **men** between 2005 and 2009. These samples were analyzed for two high-risk HPV sub-types and two that cause genital warts.

For this analysis, a sub-cohort of **384** men were studied. They had any of these HPV-subtypes and had not produced antibodies at the time of detection.28

Within 36 months following HPV detection in this sub-cohort, only **35** produced anti-HPV **antibodies**.28

This meager response rate varied depending on the site of infection. Most disconcerting was that **none** of the orally HPV-infected men produced **antibodies**.

To reiterate, men in this study who were **orally** infected with HPV produced no anti-HPV antibodies.

This lack of antibody response reduced the ability of men to clear HPV and increased the risk of getting infected with the same HPV type again.

One of the researchers overseeing this study at the [Moffitt Cancer Center](https://www.moffitt.org) (Tampa, Florida) said recurring infections in some people may be due to reactivation of dormant virus or from the spreading of HPV infection from one part of the body to another, or from something yet to be discovered.7

The science behind this HPV/cancer epidemic is still evolving. Men up to **26 years** of age may benefit from a four-virus-based **vaccine** that reduces infection with HPV-6, HPV-11, HPV-16, and HPV-18.29

**DHEA** is a hormone that initially demonstrated immune-enhancing benefits, including improved **antibody** responses to vaccines.30

Subsequent studies yielded inconsistent results as it related to improving **antibody** response to **vaccines** administered to elderly persons (who all likely suffered **immune senescence**).31,32

As it relates to HPV infection, **DHEA** has been shown to inhibit **cervical cell** proliferation in a dose-dependent manner. One study found that **DHEA** induced cell death via apoptosis in HPV-infected cells. The authors of this 2009 study boldly concluded that "**DHEA could therefore be used as an alternative in the treatment of cervical cancer.**"33

An intriguing pilot trial published in 2003 studied the effects of **intra-vaginal DHEA** in women with low-grade cervical dysplasia, a precursor to cervical cancer.34

In this study, 12 women with low-grade dysplasia were given 150 mg of **intra-vaginal micronized DHEA** daily. After 6 months, 10 of the 12 women (83%) had no evidence of dysplasia. The remaining 2 had normal exams showing atypical cells of undetermined significance. These results suggest that intra-vaginal DHEA may promote regression of low-grade cervical lesions.34

While these studies focused on cervical cancers, they provide intriguing clues for the many of our **male** readers who supplement with **DHEA** to help maintain **immune** competence.

With age, DHEA levels plummet. Men who take **25 mg** of DHEA a day usually restore levels of this hormone back up to youthful ranges.

Women sometimes need only **15 mg** of DHEA daily to maintain youthful DHEA levels.

As discussed in the box on the next page, many of the **nutrients** and **supplements** taken regularly by readers of this magazine appear to confer some protective effect against HPV-induced malignancies.
Other Pesky Viruses

HPV is not the only cancer-causing virus.

Epstein-Barr virus (EBV) has been implicated in Hodgkin’s lymphoma, as well as stomach and nasopharyngeal cancers.35-38 EBV is often a persistent viral infection.

Shingles is caused by a herpes virus that reactivates as we undergo immune senescence.39 Although the herpes virus that causes shingles lies dormant in our nerves before reactivation, shingles causes very painful skin lesions.

Another herpes-family infection most adults harbor is cytomegalovirus. This virus accelerates immune senescence by depleting our pool of naïve T-cells.40-43 Active cytomegalovirus infections decrease human lifespan by several years.44,45

As it relates to sexually transmitted viruses, HIV is what terrifies people most. Yet HIV is still relatively rare in most population groups.

Hepatitis B and C viruses cause liver cancer.46 (Hepatitis C is curable with drugs like Sovaldi®.)47 We at Life Extension are poring over newly published literature to identify better methods of boosting immunity and/or purging the body of chronic viral infections that worsen as immune function deteriorates with age.

An Overlooked Epidemic

According to Centers for Disease Control and Prevention (2013–2014), more than 45% of men are infected with genital HPV.51

Genital HPV is more common than the oral type. About 40% of women carry genital HPV.51

Genital HPV can cause cancer of the anus, penis, and vagina. Vaginal HPV causes about 70% of all cases of cervical cancer.52

Multi-Vitamins Protect Against Cervical Cancer

Risk factors for cervical cancers include cigarette smoking and unhealthy diets.

A higher HPV load has been associated with 3.3-fold greater odds for cervical intraepithelial neoplasia, a diagnosable precursor to cervical cancer.48

In a meta-analysis by type of vitamin or antioxidant, a significant preventive effect on cervical neoplasm was found as follows:49

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Less Chance of Cervical Neoplasm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin B12</td>
<td>65%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>33%</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>44%</td>
</tr>
<tr>
<td>Beta-Carotene</td>
<td>32%</td>
</tr>
</tbody>
</table>

Another study showed that cervical intraepithelial neoplasia patients who took multivitamins had a lower HPV-viral load and decreased frequency of cervical intraepithelial neoplasia stage I (65% less chance) and cervical intraepithelial neoplasia stage II or III (89% less chance).48

More specifically, the following results were found for cervical intraepithelial neoplasia stage II or III in relation to common dietary supplements:

<table>
<thead>
<tr>
<th>Nutrient(s)</th>
<th>Less Chance of Cervical Intraepithelial Neoplasia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multivitamins</td>
<td>79%</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>81%</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>80%</td>
</tr>
<tr>
<td>Calcium</td>
<td>79%</td>
</tr>
</tbody>
</table>

These studies provide good data for cervical cancer risk reduction, but what about head and neck cancers? A 2012 study evaluated a number of factors and stated:50

“Increased fruit and vegetable consumption has been repeatedly shown to be associated with a reduced risk of HNC [head and neck cancer]... There are a large number of compounds in plant foods that may influence the risk of cancer, including both micronutrients for normal metabolism and other bioactive compounds with unknown metabolic significance. Therefore, whether dietary supplements containing micronutrients found in plant foods would be effective chemopreventive agents is of considerable public health interest.”

Studies like this provide intriguing insights into potential ways of reducing head and neck cancer risk, but proactive steps should be taken to boost immune function, especially in those who have physical contact with multiple sex partners.
As We See It

**Oral HPV infection is causing head and neck malignancy rates to surge, especially in men.**

Many of you reading this may have little risk of HPV infection(s), while others have been exposed to numerous strains of cytomegalovirus, Epstein-Barr, and other viruses.

Aggressive **immune system** vigilance is imperative in higher risk individuals.

An article on page 66 of this month’s issue suggests non-prescription approaches to boosting immune function.

For longer life,

William Faloon, Co-Founder
Life Extension Buyers Club

---

### References


Lactoferrin is a versatile protein found in mother’s milk that plays an important role in immune system response.¹

Lactoferrin’s benefits include:²-³

- Enhancing natural killer (NK) cell activity
- Stimulating macrophages to aid in healthy cell mediated immunity
- Promotes healthy tissue protection

References

For full product description and to order Lactoferrin Caps, 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.
HEALTHY FLORA

One of the most exciting fields of scientific research is focused on the trillions of bacteria that live in our bodies.

Researchers have discovered that these flora play an enormous role in immunity as well as overall health.

Life Extension’s FLORASSIST® products can help maintain that important digestive environment and support healthy function of the heart, throat, mood, digestive tract, oral hygiene, immune system, and nasal passages.

FLORASSIST® GI with Phage Technology
- Provides broad spectrum of healthy bacteria for the digestive tract plus phages that target undesirable intestinal bacterial strains.

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$33</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$22.50 each</td>
</tr>
</tbody>
</table>

Item #02125 - 30 liquid vegetarian capsules

FLORASSIST® Heart Health
- Supports heart health.

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$32</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$21 each</td>
</tr>
</tbody>
</table>

Item #01821 - 60 vegetarian capsules

FLORASSIST® Prebiotic Chewable
- Promotes friendly bacteria.

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$20</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$13 each</td>
</tr>
</tbody>
</table>

Item #02203 - 60 chewable tablets

FLORASSIST® Throat Health
- Probiotic defense for your throat.

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$20</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$13.50 each</td>
</tr>
</tbody>
</table>

Item #01920 - 30 lozenges

For full descriptions and to order any of these FLORASSIST® products, 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.
HEALTHY YOU!

FLORASSIST® Oral Hygiene
- Supports healthy bacteria in gums.

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$20</td>
<td>$15</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$13 each</td>
<td></td>
</tr>
</tbody>
</table>

Item #02120 • 30 lozenges

FLORASSIST® Mood
- Positively influences the nervous system for healthy mood.

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$33</td>
<td>$24.75</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$22.50 each</td>
<td></td>
</tr>
</tbody>
</table>

Item #02000 • 60 capsules

FLORASSIST® Nasal
- Balances immune response to seasonal changes.

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$36</td>
<td>$27</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$24 each</td>
<td></td>
</tr>
</tbody>
</table>

Item #02208 • 30 vegetarian capsules

FLORASSIST® Immune Health
- Protects respiratory system from year-round immune challenges.

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$26</td>
<td>$19.50</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$18 each</td>
<td></td>
</tr>
</tbody>
</table>

Item #02124 • 30 vegetarian capsules

BLIS K12® is the registered trademark of BLIS Technologies Limited. BLIS™ and BLIS M18™ are trademarks of Blis Technologies Limited and the subject of USA patent no. 7226590. PretticX™ is a trademark of AIDP, Inc. Immuno-LP20® is a registered trademark of House Foods Group Inc. EpiCor® is a registered trademark of Embria Health Sciences, L.L.C. L-92® is a registered trademark of Asahi Calpis Wellness Co., Ltd, Tokyo, Japan.

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.
MAGNESIUM
WHEN YOU NEED IT

Unique delivery system provides immediate and extended release magnesium for full-body coverage of this essential mineral.

For full product description and to order Extend-Release Magnesium, 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 Supplements Associated with Lower Risk of Pancreatic Cancer

A meta-analysis found an association between higher vitamin intake and a lower risk of cancer of the pancreas.*

Ying Liu and colleagues selected 25 studies that included 1,214,995 subjects for their analysis. Studies included case-control investigations, randomized controlled trials, cohort studies, prospective studies and retrospective studies that provided data on the intake of vitamin A, B, C, D, or E. Pancreatic cancer cases totaled 8,740.

Subjects with the highest vitamin intake in the prospective studies had a 10% lower adjusted risk of developing pancreatic cancer compared to those among the lowest intake group. In retrospective studies, the risk was 21% lower for those whose vitamin intake was highest.

In a dose-response meta-analysis, intake of 10 mcg or more of vitamin B12 lowered the incidence of pancreatic cancer by 27%. For vitamin D, the risk was lowered by 25%.

Editor's Note: In their discussion, the authors list a number of mechanisms to explain the effects of vitamins on pancreatic cancer cells. As examples, vitamin E has been shown to induce cell-cycle arrest and apoptosis (programmed cell death) in human pancreatic cancer cells, and vitamin B1 has been shown to increase caspase-3 activity (involved in apoptosis) and decrease pancreatic cell proliferation.

Selenium Linked to Lower Mortality Risk

Research published in March 2018 revealed a lower risk of mortality over a ten-year period among older men and women who had higher serum levels of the mineral selenium.*

The investigation included 347 participants in “Aging and Longevity in the Sirente” (iSIRENTE), a prospective cohort study that involved men and women aged 80 years and older who resided in a mountain community in Italy. Blood samples collected at enrollment were analyzed for factors that included serum selenium, which was categorized as low or high.

Subjects were followed for 10 years, during which 248 deaths occurred.

Having a high level of selenium was associated with a 29% lower adjusted risk of death from all causes over the ten-year follow-up period compared with lower levels.

Editor’s Note: Greater selenium levels were associated with lower levels of interleukin-6 and C-reactive protein, which are markers of inflammation.

Coffee May Help Prevent Arrhythmia

Contrary to common belief, coffee does not increase abnormal heart rhythms (arrhythmia) but helps prevent them, according to a review in the April 2018 issue of Journal of the American College of Cardiology: Clinical Electrophysiology.¹

One cup of coffee contains an average 95 mg of caffeine. Caffeine blocks the effects of adenosine, a compound that can facilitate the type of arrhythmia known as atrial fibrillation.

Population-based studies have documented an association between a reduction in atrial fibrillation and greater caffeine ingestion. A meta-analysis that included 228,465 subjects found a relationship between drinking coffee and lower atrial fibrillation occurrence. While regular coffee drinkers had a 6% average reduction in atrial fibrillation, pooled, adjusted results from studies found a decrease of 11% for low doses and 16% for high doses of caffeine.

Editor’s Note: Researchers Peter Kistler and colleagues determined that caffeine also has no effect on ventricular arrhythmias. Doses of up to 500 mg per day have not been associated with ventricular arrhythmia rate or severity. Only at 9-10 cups per day has coffee been associated with an increase in risk.

More Evidence for Mediterranean Diet Benefits

A recent series of journal articles reveals new associations between a Mediterranean diet and healthy aging outcomes.*

In a review by Luigi Fontana and colleagues, a number of potential health-modifying effects induced by the Mediterranean diet were considered, including: lipid reduction, protection against inflammation and oxidative stress, and modification of cancer-promoting growth factors.

Other articles documented the benefit of the diet on physical function, the effects of adding a CoQ10 supplement to the diet, the interaction between genetic variants and the diet on inflammation and aging, and the favorable role of adherence to the Mediterranean diet at midlife on health maintenance during aging.

Editor’s Note: The Mediterranean diet is characterized by a high intake of whole grains, legumes, fresh vegetables, fruit, extra-virgin olive oil, nuts and seeds, moderate consumption of fish, and the inclusion of small amounts of dairy products and wine.

WITH EVERY BEAT...

Energize Your Heart
Energize Your Cells
Energize Your Life

For full product description and to order Super Ubiquinol CoQ10 with PQQ, call 1-800-544-4440 or visit www.LifeExtension.com

Retail Price Your Price
1 bottle $50 $37.50
4 bottles $30 each

Item #01733 • 30 softgels

PrimaVie® is a registered trademark of Natren, Inc. Q+,®, Kaneka Ubiquinol™, and the quality seal™ are registered or pending trademarks of Kaneka Corp.

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.
Clinical trials demonstrate that the plant extracts in *ArthroMax® Elite* support healthy inflammatory response, help maintain healthy connective cartilage tissue, and promote comfortable joint function.

Each tablet provides optimal potencies of *Chinese skullcap*, *cutch tree* and *white mulberry*. Suggested dose is one tablet daily, with or without food.

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

Keep out of reach of children. Do not exceed recommended dose.

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.
Low-Cost Biologically Active B-COMPLEX

Enzymatically Active Vitamins

BioActive Complete B-Complex provides enzymatically active forms of meaningful potencies of each B vitamin.

This includes the pyridoxal 5'-phosphate form of vitamin B6 shown to protect lipids and proteins against glycation and the most biologically active form of folate called 5-methyltetra-hydrofolate (5-MTHF), which is up to 7 times more bioavailable than folic acid.*

For full product description and to order BioActive Complete B-Complex, call 1-800-544-4440 or visit www.LifeExtension.com

Obesity contributes to practically every disease associated with aging.

Just losing weight is not always enough to overcome the damage caused by inflammatory fat cells.

Berry extracts contain bioactive compounds called anthocyanins that help combat the harmful effects caused by excess weight.

Anthocyanins are a type of flavonoid that give berries their bright red, blue, and purple colors.

What has excited researchers is that a mixture of berries has been shown to reduce the size of fat cells.

Berry extracts do this by giving stubborn white fat cells some properties of brown fat, which promotes fat burning and improves insulin sensitivity.¹,²

As a result, mixed berries can play a role in limiting the systemic damage caused by obesity and foster metabolic improvements.

For those who want to avoid the sugars contained in fresh berries or are unable to consume up to a pound a day of expensive fresh berries, standardized extracts from berries are a great alternative.
Until recently, scientists believed brown fat was only found in infants and hibernating animals. We now know that this beneficial (brown) fat is found in human adults as well, where it has numerous health benefits. Even more exciting, scientists have discovered that it is possible to give harmful white fat properties of beneficial brown fat—and berries contain compounds that enable the body to do just that.

### Berries Promote “Good” Fat

Berries have been shown to promote brown fat-like properties in white fat. This produces numerous metabolic benefits throughout the body, including reducing the size of fat cells, suppressing inflammation, and improving insulin sensitivity (in obesity and insulin resistance, fat cells notoriously lose their capacity to respond to insulin).

Remarkably, they also increase activation of AMPK, the universal energy regulator that promotes youthful cellular metabolism (fat-burning and limited fat storage, rapid intracellular cleanup, reduced sugar production).

### Good Fat vs. Bad Fat

Not all body fat is the same. **White fat** makes up the majority of the fat in the body. When people gain weight, it is generally the result of an accumulation of excess **white fat**. In obesity, white fat releases harmful inflammation-promoting chemicals that promote metabolic dysfunction. In this way, **white fat** drives the destructive cycle of obesity and inflammation.

**Brown fat**, on the other hand, is beneficial because it burns calories for energy, rather than storing them. It also produces negligible inflammation.
Blueberry supplementation has been shown to improve the composition of the gut microbiome and reduce inflammation in obese animals fed a high-fat diet. In addition, blueberry supplemented animals showed favorable improvements in markers of insulin sensitivity.

Another way berry supplements prevent inflammation is by reducing metabolic endotoxemia, a condition in which toxic bits of bacterial membranes make their way into the circulation via leaky gut, and then provoke body-wide inflammation.

Human Studies

Human studies bear out these preliminary findings, showing that berry supplementation produces important metabolic improvements that can lower the risk of disease.

In one study, adults with abdominal obesity and high blood lipids supplemented with freeze-dried strawberries. After 12 weeks, they experienced decreases in total and LDL cholesterol with improved LDL cholesterol particle size, compared with control subjects.

Particle size is important because the larger the particle size, the lower the cardiovascular risk.

In another study, obese adults who took a strawberry-cranberry polyphenol extract for six weeks experienced improved insulin sensitivity compared with control subjects. When insulin sensitivity is improved, sugar can be removed from the bloodstream more efficiently, and insulin levels remain lower.

Keeping insulin levels to a minimum is essential in preventing multiple problems associated with inflammation and obesity, including metabolic syndrome, type II diabetes, and even cancer.

Preventing Obesity-Induced Diabetes

Obesity is a major risk factor for type II diabetes, which in turn is a massive risk factor for the heart, brain, and liver disorders that accelerate aging and shorten lifespans.

Chronically high blood sugar levels cause proteins to undergo chemical changes that promote inflammation, resulting in stiffening blood vessels, damaged brain cells, and fattened livers.

What You Need to Know

Berry Extracts Reduce Obesity Risks

- Obesity drives body-wide inflammation that accelerates aging and raises the risk for practically every chronic, age-related condition.
- Berries are rich in polyphenols called anthocyanins that can safely and effectively reduce the inflammation caused by obesity.
- Berries and berry extracts have been shown to reduce insulin resistance, lower cholesterol levels, and slash liver fat accumulation—benefits that, taken as a whole, would be of crucial importance for anyone with type II diabetes or prediabetes.
- Mixed berry extracts are a practical and affordable way to access the high polyphenol content that can protect our bodies from excessive harmful fat and chronic inflammation, and can lower our risk of age-related degenerative diseases.
Berries and their extracts may have a beneficial impact on the interaction of the obesity-inflammation-type II diabetes connection, with important benefits for aging adults carrying extra pounds.

In a study of animals fed a high-fat diet, adding freeze-dried strawberry and blueberry extracts to the animals’ diets reduced weight gain and the animals’ body fat percentage, while also lowering insulin levels.

Lower insulin levels reflect an improvement in insulin sensitivity. This improvement in insulin metabolism likely accounts for the beneficial effects on weight and body fat.18

**Insulin resistance** is the driving factor that leads to type II diabetes.

In another study, freeze-dried red raspberries produced similar results, significantly lowering blood sugar and decreasing insulin resistance in a mouse model of diet-induced obesity and inflammation.19

**Diabetes-Related Heart Problems**

Type II diabetics have a much higher risk of developing cardiovascular disease.

Chronic exposure to elevated levels of both sugar and fats contributes to endothelial dysfunction.20,21

When applied to human arterial cells in culture, blueberry metabolites prevented endothelial damage and the inflammation that occurs as a result.

Blueberry metabolites also restored normal structure of the vessel walls that assures vascular integrity and flexibility.20,21

They also prevented inflammatory cells from binding to diabetics’ vessel walls.21 This is an important finding that suggests that blueberry metabolites reduce the tendency to form artery-clogging plaques.

**Diabetes-Related Memory Problems**

People with type II diabetes and those with metabolic syndrome develop cognitive dysfunction, which may lead to neurodegenerative diseases like Alzheimer’s disease.22-24

Working memory, which is important for reasoning and decision-making, is an early victim of diet-induced obesity and diabetic changes.

Supplementing with a berry beverage based on a mixture of berries has been shown to improve working memory. Supplemented subjects also had lower blood sugar and insulin levels compared to controls.25

Unfortunately, the study required that subjects consume nearly a pound of fruit per day to achieve the high polyphenol intake necessary to obtain these benefits.25

**Berries Block Fatty Liver**

A serious potential complication of obesity, diabetes, and metabolic syndrome is non-alcoholic fatty liver disease (NAFLD), a condition characterized by fat accumulation in the liver.

NAFLD is a massive source of inflammation and liver cell damage. Left unchecked, it can lead to non-alcoholic steatohepatitis (NASH), a highly inflamed state that can progress to cirrhosis, liver failure, and even liver cancer.26

---

**Best Sources for Anthocyanins**

Anthocyanins have tremendous potential to reduce misery and disease. The primary dietary sources of anthocyanins are dark fruits, especially berries.28-32

Even if Americans increase their consumption of cherries, strawberries, blackberries, blueberries, and others, few will be able to do it consistently enough to substantially affect healthy aging. Overconsumption of any fruit, even including berries, can overload the body with fructose (fruit sugar).

Fortunately, anthocyanin extracts can achieve similar benefits to berries themselves. Interestingly, because these highly concentrated anthocyanin extracts are inherently stable; they cost less when taken as supplements compared to buying fresh fruits that spoil rapidly.
One study found that simply adding a type of berry to the diet produced substantial benefits in patients with NAFLD. These results were seen in a study in which two groups of people with NAFLD ate identical diets, but one group included currants (dried berries). The group eating the currants experienced drops in fasting blood sugar and inflammatory cytokine levels, while the control group experienced no such improvements. Those eating the berries also had lower body fat, waist circumference, and fat on the lower part of the body—and saw improved liver appearance on ultrasound.

If these changes could be sustained by continued consumption of currants, or perhaps by the active constituents in currants, this dietary intervention may represent a way to prevent progression to more aggressive liver disease and fibrosis. In another study, people using purified anthocyanins from bilberry and black currants experienced reductions in blood markers of liver cell damage and oxidative stress compared with placebo.

**Summary**

Obesity contributes to chronic disorders that accelerate aging. In obesity and insulin resistance, fat tissue releases cytokines that contribute to a state of chronic inflammation, increasing the risk for all manner of age-related diseases. **Berry extracts** help combat obesity-driven inflammation. They are rich in anthocyanins and other molecules that intervene at multiple points in the obesity-inflammation-disease cascade.

Berries and berry extracts have been shown to produce favorable changes in body weight, fat mass, and liver fattiness. They can help prevent type II diabetes by lowering insulin levels and improving insulin resistance, and may protect against the heart- and brain-damaging effects of obesity and diabetes.

As we age, we are more likely to become overweight or obese, which curtails our chances for long life. Anthocyanin-rich berry extracts can help counteract the negative effects of obesity.

References


Protect Your Brain Against Sugar Overload

Elevated sugar can impact the brain as it does the rest of the body. 

**Benfotiamine** promotes healthy brain function, supporting healthy blood sugar metabolism and protecting it against the effects of sugar on the brain.¹

For full product description and to order **Mega Benfotiamine**, call 1-800-544-4440 or visit [www.LifeExtension.com](http://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.

---

**Retail Price** | **Your Price**
---|---
1 bottle $30 | **$22.50**
4 bottles | **$20.25 each**

Item# 00925 • 120 vegetarian capsules

---

References

NAD⁺ levels plummet with age but increase in response to nicotinamide riboside.

Optimized NAD⁺ Cell Regenerator™ combines 250 mg of nicotinamide riboside with resveratrol and other plant extracts.

For resveratrol to deliver functional results, it requires NAD⁺.

For those already taking resveratrol, we also offer NAD⁺ Regenerator™ that provides 250 mg of nicotinamide riboside.

* For pricing available to readers of this magazine, call 1-800-544-4440 or visit LifeExtension.com/NAD
Mixed berries are rich in polyphenols and bio-active compounds.

Berry Complete delivers over a dozen types of berries without the excess sugar.

Just one easy-to-swallow capsule each day.

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

VitaBerry® and AnthoComplete™ are trademarks of VDF Futureceuticals, Inc., used under license.
POMELLA® Extract is covered under U.S. Patent 7,638,640 and POMELLA® is a registered trademark of Verdure Sciences, Inc.
The Dangers of Inactivity

The impact of inactivity on muscle mass is severe.

In a group of otherwise healthy study subjects, there was a striking 4.4 pound loss of lean body mass after only 10 days of complete bed rest.

The arm of this study supplementing with an amino acid metabolite lost only 0.37 pounds of muscle when confined to bed for 10 days.23

This study reveals how quickly muscle loss occurs and how to prevent it.
Every adult loses muscle mass with age.¹

This is not just a cosmetic issue.

Age-related muscle loss increases the risk for falls, fractures, loss of independence, and ultimately, loss of life.

This decline in muscle mass, which begins as early as the 4th decade, is called sarcopenia.² It leads to increased nursing home placement and hospitalization rates.³ And as muscle mass falls, the risk of disability greatly increases.⁴⁻⁵

Exercise can help prevent age-related muscle loss, but is only one of the components necessary to maintain adequate muscle strength.

Two key nutrients have been shown to rebuild lost muscle in aging individuals:

Beta-hydroxy beta-methylbutyrate (HMB) increases and preserves muscle mass in adults of all ages, especially those older than 65.⁶⁻⁸

Vitamin D3 supports muscle strength and helps to prevent the falls that often trigger an early decline into frailty.⁹⁻¹²

HMB and vitamin D3 help maintain and restore muscle mass even as we age.
Why Sarcopenia is So Dangerous

Starting around age 40, an estimated 8% loss of muscle mass is seen per decade. After age 70, muscle mass decreases by about 15% per decade.1 This drastic decline leaves individuals not only weaker, but also in less control of their bodies—and more prone to falls and other injuries.

The word for this loss of skeletal muscle mass is sarcopenia.

Sarcopenia triggers a vicious cycle, in which decreased muscle strength limits physical activity, which leads to further muscle loss. Eventually, a condition called frailty can set in, leaving a person weak and vulnerable to external stressors that would otherwise be minor (such as a mild injury or illness).

As frailty worsens and function declines, each subsequent stressor speeds the road to lost independence and increases the risk of early death.

As we’ll now see, clinical evidence supports HMB and vitamin D3 supplementation as a way of heading off sarcopenia and frailty.

HMB Preserves Muscle Mass, Prevents Muscle Atrophy

Beta-hydroxy beta-methylbutyrate, or HMB, is a natural, bioactive product of metabolism of the amino acid leucine.13 HMB is essential to maintaining the balance between muscle catabolism (breakdown) and anabolism (buildup or restoration).14-20

HMB levels decline with age, a drop that correlates precisely with diminished lean muscle mass and strength.21 This finding leads to an important question: Can supplementing with HMB protect—or even restore—lean muscle mass in older people?

Multiple human trials have shown the value of HMB for preserving and improving muscle mass.

Overcoming a Major Cause of Sarcopenia

A 2015 meta-analysis included data from seven trials involving a total of 287 older adults. It found that supplementing with HMB preserved muscle mass in older adults and may be useful in preventing muscle atrophy.22

One of those studies involved healthy older adults who voluntarily subjected themselves to 10 days of complete bed rest—a known cause of sarcopenia.23,24

Subjects supplemented with either a placebo powder or a powder providing 1.5 grams of HMB twice daily, starting five days prior to the bed-rest period and continuing until the end of the rehabilitation phase.

The control group experienced a reduction in total lean body mass of about 4.4 pounds. In contrast, HMB-supplemented subjects lost just 0.37 pounds (not a significant difference from baseline).23

In this study, HMB supplementation preserved lean body mass in the face of a powerful stimulus for sarcopenia: sustained bed rest.
Boosting Lean Body Mass During Exercise

Other researchers set out to determine if HMB could help boost lean body mass when used in addition to resistance training.

For the study, a group of 70-year-old individuals participated in a resistance training exercise program five days a week. During that time, they took 1 gram of HMB or placebo three times a day.6

After eight weeks, the supplemented subjects experienced an increase in lean body mass of 1.76 pounds, while the placebo recipients lost 0.44 pounds—despite the fact that they were exercising five days a week! Those who supplemented with HMB also lost more body fat than the placebo subjects.

This study showed that HMB supplementation can augment strength training in older adults in a way similar to that already proven in younger people.6

Overall, these studies consistently show that supplementation with HMB improves lean body mass in older adults while contributing to better body fat distribution.

Vitamin D3 can complement that action by enhancing muscle strength.

What You Need to Know

Protect Against Age-Related Sarcopenia

• The age-related loss of muscle tissue, called sarcopenia, leaves us not only weakened, but vulnerable to falling, increasing the risk for fractures, immobility, and premature death.

• Two supplements have been shown to combat sarcopenia by maintaining or boosting muscle mass and performance.

• HMB, a derivative of the common amino acid leucine, has been found to enhance lean muscle mass, prevent its loss, and promote improved muscle function.

• Vitamin D3 has important effects on aging muscles, including producing significantly greater muscle strength and exercise performance.

• Anyone concerned about maintaining optimal muscle mass, strength, and function into their golden years should consider supplementing with a combination of HMB and vitamin D3.

Vitamin D3 Boosts Strength and Performance

Vitamin D3 supplementation improves muscle strength and performance.20,27 Studies show that it’s possible to increase muscle strength simply by boosting vitamin D levels. A muscle strength/frailty study enrolled 160 postmenopausal women, aged 50-65, who all had a history of falling.24 Falls are a common destabilizing factor that can arise from both inadequate muscle mass and poor coordination and balance.29 Vitamin D3 shows promise for combatting both factors.
Researchers in this study randomly assigned women to receive vitamin D3 (1,000 IU/day) or placebo. After nine months, those who took the vitamin D experienced a 25.3% increase in leg muscle strength. During the same period, women in the placebo group lost 6.8% of their lean mass. The vast difference between the supplemented and unsupplemented women indicates vitamin D’s ability to not only preserve—but also improve—muscle strength.

Finally, a 2014 meta-analysis of data from 30 randomized controlled trials involving more than 5,600 people evaluated the effects of vitamin D3 supplementation on muscle performance. The results showed that vitamin D3 had a significant positive effect on overall muscle strength. This is an important finding, since loss of overall muscle strength can increase the risk of mortality.

The greatest benefits were seen in those who had the lowest vitamin D levels at the beginning of the study (less than 12 ng/mL) and in older vs. younger subjects. This is good news for those already supplementing with higher-dose vitamin D3.

Recent research has found that age-related loss of muscle strength cannot be explained by changes in muscle alone. Deterioration of the nervous system likely also contributes to the symptoms of sarcopenia. The nervous system is critically important for the control of muscular contraction, from the initial planning of movements to the signals that directly activate muscles. Several of these regions involved in control of movement undergo deterioration with age.

For instance, structures in the brain involved in motor planning, initiation, and coordination all demonstrate significant functional decline in the aging process. Likewise, the connections of nerve cells that directly activate muscles undergo changes that negatively affect motor function.

Fortunately, new studies have begun to demonstrate that nutritional factors may ameliorate loss of function both in the nervous system and muscle. These nutrients may contribute both to direct effects on muscles as well as to improvement in nervous system function:

- **Omega-3 fatty acids**, long recognized for their contribution to brain health, improve neuromuscular function as well. Higher levels and supplementation of omega-3s have been associated with improved muscle size and strength.

- **Creatine**, an amino acid derivative important for cellular energy supply, appears to benefit both the nervous system and muscle. Recent studies have shown the potential of creatine to prevent loss of muscle mass and improve strength and endurance.

- Increasingly common in older adults, low levels of **vitamin D** have been associated with decline of nervous system function and motor performance. Those individuals with higher levels demonstrate superior motor function compared to those with deficiency; and increased intake in deficient elderly adults results in improved strength and balance and a decreased risk of falls.

- In addition to direct effects in muscle, **HMB** has been shown in laboratory research to prevent some age-related changes in nerve cell connections and promote the growth of new nerve branches. These studies may provide a clue to the mechanisms by which HMB supports healthy nervous system control of movement, helping to maintain functional connections in the nervous system and between nerves and muscle.
Combatting Some Underlying Factors of Sarcopenia

There are four primary factors that contribute to sarcopenia. Together, either HMB or vitamin D3 mitigate each of these underlying factors. Take a look:

FACTOR #1: Skeletal muscle protein imbalance.
Muscles constantly undergo cycles of breakdown (catabolism) and restoration (anabolism). Muscle mass is simply the sum of catabolic breakdown and anabolic restoration. With aging, the formation of new muscle is greatly reduced, while muscle protein breakdown continues unabated. This imbalance results in decreased muscle mass, or sarcopenia.

→ HMB exerts pro-anabolic (muscle build-up) and anti-catabolic (anti-breakdown) properties.

FACTOR #2: Shifts in hormone signaling.
Declining sex hormone levels during aging reduce muscle mass, contributing to sarcopenia.

→ Vitamin D is a steroid hormone that supports both sex hormone synthesis and muscle contractile strength.

FACTOR #3: Mitochondrial dysfunction.
Falling numbers and activity of energy-producing mitochondria contribute heavily to sarcopenia.

→ Vitamin D3 signaling improves mitochondrial function and dynamics, factors that can increase muscle strength.

FACTOR #4: Inflammatory factors.
As muscles break down, levels of pro-inflammatory markers rise. People with sarcopenia have higher levels of chronic inflammation than those with normal muscle mass.

→ Vitamin D3 has potent immunomodulatory properties and has been linked to improvements in inflammatory markers.

Summary
Sarcopenia is a leading contributor to frailty and early death in older adults.
Two supplements have been shown to combat sarcopenia by maintaining or boosting muscle mass and performance.
HMB promotes muscle growth and function while preventing muscle breakdown. Human studies show that supplementation with HMB contributes to improvements in strength and lean muscle mass.
Supplementation with vitamin D3 has been shown to boost exercise performance and muscle strength.
These two nutrients are available in a combination powder suitable for convenient mixing in any drink of choice and taken once daily.

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


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

For full product description and to order Two-Per-Day, call 1-800-544-4440 or visit LifeExtension.com

Two-Per-Day Tablets
Item #02215 • 120 tablets
Retail Price is $23
Your Price is $17.25
4 bottles are only $15.50 each

Two-Per-Day Capsules
Item #02214 • 120 capsules
Retail Price is $24
Your Price is $18
4 bottles are only $16 each

Why settle for subpar supplements?

Two-Per-Day Offers You More Benefits Than Centrum®

50 TIMES THE VITAMIN B1
25 TIMES THE VITAMIN B6
12 TIMES THE VITAMIN B12
10 TIMES THE BIOTIN
10.5 TIMES THE SELENIUM
8 TIMES THE VITAMIN C
2.5 TIMES THE VITAMIN B3
2 TIMES THE VITAMIN D
2 TIMES THE VITAMIN E
2.2 TIMES THE ZINC

Most of a coffee bean’s polyphenol content is **destroyed** during the typical roasting process.

Among the most beneficial of these polyphenols is **chlorogenic acid**.

**Rainforest Blend** coffee utilizes the patented **Healthy Roast®** process, which retains the naturally occurring polyphenols like **chlorogenic acid**.

**A Patented Organic Roast**

**Life Extension®’s Rainforest Blends** are made using a patented, 100% natural process consisting of 100% **USDA certified organic arabica** coffee beans.

**Savory Taste Without Stomach Upset**

The **HealthyRoast®** process **also** preserves special, naturally occurring compounds in coffee that **soothe** your stomach.

**Tasty Decaf**

**Rainforest Blend** is also available in a **decaffeinated** blend. The caffeine is removed through a chemical-free **water process**. It delivers the full flavor, aroma, and body of the **arabica** bean.

For full product description and to order either of the **Rainforest Blend Coffees** call **1-800-544-4440** or visit **www.LifeExtension.com**

---

**Rainforest Blend**

Item #02169 • 12 oz bag

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bag $13</td>
<td>$9.75</td>
</tr>
</tbody>
</table>

**Rainforest Decaffeinated Blend**

Item #02170 • 12 oz bag

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bag $14</td>
<td>$10.50</td>
</tr>
</tbody>
</table>

* US Patent 6,723,368.
Promote Healthy **Muscle Strength** at any Age

**STAY STRONG & YOUNG**

**Muscle Strength & Restore Formula** provides ingredients that can enhance **muscle strength** while helping **reduce** loss of muscle mass that occurs with normal aging. It contains:

- **HMB** (Beta-hydroxy beta-methylbutyrate): increases and preserves muscle mass in adults of all ages.
- **Vitamin D3 (1,000 IU)**: supports muscle strength and performance.

Mix one scoop with approximately **8 oz.** of cold water or other beverage, preferably a protein shake, and drink once daily or as recommended by a health practitioner.

For full product description and to order **Muscle Strength & Restore Formula**, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

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

Uses of CaHMB and Vitamin D are licensed under U.S. Patent Nos. 8,815,280; 9,259,430; 9,539,224 and 9,707,241.

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.
Atherosclerosis remains the Achilles tendon of aging humans.

A key characteristic is accumulation of plaque inside coronary, carotid, and other arteries.\(^1,2\)

The risk of a cardiovascular event is highest for those with the most advanced arterial plaques. There are often no symptoms until this process triggers a stroke or heart attack.\(^3\)

A standardized extract derived from French maritime pine bark has been shown to halt plaque accumulation.

Supporting this, the plant extract Centella asiatica has been shown to help preserve the hard cap on existing atherosclerotic plaques, making them less likely to rupture and cause a fatal cardiovascular event.

Compelling studies reveal that when these plant extracts are combined, they provide more powerful benefits—for instance, reducing plaque progression by a compelling 95%!\(^4\)

Let’s examine how these natural compounds work.
Normally released in response to stress, this mimicked what happens in human arteries when blood flow is reduced. When the aorta was pretreated with French maritime pine bark, this blood-vessel constriction was prevented due to increased synthesis of nitric oxide, which signaled arterial wall cells to relax. This process produced a wider artery and increased blood flow. Additionally, researchers found that increasing nitric oxide levels decreased platelet aggregation and the tendency to stick to vessel walls—which reduces the risks of blood clots and enlarging plaques.

To validate these powerful and complementary actions, scientists conducted controlled clinical trials on human volunteers.

**French Maritime Pine Bark Documented in Controlled Clinical Studies**

When plaque and inflammation narrow the coronary arteries—which supply the heart with blood, oxygen, and nutrients, the result is coronary artery disease. When plaque and inflammation narrow the coronary arteries—which supply the heart with blood, oxygen, and nutrients, the result is coronary artery disease. To show how French maritime pine bark improves blood flow and endothelial function in patients with this condition, researchers conducted a randomized, placebo-controlled, crossover study on 23 patients with coronary artery disease. Patients received either placebo or 200 mg of French maritime pine bark daily for eight weeks. Then, after a two-week “washout” period, each patient received the opposite treatment for another eight weeks.
By using a measure of how much the brachial artery (the main artery to the forearm) dilated in response to changes in blood flow (flow-mediated dilation), researchers were able to assess endothelial function at the start of the study and after each treatment period.\textsuperscript{12}

While placebo treatment produced no significant changes, the pine bark extract treatment was shown to produce a significant 32% increase in endothelial function and in flow-mediated dilation.

Pine bark extract also reduced levels of compounds known as isoprostanes—an index of how much oxidized fat is present and a measure of overall oxidant stress while placebo treatment produced no change. These findings demonstrated the pronounced ability of this pine bark extract to slow the fundamental, early arterial changes that lead to plaque formation and progression.\textsuperscript{12}

Next, scientists in Italy designed a study to test the effects of this pine bark extract on individuals who had no obvious atherosclerotic changes in their blood vessels and who had not yet developed any clinically relevant coronary artery disease. They limited the experiment to volunteers who had definitive risk factors, including borderline levels of high blood pressure, blood lipids, and blood sugar—like most aging people. And like most people, these study subjects were in an ideal position for early, preventive intervention.\textsuperscript{13}

Of the 93 volunteers, 32 had elevated blood pressure, 31 had high blood lipids, and 30 had elevated blood sugar. All participants continued their medical management of symptoms, but half of the subjects also took 150 mg of French maritime pine bark extract per day. Measurements of flow-mediated dilation were taken at the outset of the study, at eight weeks, and again at 12 weeks.\textsuperscript{13}

The researchers found an increase in flow-mediated dilation of 55% in the supplemented group after eight weeks and an increase of 66% after 12 weeks. Also, measuring blood flow by a different method—laser Doppler flux—the team demonstrated similar increases at 8 and 12 weeks. Control participants, however, showed no significant changes in blood flow.\textsuperscript{13}

Keep in mind that these study participants reflected the same borderline status that applies to most people—no symptoms, but a growing risk for the endothelial dysfunction that leads to plaque formation, progression, and ultimately, a serious cardiovascular event. Stressing this point, the study author wrote that French maritime pine represents, “…an important preventive possibility for borderline hypertensive, hyperglycemic, and hyperlipidemic subjects.”\textsuperscript{13}

Now, let’s look at how this natural plaque-preventing pine bark extract can be complemented by another plant extract that reduces the instability—and thus, the lethal risk of pre-existing plaque.
Centella asiatica Demonstrated to Stabilize Existing Plaques

Early on in the process, arterial plaques are soft on the inside but covered with a hard, thick, fibrous cap on the plaque surface that faces the blood flow. As long as these plaques remain thick, they are stable, meaning they're firm enough not to pose a major risk of rupturing.14,15

Over time, this cap begins thinning and weakening, making plaque rupture more likely. The result is a deadlier, more unstable, softer plaque that may lead to ischemic stroke or heart attack.

So as critical as it is to prevent plaque buildup, scientists have also long sought a way to stabilize soft plaques.

Centella asiatica, also known as gotu kola, is an Asian aquatic plant containing compounds (triterpenoids) that stabilize soft plaque by improving the synthesis of collagen.16-19 Collagen is a component of the thick caps that hold soft plaque in place.17,20

Furthermore, this plant extract helps inhibit progression of plaque by reducing the adhesion of immune system cells (monocytes) that promote atherosclerosis.21

Participants with soft plaque were given 60 mg of Centella asiatica extract three times daily. After 12 months, their carotid-artery plaque was denser (harder, safer) by an average of 30%.20

Then, in phase two, researchers used the same dose, but in a randomized, placebo-controlled trial. The results showed that carotid-artery plaque stability significantly improved. MRI scans demonstrated reduced blood flow to the brain in 17% of controls, but only in 7% of the Centella asiatica group. And supplemented subjects experienced 41% fewer cardiovascular events.20

In a similar, placebo-controlled study of volunteers with soft (high-risk) plaque in their femoral artery (the major artery in the thigh), scientists found that 60 mg of Centella asiatica extract three times daily produced a 63% harder plaque—indicating reduced rupture risk—in just 12 months. Critically, plaque size increased 23% in controls while Centella-supplemented patients showed zero plaque-size increase.17

Scientists then decided to combine plaque-stabilizing Centella asiatica with plaque progression-inhibiting French maritime pine bark. Let's now examine some studies conducted with this dual-compound formula.

Clinical Effects of Dual-Compound Supplement

To demonstrate the atherosclerosis-inhibiting effects of combining French maritime pine with Centella asiatica, scientists enlisted individuals aged 45 to 60 who had no cardiovascular risk factors or symptoms—but who did have plaques that did not narrow their arteries more than 50% (class IV).4
Several groups were assigned different supplements along with lifestyle, diet, education, and exercise recommendations. After 30 months, using ultrasound, researchers found that the percentage of plaques that had worsened from class IV to V (blocking over 50% of an artery) was:

- **21.3%** in controls receiving only diet/lifestyle recommendations (worst-performing group),
- **16.6%** with 100 mg aspirin (or ticlopidine, an antiplatelet drug, for aspirin-intolerant subjects),
- **8.4%** with 50 mg standardized French maritime pine bark alone,
- **5.3%** with 100 mg standardized French maritime pine bark alone,
- **4.0%** with 100 mg standardized French maritime pine bark plus 100 mg aspirin (or ticlopidine), and
- **1.1%** with 100 mg standardized French maritime pine bark plus 100 mg extract of *Centella asiatica* (best-performing group).

So in volunteers taking both compounds, plaque progression was an impressive **95%** lower than in controls!4

Then, scientists assigned the same dosages to subjects with advanced atherosclerosis—meaning at least one class V arterial lesion. Class V involves an instance of over 50% blockage without symptoms, while class VI also involves symptoms such as numbness, tingling, pain, or other, more serious symptoms. After 42 months, the percentage with plaques that had progressed from class V to VI was:22

- **48%** in controls (worst-performing group),
- **21%** with taking aspirin or ticlopidine,
- **11%** with 100 mg standardized French maritime pine bark plus aspirin,
- **10%** with 100 mg standardized French maritime pine bark alone, and
- **6.5%** with 100 mg standardized French maritime pine bark plus 100 mg extract of *Centella asiatica* (best-performing group).

The combination of standardized extracts of French maritime pine bark and *Centella asiatica* provided a **7.4-fold reduction** in the risk of developing cardiovascular-disease symptoms compared to controls—and a nearly **four-fold reduced** risk of being hospitalized for a full-blown cardiovascular event.22
Next, scientists conducted a study that demonstrated the effects of this dual-nutrient formula in stabilizing soft arterial plaques—and in blocking the progression of plaque accumulation in aging arteries.23

They evaluated carotid plaque stability, before and after three months’ supplementation, in 50 symptom-free volunteers with arterial plaque stenosis of less than 50% (class IV), high oxidative stress, and a mean age of 61.5 years. Daily for three months, half were given 150 mg of standardized extract of French maritime pine bark along with 225 mg of an extract of Centella asiatica. All patients also received standard management care.23

Compared to controls, supplemented patients significantly improved on the plaque stability index. The “white component” of their plaque substantially increased, based on ultrasound imaging, indicating improved plaque density and significant risk reduction. Also, plaques were decreased in length, height, and number. Free radicals in the supplemented group’s plasma were significantly reduced. There were no adverse effects. By contrast, standard plaque management produced no significant improvements.23

**Further Clinical Validation**

Two recent studies further document the capacity of this dual-compound formula to both inhibit plaque progression and stabilize plaques.24,25

Scientists enlisted patients, aged 45 to 60, with at least one instance of atherosclerotic plaque of 50%-60% occlusion and divided them into three groups. All groups were managed with education, exercise, diet and lifestyle changes. One group also received 100 mg of standardized French maritime pine bark daily, while another group received 100 mg of the pine bark extract plus 100 mg daily of Centella asiatica.23

After four years, there was a significant reduction in plaque progression rates for both treatment groups, but the combined formula provided the “best effects” in terms of plaque thickness and length.

Angina and oxidative stress were less for both treatment groups (pine bark alone or pine bark + Centella). But heart attacks (myocardial infarctions) were fewer in the dual-extract group. The study author wrote that both the pine bark extract alone and the combined formula “reduce the progression of arterial plaques and the progression to clinical stages.”24

Then, a study team used a measure called echogenicity to assess (carotid-femoral) plaques in 79 asymptomatic patients with atherosclerosis risk factors—either mildly high blood pressure or elevated cholesterol—all of whom were given standard control management. Only 36 of these patients received daily supplements of both French maritime pine and Centella asiatica.25

After six months, compared to controls, the supplemented participants were found to have greater plaque-stability scores, better plaque “white component” (more density), fewer plaques, decreased maximum plaque height, and decreased plasma free radicals—with no adverse events.25

Clearly, French maritime pine bark and Centella asiatica extracts—both individually and especially combined—reduce plaque progression and promote plaque stability.
The accumulation of plaque inside the coronary and other arteries often occurs without symptoms up until a stroke or heart attack strikes.

Researchers have identified two natural compounds that safely target this lethal progression.

Together, they have been shown to slow and even reverse plaque accumulation, while boosting the stability of deadly soft plaque to help prevent a plaque rupture.

A combination of French maritime pine bark and Centella asiatica provides the backup that most adults need to support more comprehensive cardiovascular protection.

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

References
23. Luzzi R, Belcaro G, Ippolito E. Carotid plaque stabilization induced by the supplement association Pycnogenol(R) and Centella asiatica (Centellicum(R)). Minerva Cardioangiol. 2016 Dec;64(6):603-9.
Maintain Youthful Homocysteine Levels
for Brain, Heart, and Hearing Health

Homocysteine Resist supports healthy levels of homocysteine, an unfavorable amino acid that can increase with normal aging.

Just one daily capsule of Homocysteine Resist provides:

- 5-MTHF (activated folate) 5,000 mcg
- Methylcobalamin (activated vitamin B12) 1,000 mcg
- Pyridoxal 5'-phosphate (activated vitamin B6) 100 mg
- Riboflavin (vitamin B2) 25 mg

Homocysteine Resist Item #02121 • 60 vegetarian capsules

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$26</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$78</td>
</tr>
</tbody>
</table>

For full product description and to order Homocysteine Resist, 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.
Maintain Endothelial Plaque Stability with

ARTERIAL PROTECT

Arterial Protect can help stabilize endothelial plaque and promote healthy blood flow throughout the body.*

Just one capsule a day provides the patented pine bark extract used in clinical studies along with Centella asiatica.

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$44</td>
<td>$33</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$44</td>
<td>$29 each</td>
</tr>
</tbody>
</table>

Item# 02004 • 30 vegetarian capsules

Reference

Note: Do not change dosing or discontinue cardiovascular medications unless advised to do so by your physician.

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

For full product description and to order Arterial Protect, 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.
SUPPORT ARTERIAL HEALTH

WITH 3 FORMS OF VITAMIN K

Super K with Advanced K2 Complex
Item #02034 • 90 softgels

Just one daily softgel of Super K provides:

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin K1</td>
<td>1,500 mcg</td>
</tr>
<tr>
<td>Vitamin K2 (MK-4)</td>
<td>1,000 mcg</td>
</tr>
<tr>
<td>Vitamin K2 (all-trans MK-7)</td>
<td>100 mcg</td>
</tr>
</tbody>
</table>

Retail Price | Your Price
-------------|-------------
1 bottle $30  | $22.50      
4 bottles $120 | $20.25 each

Each bottle lasts for three months.

Optimize your vitamin K and help keep calcium in your bones and out of blood vessels.

Vitamin K1, vitamin K2 (MK-4), and vitamin K2 (MK-7) can also be found in Once-Daily Health Booster. If you take Health Booster, you do not need additional Super K with Advanced K2 formula.

Caution: If you are taking anticoagulant or antiplatelet medications, or have a bleeding disorder, consult with your healthcare provider before taking this product.

For full product description and to order Super K with Advanced K2 Complex, 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.
Green Tea and Broccoli Reduce Breast Cancer Risk

Certain types of breast cancer cells are notoriously difficult to treat.

These cancers can undergo changes that make them impervious to some of the most effective treatments available.

Green tea and broccoli contain compounds that can restore treatment sensitivity to treatment-resistant breast cancer cells.

They accomplish this by reprogramming the genes of the malignant cells.

In a recent study, difficult-to-treat tumors from mice supplemented with both green tea and broccoli weighed only about a third as much as the same type of tumors from control mice.¹ This indicated that the combination of green tea and broccoli could reduce tumor size in hard-to-treat cancers.

The ability to produce such changes makes these compounds promising against difficult-to-treat breast cancers—and may offer hope to the thousands of women impacted every year.
Why Some Cancers are Difficult to Treat

Breast cancer is the most common malignancy in women, with a quarter of a million diagnosed every year. And it is the second leading cause of cancer death in women, killing more than 40,000.2

There are numerous types of breast cancer, some of which are more difficult to treat than others.

**Estrogen receptor (ER) positive** cancers are easier to treat because they have estrogen receptors on their surface. **Tamoxifen** can bind to the estrogen receptor and prevent estrogen from stimulating the growth of cancer cells.3-5

The problem is that some originally ER positive cells lose these receptors during cancer development, turning them into **estrogen receptor (ER) negative** cells.

Without estrogen receptors, hormone treatments like tamoxifen are not effective. This deprives its victims from an effective form of treatment—and condemns them to much higher risks of death.

New science has discovered that **green tea** and **broccoli** contain compounds that can **restore** the estrogen receptors in ER negative cells.

These findings may make these difficult-to-treat-cancers easier to destroy by anti-estrogen therapies.

Extracts Change Cancer Cell Genetics for the Better

Green tea and broccoli have a long list of anti-cancer actions.

Studies show that green tea contains **polyphenols** (particularly one called **epigallocatechin-3-gallate**, or **EGCG**) that have favorable effects against tumor cells of all kinds. This includes halting the cell reproductive cycle, triggering programmed cancer cell death, and preventing tumors from spreading (metastasis).1,6,7

Broccoli contains **sulforaphane**, a compound that shares some of EGCG’s anti-cancer properties, but in addition can prevent the liver from converting potential carcinogens into active ones.1,8-10

These compounds also have properties capable of **reversing** several cancer-related gene alterations. Both **EGCG** and **sulforaphane** have the ability to turn “on” genes that suppress tumors, while turning “off” genes that promote tumors (though they accomplish them by entirely different mechanisms).1,11-15

This ability to “turn genes on and off” — that is, to control their expression — is called **epigenetics**. This is an exciting area in medical science, as it is now understood that genes don’t need to be replaced, or have their structure altered, to determine whether or not they function. They can, in effect, be (epigenetically) reprogrammed.

In an effort to better understand how these two natural compounds can be therapeutically applied to breast cancer, researchers decided to test their specific epigenetic effects on breast cancer cells.1

In part one, researchers found that either compound alone significantly reduced survival of ER-negative breast cancer cells. When both compounds were used together, the result was further cancer cell death—showing that the combination is more potent than either phytonutrient on its own.1

The reason why the compounds were able to effectively sensitize the cells to the anti-breast cancer hormonal drug tamoxifen was because they reprogrammed the...
The Bigger Picture

This finding is potentially good news for people with breast cancer, particularly ER-negative tumors that currently resist available therapy.

But its greater importance lies in its demonstration that a combination of botanicals can reprogram cells' genes to make them function in a more normal, healthy fashion.

This finding has implications far beyond cancer treatment and prevention.

Imagine combinations that can switch on and off genes that contribute to Alzheimer's and Parkinson's diseases, those that generate over-active inflammation, or those that contribute to aging of our cells, tissues, and organs.
Summary

Researchers have shown that green tea and broccoli can change deadly, treatment-resistant breast cancer cells into treatment-sensitive cells by altering their genetic expression.

This is for good news for cancer patients.

This study opens the door to future therapies using compounds to modify gene expression and restore nature’s own means of preventing disease.

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

References

It’s not easy to get in five servings of vegetables a day—and even if you do, cooking can destroy many of the protective compounds found in broccoli, Brussels sprouts, cauliflower, and celery.

**Triple Action Cruciferous Vegetable Extract** combines vital plant extracts that have been shown to protect cellular DNA.

The formula provides optimal potencies of cruciferous extracts like I3C (Indole-3-carbinol) and DIM (di-indolyl-methane) to favorably modulate estrogen metabolism, along with apigenin.

For full product description and to order **Triple Action Cruciferous Vegetable Extract**, call 1-800-544-4440 or visit www.LifeExtension.com

<table>
<thead>
<tr>
<th>Product</th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triple Action Cruciferous Vegetable Extract</td>
<td>$24</td>
<td>$18</td>
</tr>
<tr>
<td>1 bottle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 bottles</td>
<td>$16.50 each</td>
<td></td>
</tr>
</tbody>
</table>

For full product description and to order **Triple Action Cruciferous Vegetable Extract with Resveratrol**, Item #01469, call 1-800-544-4440 or visit www.LifeExtension.com

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$32</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$22.20 each</td>
</tr>
</tbody>
</table>


These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.
Humans don’t manufacture vitamin C internally, so it must be obtained through dietary sources or supplements.

Vitamin C is water soluble and needs to be constantly replenished.¹

Fortunately, a flavonoid known as dihydroquercetin functions as a vitamin C “supercharger” that helps maintain its concentration throughout the body.²³

References

For full product description and to order VITAMIN C with Dihydroquercetin, 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.
MEGA GREEN TEA EXTRACT
Powerful DNA Protection

Mega Green Tea Extract provides powerful antioxidant effects throughout the body.

Each 725 mg capsule of Mega Green Tea Extract is standardized to 98% polyphenols that provide 326 mg of EGCG to:

- Protect against DNA damage and oxidative stress
- Support healthy blood sugar levels
- Enhance heart health
- Boost brain function
- Support strong bones
- Maintain healthy cholesterol levels already within normal range

Each cost-effective bottle lasts over three months!

Mega Green Tea Extract Decaffeinated
Item #00954 • 100 vegetarian capsules

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$30</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$18 each</td>
</tr>
</tbody>
</table>

Mega Green Tea Extract Lightly Caffeinated
Item #00953 • 100 vegetarian capsules

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$30</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$18 each</td>
</tr>
</tbody>
</table>

Note: EGCG is the acronym for epigallocatechin gallate, which is the polyphenol in green tea that has demonstrated the most robust health benefits.

References

For full product description and to order Mega Green Tea 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.
THINK

**RETAIL PHARMACY**
- Accepts major insurance plans
- Durable Medical Equipment and supplies
- Vitamins and supplements
- Kosher and organic products
- Alkaline water
- Custom orthotics

**COMPOUNDING**
- Bio-identical hormone replacement
- Erectile dysfunction meds
- Topical anesthetics
- Gynecological preparations
- Hemorrhoid treatments
- Custom veterinary meds

20% OFF your next cash RX when you refer a new RX customer!

*(Some restrictions apply)*

**Contact Information**
(877) 877-9700
Phone: (954) 989-6524
Fax: (866) 892-3432
4401 Sheridan St.
Hollywood, FL 33021
www.PostHastePharmacy.com

Shipping available to most states!
THE PROBIOTIC FOR WOMEN

Clinically Documented Probiotic Strains That Promote Healthy Vaginal Microflora and Urinary Tract Health*

Jarro-Dophilus® Women contains the four predominant Lactobacilli strains of the healthy vaginal tract.*

All four strains were isolated from the vaginal tracts of healthy pregnant women and have been clinically tested for efficacy in helping to maintain protective, healthy vaginal microflora and urinary tract health.*

When it comes to choosing effective probiotics, clinically documented strains matter.™

Choose science.
Choose Jarro-Dophilus® probiotics.

Jarro-Dophilus® Women 5 Billion Per Capsule 30 Veggie Caps
Item # 52142 Retail Price $27.95 Your Price $20.96
For full product description or to order Jarro-Dophilus® Women 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.

Visit us at www.jarrow.com for more product information.
The diseases of aging such as cancer, pneumonia, and dementia are linked to a malfunctioning immune system.

This degenerative impairment is known as **immune senescence**. It accelerates aging by causing **chronic inflammation** while failing to protect against pathogens and malignancies.1-5

Not only do we lose the ability to defend against cancers and infections, but our failing immune cells create a state of **hyper-inflammation** that destroys neurons, the endothelium, and joints.6,7

In an effort to reverse this decline, Life Extension® is interacting with scientists seeking to restore youthful immune function. Each advance we uncover urgently needs to transition into routine clinical practice.

Researchers have identified **three** natural compounds that have been shown to **reverse** a broad spectrum of harmful changes that occur in the immune system with advancing age.

These three compounds are extracts of **Reishi mushrooms**, **Cistanche** and **Pu-erh tea**.

Each of these natural compounds produces unique immune system-modulating effects that deter the pathologic components of immune senescence.

Together, these nutrients can help improve immune functions lost to aging.
Rejuvenate the Immune System

If we are to live longer, healthier lives, we need our immune system to function at peak capacity.

Three compounds that have demonstrated an impressive ability to rescue the immune system from senescent decline are:

1) *Cistanche*

2) **Reishi mushrooms**

3) **Pu-erh tea**

Together, these natural extracts help combat immune senescence by several complementary mechanisms that include enhancing activity of **natural killer cells** and **T cells**.

**Reishi Mushroom Extract**

The immune-boosting properties of **Reishi mushrooms** have been appreciated in Eastern medicine for thousands of years. Modern science is just now beginning to validate their health-promoting properties.8,9

Studies show that consuming these mushrooms improves immune function and has anti-tumor effects.9,10 In mice, Reishi has been found to promote the maturation and **activation** of immune system cells such as **T cells**, **natural killer cells**, **dendritic cells**, and **macrophages**.10-13 Lab studies show that Reishi also helps raise protective **IL-10** levels and lower pro-inflammatory **IL-6** levels.17,18

This indicates that Reishi augments the function of both the **innate** and **adaptive immune system**.

The **innate immune system** can be thought of as the body’s first line of defense, responding rapidly to potentially harmful insults such as viruses, bacteria, and cancer cells.

**Natural killer cells** are an important component of this innate immunity.19-24 The diminished numbers of active natural killer cells that can occur with aging predispose an individual to high rates of infection by viruses ranging from the common cold to herpes viruses.23-28

The **adaptive immune system** acts slower than the innate immune system but mounts a more specific, powerful attack against pathogens using specialized immune system cells called **T cells**.

With its ability to boost components of both innate and adaptive immunity, Reishi can protect the aging body from infections. This benefit has been borne out in laboratory studies demonstrating protection from many common viruses, including:

- Herpes simplex viruses—which cause oral and genital herpes viruses29
- Influenza viruses—which cause the flu30
- Epstein-Barr virus—which causes mononucleosis but can also contribute to the formation of cancer31,32
- Hepatitis B virus—a common cause of liver disease that can lead to liver failure33,34
- Human immunodeficiency virus (HIV)—the virus which causes AIDS35,36

In addition to offering protection from infection, Reishi exhibits **anti-cancer** properties as well—largely because of its ability to enhance immune function. In particular, the boost Reishi gives to natural killer cell, T cell, and macrophage function aids in the identification and destruction of abnormal cells that may develop into cancer.9,16

Reishi can also directly combat tumors by impairing the ability of tumor cells to grow, preventing tumor blood vessels from developing, starving the abnormal cells, and even directly killing cancer cells.9,16

In one study, Reishi mushrooms were applied to various human cancer cell lines.16 Not only did the Reishi reduce the growth of the cells, but it induced cell death in many of the diseased cells.
Perhaps most impressively, Reishi has been shown to significantly extend lifespan of mice. Researchers followed two groups of mice, one fed a normal control diet and the other fed a diet enriched with a Reishi extract. When most of the mice had passed away from old age, the Reishi supplemented group had lived as much as 148 days longer than the control group. Given that the lifespan of a mouse is typically less than two years, this represents a dramatic increase in longevity.

These studies provide support for why Reishi has earned the nickname, “mushroom of immortality.”

**Cistanche Extract**

*Cistanche* is a type of desert plant that, like Reishi mushrooms, has long been appreciated for its medicinal uses in Eastern medicine. Recently, several studies have confirmed the ability of *Cistanche* extract to boost immune cells in the body. In one study, researchers utilized a strain of senescence-accelerated mice, which age more rapidly than normal mice and display the same deterioration in immune function seen in human immune senescence. The mice fed a diet supplemented with *Cistanche* extract for only four weeks were found to have a significantly increased number of both T cells and natural killer cells in the blood, while lowering pro-inflammatory IL-6 levels in blood.

This enhancement in immune function translated to an extended lifespan as well. The average age after supplementation with *Cistanche* was 15% longer than controls.

In addition to T cells and natural killer cells, *Cistanche* also helps activate other important immune cells, including macrophages, dendritic cells, and B cells. Encouraging results have been demonstrated in a human study as well. When elderly subjects took 100 mg of *Cistanche* extract daily for 12 weeks, there was a 6.1% increase in helper T cells and an almost 12% increase in natural killer cell activity. This increase represents a significant immune-boosting effect.

Patients also experienced improved markers of vascular function and a decrease in fatigue. No significant adverse effects were observed.

Given that these same improvements in immune function resulted in enhanced longevity in animal studies, it can be assumed that the rejuvenating effect *Cistanche* has on the human immune system may assist in prolonging human lifespan as well.
Pu-erh Tea Extract

Both green tea and black tea have long been cherished for their numerous health benefits. One particular variety of fermented black tea, called Pu-erh, is especially beneficial for the aging immune system.42 Studies show that Pu-erh tea and its extract combat immune senescence by multiple mechanisms.42 Two of the chief ones include increasing natural killer and T cells.

In addition to its ability to bolster the immune system itself, Pu-erh tea appears to provide even more protection from infection with direct antibacterial and antiviral effects as well. Several studies have demonstrated that Pu-erh tea directly kills or inhibits the growth of bacteria and suppresses the growth of viruses such as hepatitis B virus.42 It also displays anti-tumor effects and it has been shown to lower cholesterol levels, fight obesity, and help control diabetes.

In one investigation, scientists studied the effects of Pu-erh tea on the senescence-accelerated strain of mice discussed previously.43 Before supplementation with Pu-erh tea, the mice demonstrated the same features of immune system deterioration seen in aging humans, including lower numbers of active T cells and natural killer cells.

In addition, levels of the powerful pro-inflammatory cytokine IL-6 were markedly elevated in the senescence-accelerated mice, compared with controls. Remarkably, treating these mice with Pu-erh tea reversed their immune senescence.

The treated mice experienced enhanced numbers of T cells and natural killer cells and a significant 43% decrease in IL-6—benefits that more closely resemble a normal healthy immune system.

Based on these immune-boosting results, the researchers concluded that intake of Pu-erh tea may help older individuals prevent infection and cancer.

Powerful Anti-Inflammatory Effects in Humans

A human study of Pu-erh tea extract further emphasizes its role in reversing inflammatory cytokine levels. The study was performed among a group of patients with metabolic syndrome, a common condition defined by central obesity, borderline or high fasting glucose, and elevated triglycerides and cholesterol.44 Those with metabolic syndrome have higher levels of inflammation and are at an increased risk of having immune impairments.45 Subjects were given either Pu-erh tea extract twice daily or a placebo. They were instructed to exercise and observe a healthy diet during the study period, but were permitted no medicines that might otherwise affect the results.

After three months, patients provided blood samples for analysis of inflammatory cytokines and other markers of inflammation.

As expected, placebo recipients showed no significant changes in blood levels of TNF-α or IL-6 (pro-inflammatory cytokine), IL-10 (an anti-inflammatory cytokine), or C-reactive protein (CRP, a marker of total body inflammation).

Subjects supplemented with Pu-erh tea extract showed robust improvements in immune status, including:

- 21% reduction in IL-6,
- 23% reduction in TNF-α,
- 26% reduction in CRP, indicating significant decreases in their overall inflammatory status, and
- 34% increase of inflammation-quelling IL-10, further demonstrating the overall reduction in inflammation.
Clearly, Pu-erh tea extract offers multiple benefits to prevent the progress of immune senescence. But, just as a good roof provides multiple, overlapping structures to prevent leaks, good immune system coverage should offer multiple, overlapping mechanisms to ensure that no possible holes are left to allow untimely infections, inflammation, or cancers to progress.

Summary

Immune senescence puts the elderly at increased risk for frequent and severe infections, cancer, and a variety of chronic inflammatory diseases.

Compounds found in various plants and fungi bolster the weakened immune system, improving immunity and reducing the risk for infections and cancer.

Reishi mushrooms, Cistanche, and Pu-erh tea boost the immune system by several complementary mechanisms, including amplifying the activity of natural killer cells, T cells, and various other immune system components.

Adding these immune-boosters to the diet may help thwart waning immunity in older age, helping give our body a fighting chance against many infectious diseases and cancer.

A Breakdown in the First Line of Defense

Natural killer cells are the body’s first responders against viral infections and cancer cells, and play an important role in battling bacterial and fungal infections.19-24 The age-related decline in the function of natural killer cells leads to higher rates of many viral, bacterial, and fungal infections—and these infections are more likely to be serious in age-related immune senescence.26-28

For example, research shows that the common cold (which is caused by a virus) is more frequent in individuals with low numbers of natural killer cells—and conversely, that greater natural killer cell function helps protect against viral outbreaks.23-25

The decline in natural killer cells has also been shown to increase the rates of viral infections, including viruses that cause influenza and viruses in the herpes family.26 These include cytomegalovirus (CMV), Epstein-Barr virus, varicella zoster (which causes chicken pox and shingles), and herpes simplex viruses (causing oral and genital herpes).

A Breakdown in the Body’s Targeted Killers

T cells are targeted killers that are part of the body’s adaptive immunity. If any infections go undetected by the natural killer cells, T cells are the “big guns” that step in and eliminate the infected cells.

These cells hunt down one specific target and stage a powerful attack to eliminate it once the enemy has been identified.

T cells contribute to long-term immunity, the phenomenon in which the body “remembers” an antigen (a virus, bacteria, or even a vaccine). That way if an individual is later exposed to the same virus, bacteria, or antigen, the immune system is primed to destroy it more quickly in the future—often before any signs of the disease occur.
References

PROSTATE HEALTH
The best way to keep You in the picture.

Ultra Prostate Formula was created to help maintain prostate health. It contains a dozen standardized ingredients to:

• Support healthy urination
• Promote healthy prostate function
• Encourage healthy prostate cell division

Ultra Prostate Formula is a unique comprehensive standardized-ingredient prostate-health supplement.

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

Retail Price Your Price
1 bottle $38 $28.50
4 bottles $26.25 each

Item# 02029 • 60 softgels

AprèsFlex® is a registered trademark of Laila Nutraceuticals exclusively licensed to PL Thomas–Laila Nutra LLC. HMRlignan™ is a trademark used under sublicense from Linnea S.A. Lyc-O-Mato® is a registered trademark of Lycored Corp. Albion® is a registered trademark of Albion Laboratories, Inc. Graminex® is a registered trademark of Graminex LLC.

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.
FREE Unlimited Shipping  4% Back on Purchases

ALL YEAR LONG

☑️ $50 Bonus Credit
Use now or save for later.

☑️ Worry Free
No auto-enrollment. Cancel anytime.

Join Premier Today! Only $49.95 per year.

Visit LifeExtension.com/JoinPremier • Call 1-888-210-7256 toll-free
Use Code YRX801A.

Premier service is good for a full 12 months from the date of purchase or renewal and can only be renewed 6 months after the date of your last Premier purchase or renewal. Redeem LE Dollars to purchase virtually anything we sell, including products, lab tests, and sale items — and even to pay shipping fees! — at the rate of 1 LE Dollar equal to $1 U.S. dollar at checkout. FREE unlimited standard shipping (3 to 5 business days) to any mailing address within the United States, excluding U.S. territories. Also includes discounts on non-standard shipping and shipping outside of the U.S. international customers can join Premier for $59.95.
Three natural plant extracts—*Cistanche*, *Pu-erh Tea*, and *Reishi Mushroom*—have been shown to support more youthful immune function.

**Cistanche**
- Supports longer lifespan in animals.¹
- Optimizes the ratio of CD4 to CD8 cells, indicative of a more youthful immune system.¹

**Pu-erh tea**
- Boosts natural killer and naïve T cells while decreasing interleukin-6 (IL-6).²

**Reishi**
- Helps reduce biomarkers of immune senescence.³

For full product description and to order Immune Senescence Protection Formula™, call 1-800-544-4440 or visit www.LifeExtension.com

**Retail Price** | **Your Price**
--- | ---
1 bottle | $40 | $30
4 bottles | $27 each

Item #02005 • 60 vegetarian tablets

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.
All of us at one point or another have experienced the dryness, soreness, and cracking of chapped lips, especially during the winter months.

This painful and unsightly problem arises because the lips have an ultra-thin layer of skin without any oil glands. This makes them susceptible to moisture loss, sun-damage, allergies, irritants, and environmental insults that accelerate the aging process.1,2

The skin on your lips also produces less melanin—the pigment that acts as a sunscreen.3-5 Without this built-in protection against harmful ultraviolet rays, the lips are prone to the development of precancerous and cancerous conditions over time, particularly with added risk factors such as smoking and alcohol consumption.6,7

Commercial lip balms typically contain unstable ingredients that only provide temporary relief. These balms remain largely inadequate for repairing damage caused by these multiple risk factors, paving the way for more serious skin conditions including actinic keratosis, cheilitis, and various types of cancers.
A novel lip balm can reverse and repair lip damage caused by ultraviolet radiation and external factors. The compounds in this lip balm enhance moisture to provide immediate and long-lasting relief that restores youthful softness and suppleness.

**Vitamin C**

Lips are composed of a very thin layer of skin and contain less of the pigment melanin. This means our lips are less able to protect themselves against repeated exposure to ultraviolet radiation and environmental pollutants.

Protecting lips against dryness, soreness, and chapping becomes more difficult as we grow older due to a significant drop in skin concentrations of vitamin C.8

Research shows that topical application of vitamin C can turn the odds back in your favor by effectively penetrating lip skin where it operates through two mechanisms to combat aging:

1. **Neutralizes** damaging free radicals from long-term sun exposure. This reduces oxidative stress that speeds up the loss of collagen—the skin’s structural foundation.9,11

2. **Builds new collagen** by activating collagen gene transcription and facilitating enzymatic reactions involved in stabilizing and organizing collagen molecules.12,13

Randomized controlled trials deliver clear confirmation that topical vitamin C safely improves the appearance of photoaged skin.14-16 In one noteworthy study, dermatological evaluations revealed that 84.2% of participants applying topical vitamin C to their photoaged skin for three months experienced significant improvements in tactile roughness, fine wrinkles, and tone compared to 15.8% in the control group.16

Thanks to these anti-aging effects, one review paper noted that “...topical vitamin C has become a useful part of the dermatologist’s armamentarium.”17

**Malpighia emarginata Fruit Extract**

Inflammation is an underlying cause of many age-related conditions, and this holds true for skin aging.18,19

Your lips are under constant attack from chronic inflammatory stimuli such as ultraviolet radiation, pollution, pathogens, and chemical irritants in lip products like fragrances and artificial colors. This compromises skin function and integrity, in addition to creating an excessive immune response that contributes to inflammatory lip conditions like eczematous cheilitis.20

The skin protective compounds found in *aceraola cherries* make them a powerful ally in the fight against chronic inflammation. They have long been valued for their abundant supply of vitamin C, containing the highest amount per serving compared to other fruit sources.21
In addition to vitamin C, acerola cherries possess a high concentration of oxidant reducers called carotenoids and anthocyanins. The former has a proven track record for reducing the inflammatory response to ultraviolet light, owing to its remarkable ability to scavenge free radicals.\(^{25,26}\)

Anthocyanins provide the deep blue-purple color of fruits and vegetables. They have been shown to defend dermal fibroblasts from the pro-inflammatory cytokine prostaglandin E2 responsible for suppressing production of collagen and enhancing its degradation.\(^{27,28}\)

A human study revealed that a topical formulation containing acerola cherries decreased the appearance of wrinkles on the lips by 58% in four months.\(^{29}\)

**Beeswax**

Windy, cold, and dry environments tend to dry out your lips. Tightness and cracking soon follow. This occurs because the lips lack the oil glands necessary for moisturization.\(^2\) **Beeswax**, derived from the honeycomb, acts as a natural moisturizer to attract and hold onto water—making it an ideal candidate for rehydrating the skin on the lips.\(^{30}\)

The antibacterial properties of beeswax also come in handy, as cracked lips increase the risk for skin infection.\(^{31}\) Lastly, beeswax might provide relief for those suffering from atopic dermatitis—a chronic skin disorder characterized by redness, flaking, and itching. One study showed that 80% of patients with atopic dermatitis who applied a topical mixture containing beeswax saw significant improvements in symptoms after just two weeks.\(^{32}\)
Olea europaea Leaf Extract

Olive oil contains at least 30 phenolic compounds, many of which modulate sun-induced inflammatory processes throughout the skin.33,34 Not surprisingly, topically applied olive oil in mice was found to reduce the number of tumors after exposure to ultraviolet radiation.35 Also, olive oil contains squalene and vitamin E that improves the skin’s moisture barrier to eliminate dryness.36,37

Zinc Oxide

Zinc provides optimal skin protection as an essential component of copper/zinc superoxide dismutase, an oxidant-reducing enzyme that neutralizes dangerous free radicals responsible for the undesirable characteristics of aging lips.38 Zinc limits DNA damage, enhances wound healing, and is essential for immune function.38,39 Research shows that zinc oxide effectively reflects ultraviolet light, thereby inhibiting its absorption and destructive effects in the skin.40

Summary

Our lips are a focal point of social interactions on a daily basis, from speaking, to kissing, to conveying facial expressions and emotions. Despite being in the limelight, they still remain a mere afterthought in most skin care regimens. The lips are ultra-sensitive to external factors that compromise skin structure and integrity, which can result in unsightly and painful dry and chapped lips. A new lip balm has been formulated with vitamin C, beeswax, zinc oxide, and acerola fruit and *Olea europaea* (olive) leaf extracts that protect against UV-induced photoaging, while ensuring adequate skin moisture to restore lips’ youthful qualities.●

Gary Goldfaden, MD, is a clinical dermatologist and lifetime member of the American Academy of Dermatology. He is the founder of Academy Dermatology in Hollywood, FL, and Cosmesis Skin Care. Dr. Goldfaden is a member of Life Extension’s Medical Advisory Board. All Cosmesis products are available online.

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

References


Wrinkling, dryness, and loss of firmness are outward signs of normal aging.

One reason is loss of **ceramides** that are required for skin to retain its **moisture** and youthful suppleness.

**Skin Restoring Ceramides** contains wheat-derived ceramide lipids in an **oral** capsule that **hydrate** the skin and smooth the appearance of fine lines and wrinkles.

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$18.75</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$17.25 each</td>
</tr>
</tbody>
</table>

*Item #02096* - 30 liquid vegetarian capsules

For full product description and to order **Skin Restoring Ceramides**, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com).

Contains wheat. Gluten free.

Ceratig® is a registered joint-trademark of PLT Health Solutions and Arco, Robertet group, France.
Beautiful, Rejuvenated Lips

Keep your lips soft, moisture-rich, and firm with Vitamin C Lip Rejuvenator.

Olive fruit oil and beeswax provide a natural moisture barrier to improve hydration. Meanwhile, vitamin C and acerola cherry extract promote collagen production. Zinc oxide provides skin protection.

For full product description and to order Vitamin C Lip Rejuvenator, call 1-800-544-4440 or visit www.LifeExtension.com.
Choose the Melatonin That's Right For You

Healthy sleep is one of the best ways to feel revitalized and maintain optimal health. While many people find melatonin helps improve sleep, others take it nightly for its immune protecting effects.

Individual doses range from 300 mcg to 10 mg taken 30-60 minutes before going to sleep.

Caution: Consult your health care provider before taking this product if you are being treated for a medical condition (especially autoimmune or depressive disorders). Use caution if combining with alcohol. This product is not intended for children, pregnant or lactating women, or women trying to become pregnant. Do not attempt to drive or operate heavy machinery after taking this product.

For full product description and to order any of these premium-grade Melatonin supplements, 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.
MacuGuard® Ocular Support provides lutein, trans-zeaxanthin, and meso-zeaxanthin to help maintain structural integrity of the macula and retina.1,5

Alpha-carotene is included based on new evidence that it helps support the macular pigment.1

People supplementing with saffron showed an improvement in vision as measured by them seeing an average of two additional lines on the eye chart commonly used by doctors to test vision.1

This formula provides the optimal dose of saffron along with cyanidin-3-glucoside to support healthy vision.6,8

MacuGuard® Ocular Support with Saffron

Item #01992 • 60 softgels
Retail Price is $25
Your Price is $18.75
4 bottles are only $17.50 each

Each bottle lasts for two months.

For full product description and to order MacuGuard® Ocular Support, 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.
Advanced skin-renewal program supports cell regeneration, replenishes moisture and helps diminish signs of aging.

NIGHT CREAM
Ultra-rich melatonin-based formula provides retinyl palmitate (1.0%) and moisturizing ceramides (0.5%) along with science-based botanicals to help rejuvenate facial skin while sleeping.

Item #02131 • 1.65 oz • Retail Price $39 • Sale price $19.50

Offer expires October 15, 2018.

For full product description and to order Life Extension® Night Cream call 1-800-544-4440 or visit www.LifeExtension.com
Going back at least as far as the ‘70s, when fitness fanatic Jack LaLanne promoted the practice, juicing has been very popular among people who take a serious interest in maintaining a healthy diet.

That’s where Rosemary Ferguson comes in. As a full-time model in the ‘90s, she discovered that juices made from combinations of fresh vegetables, fruits, and grains helped give her the boost in energy that she needed in order to keep up with the long hours her job often demanded. Now a qualified naturopath, Ferguson is focused on aiding clients with proper nutrition at her clinic in London. Her book, *Juice + Nourish: 100 Refreshing Juices and Smoothies to Promote Health, Energy, and Beauty*, is based on her many years of knowledge and experience in nutrition and juicing.

The book is organized by topic, with recipes specifically tailored for help in relieving everything from stress to lack of strength and low energy.

Here, we present a few of the recipes featured in *Juice + Nourish*, along with Ferguson’s brief notes on the nutrients contained in each of them. So crank up your blender and enjoy!
Asparagus SOS

Asparagus contains enzymes that help break down any alcohol residues left in your system. This amazing juice is packed with oxidant reducers and is far better than the hair of the dog—any day!

Small handful of spinach
1 apple
5 spears of asparagus
1 small tomato
1-inch to 2-inch piece of fresh ginger
Juice of 1 lemon

Pass all the ingredients through the juicer, except the lemon juice, stirring it in at the end.

On An Even Kale

This is a boosting juice that helps if you’re feeling fatigued in the morning. Much better than reaching for sugary drinks or food. It’s a superb versatile juice, a great way to start the day—in fact, a great way to start every day! It contains soluble fiber, which slows the absorption of fruit sugars into the body. Because the absorption process is slower, we get more chance to take in the nutrient too.

4 kale leaves
1 apple (green if you are diabetic)
1 small pear
1 tsp spirulina
2 tps ground cinnamon
(build up to this amount, start small!)

Juice the kale, apple, and pear, and then stir in the spirulina and ground cinnamon at the end.

Happy Every Day (smoothie)

This smoothie is high in tryptophan, which is essential to making serotonin, a good-mood chemical that stimulates both happiness and sleep. Maca helps to fight fatigue, and if you aren’t tired but full of energy, it will sustain energy levels—yippee!

1 banana, peeled
1 zucchini
10 raspberries
2 tps pumpkin seeds
1 tsp maca powder
1 cup (150 g) ice cubes
½ cup (125 ml) filtered water

Place all the ingredients together into a blender and whiz together.
Super Herb Helper (juice or smoothie)

If you are feeling congested mentally or physically, this should help to clear it! The juice uses powerful herbs to help stimulate your system, clear the airways, and relieve any tension in the body.

Handful of mint leaves
1 zucchini
1 apple
1-inch to 2-inch piece of fresh ginger
Juice of 1 lemon
1 tsp matcha green tea powder
1 tsp ground turmeric
1 tsp ground cardamom
1 tsp raw honey
Pinch of Himalayan crystal salt

Juice the mint, zucchini, apple, and ginger, and stir in the lemon juice. Add the matcha green tea powder, turmeric, cardamom, honey, and crystal salt at the end, or you can whiz it all in the blender and make a smoothie.
Super R-Lipoic Acid is more bioavailable, stable, and potent, achieving 10-30 times higher peak blood levels. This unique sodium-R-lipoate can help you reach peak plasma concentrations within just 10-20 minutes of supplementation.

**Preserve Youthful CELLULAR ENERGY with Next-Generation LIPOIC ACID**

For full product description and to order Super R-Lipoic Acid, call 1-800-544-4400 or visit www.LifeExtension.com

Suggested dose is one to two capsules daily.

**Super R-Lipoic Acid**
Item# 01208 • 60 vegetarian capsules

<table>
<thead>
<tr>
<th></th>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$49</td>
<td>$36.75</td>
</tr>
<tr>
<td>4 bottles</td>
<td></td>
<td>$33.75 each</td>
</tr>
</tbody>
</table>

**CAUTION:** If you are taking glucose-lowering medication, consult your health care provider before taking this product. Bio-Enhanced® is a registered trademark of GeroNova Research, Inc.

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.
Give Your Multivitamin a BOOST!

GET THE COVERAGE YOU NEED.
Health Booster provides important vitamins you may be missing.

Once-Daily Health Booster
Item #02091 • 60 softgels • Two-month supply

<table>
<thead>
<tr>
<th>Retail Price</th>
<th>Your Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bottle</td>
<td>$54</td>
</tr>
<tr>
<td></td>
<td>$40.50</td>
</tr>
<tr>
<td>4 bottles</td>
<td>$38 each</td>
</tr>
</tbody>
</table>

Optimal potencies of vitamin K2, gamma tocopherol, lycopene, chlorophyllin, lutein, zeaxanthin and lots more in one softgel.

For full product description and to order Once-Daily Health Booster, call 1-800-544-4440 or visit www.LifeExtension.com

Caution: Avoid use during pregnancy. Consult your healthcare practitioner before using this product if you are taking anti-coagulant or anti-platelet medications or have a bleeding disorder.

Lyc-O-Mato® is a registered trademark of Lycored, Ltd. LuteinPlus® and Mz® are registered trademarks of NutriProducts Ltd., UK, licensed under U.S. Patent 8,623,428.

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.
Health On the Go!

We know how it is. You’re busy, and it’s tough to make sure you’re getting the optimum allotment of daily nutrients.

That’s why Life Extension® created Comprehensive Nutrient Packs ADVANCED, a super-convenient 30-packet supply of some of the most important key nutrients to keep you on the go!

EACH PACKET CONTAINS A DAILY DOSE OF:

- **Two-Per-Day Capsules (two capsules)**
  Broad-spectrum vitamins, minerals, and plant extracts in concentrated capsules

- **Super Omega-3 EPA/DHA (two softgels)**
  a five-star-rated fish oil with sesame lignans and olive polyphenol extract

- **Once-Daily Health Booster (one softgel)**
  provides fat-soluble nutrients like vitamin K2, gamma tocopherol, lutein, zeaxanthin, and lycopene

- **Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support (one 100-mg softgel)**
  a highly bioavailable form of CoQ10

- **Super Bio-Curcumin® (one capsule)**
  absorbs up to seven times better than conventional curcumin.

For full product description and to order Comprehensive Nutrient Packs ADVANCED, call 1-800-544-4440 or visit www.LifeExtension.com

**Item # 02298** • One box, 30 packets • Retail Price is $90
Your price is $67.50 • 4 boxes are only $61.50 each

Lyc-O-Mato® and Tomat-O-Red® are registered trademarks of Lycored LTD. • SeleneExcell® is a registered trademark of Cypress Systems Inc. • L-OptiZinc® is a registered trademark of InterHealth N.I.

LuteinPlus® and MZ® are registered trademarks of Nutriproducts Ltd., UK, licensed under U.S. Patent 8,623,428. • Crominex® 3+, Capros® and PrimaVie® are registered trademarks of Natren, Inc. • Bio-Curcumin® and BCM-95® are registered trademarks of Dolcas-Biotech, LLC. • Q+®, Kaneka Ubiquinol™, and the quality seal™ are registered or pending trademarks of Kaneka Corp.
Basil

BY GARRY MESSICK

Widely used as an herb in cooking, the basil plant belongs to the same family as mint and is native to tropical areas around the world. Basil is available in a variety of types or hybrids, but the most commonly used version has a fairly strong, pungent taste with notes of sweetness.

Its fame as a universal seasoning staple aside, basil also has a number of health benefits. Here are some examples...

Antibacterial Effects

There’s evidence that basil has strong antibacterial properties. One study pitted basil oil in various diluted concentrations against the multi-drug-resistant bacteria Enterococcus, Staphylococcus, and Pseudomonas. Results showed the basil oil had an inhibitory effect on the bacteria, which researchers found encouraging, given how widespread these difficult-to-treat bacteria are.¹

Tuberculosis Symptoms

Research in 2012, looking at the traditional use of basil in treating the symptoms of respiratory illnesses, found that the extracts from the plant (leaves, fruits, and flowers) had potential for use in helping to ease tuberculosis symptoms “due to a synergistic effect” of active compounds.²

Cancer-Fighting Potential

In a 2013 study, researchers found that basil may have the potential to help in fighting several types of cancer—including oral, liver, skin, and lung cancer—through a variety of mechanisms, such as triggering apoptosis (cell death), antioxidant activity, and slowing down cell division.³ They attributed these effects to basil’s phytochemical content—luteolin, apigenin, eugenol, rosmarinic acid, and myrtenal, among other compounds. The study authors say the results were encouraging, but further research is needed to establish the possible utility of basil in cancer prevention and treatment.

References

Keep Your Best Friends Healthy

**DOG MIX AND CAT MIX**
**ADVANCED MULTI-NUTRIENT FORMULA!**

Specially formulated to meet the nutritional needs of your pets.

Dog or Cat Mix can be easily added to your pet’s food to provide flavonoids, amino acids, probiotics, and essential fatty acids.

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

Betatene® is a registered trademark of BASF SE.

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.
In his book, *Mission Betrayed: How the VA Really Fails America’s Vets*, Michael J. Mann, MD, draws on his years of experience working in the Veterans Health Administration to write a compelling exposé of the widely criticized government agency.

Dr. Mann, a cardiothoracic surgeon and innovator of genetic and molecular therapies, argues that the inexcusably long wait times that received much media attention in 2014 are only a part of the problem. His book documents a deeply flawed system that allows VA administrators to conceal mediocrity, abuse and neglect.

Dr. Mann joined the faculty at the University of California, San Francisco (UCSF), in 2003, having received an A.B. (summa cum laude) in synthetic chemistry from Princeton University and an MD from Stanford University. He completed his fellowship in cardiothoracic surgery at UCSF, and has been named to the *U.S. News and World Report* list of Top Doctors in the United States. Limited space allows Dr. Mann in the following interview to only scratch the surface of VA malfeasance, but still paints a disturbing picture of an agency in serious need of reform.
LE: You say that the VA scandal of 2014, which centered on waiting times for patients, was just the tip of the iceberg. Why?

MM: As shocking as many of the 2014 revelations may have been, they pale in comparison to the true, appalling depth of abuse to which our veterans are routinely subjected at the VA. Just about any thoughtful medical academician who has worked at the VA could tell you that the VA wait list scandal was nothing more than a reflection of the way everything is managed in that monolithic federal institution. And when an entire, badly broken healthcare system boils down to the generation and worship of a few dramatically misleading statistics, the disheartening result is not only a danger zone for our unsung heroes, but the violation of one of our nation's most important promises to a deserving, underserved population.

There is great resistance in medicine to airing our own dirty laundry—the VA is a deep-set fixture in American medicine that very few care to rock. I actually began to collect my own notes of VA abuses after leaving my part-time involvement as the leader of a surgical sub-specialty program at the San Francisco VA in 2011. Although I had begun to organize these notes even before the 2014 wait-list scandal erupted, I was subsequently convinced to complete a memoir of my time at the VA. (My book is) the result of an effort to make sense of those notes and to put them into a larger perspective, a perspective that reflects back on the countless stories that have too quietly been told since the 2014 wait-list scandal broke.

LE: In your book, you recount specific cases you were involved with, including that of a veteran you call Edward Perry, who had lung cancer that was caught early, but who nevertheless ended up dying after the VA mishandled his case.

MM: Edward Perry was one of many vets who were not given a chance to receive high-risk but potentially lifesaving surgery at the San Francisco VA and at VA hospitals nationwide.

In fact, the San Francisco VA has been recognized as one of the best medical centers in the entire VA system. And by 2008, our hospital staff had grown accustomed to receiving blanket emails from our administration highlighting data that portrayed the Veterans Health Administration as the “best healthcare system in America,” statistics that proved that the VA had superior “quality of care” and “patient satisfaction.” Why then did Edward Perry fail to receive this superior quality of care? Why did we not save his life? And why do so many other vets who trust the VA fail to receive the quality of care our nation has promised?

Over time, I realized that beyond this paradox was a more insidious connection between these very claims of superlative VA care and the deaths of patients like Edward Perry. Perry did not die from the high risk of his case. He was killed by an increasingly effective systemic VA approach that limits the negative impact of high-risk cases on VA statistics, and therefore on the careers of VA administrators.
**Author Interview**

**LE:** How did that systemic approach work?

**MM:** It was about the numbers. Limiting the number of deaths following surgery raised the rating of a VA hospital, and in so doing enhanced bureaucrats’ careers (and annual bonuses). Without the need for any orchestrated conspiracy, decisions for or against surgery in particular cases were too often based not on the rights and well-being of the patients, but on the likelihood that surgical outcomes—outcomes that had at one time rescued the VA from harsh congressional scrutiny—would remain blemish-free. There was no need for conspiracy. It was simply the VA way.

Throughout the VA system in recent years, deaths following surgeries have been drastically, almost miraculously, reduced, just in response to heightened scrutiny. Why? Had surgeons' skills, and the intricate coordination of complex care suddenly, spontaneously, and drastically improved? Or had people at the VA simply done what decades of box checking and obfuscation had taught them to do—game the system and make sure things looked the way people wanted?

Years after Edward Perry died, the nation was shocked to learn that dozens of VA hospitals had falsified waiting lists to overcome what had begun as an unreasonable bureaucratic demand to schedule every patient within two weeks. Yet no one has ever suggested an organized conspiracy. It wasn’t necessary. Large numbers of VA administrators, doctors, and nurses had simply done things the VA way.

Mr. Perry lived and died the VA way. But what should have mattered more—bureaucrats’ livelihoods or the lives of a veteran and his family?

**LE:** What was it like working for the VA? What did you observe about the way they relate to their patients?

**MM:** The VA wears you down. When you walk into a VA hospital, you don’t always see the kinds of patients you see at most private American hospitals. Many of the vets treated at VA hospitals are poor. Some of them are not so well dressed, not so well put together. Many have lived difficult lives, and it shows in their bearing and the way they walk. They are not used to expecting or demanding the best. They are grateful, most of the time, if they are handed second or maybe even third best. They are generally very grateful for whatever they get at the VA. They are particularly grateful to get it for free.

The collective, perhaps unconscious, attitude of the institution assumes that whatever it provides is basically good enough. Sometimes, individual providers do strive to reach a level of excellence that they are used to at other
institutions, but they inevitably accept “reality” when other elements of the VA machinery make that truly excellent care more difficult, or sometimes “impossible” to achieve.

**LE:** How widespread is that point of view in the VA?

**MM:** This unspoken attitude applies to nearly everyone in the institution—from the maintenance staff up through the doctors and administrators. It wasn’t, for example, obvious to me and to other VA doctors that we shared such an attitude toward the vets, or that it influenced our expectations of what we needed to accomplish on their behalf. But we did share it. And that was precisely because the attitude was so effectively pervasive: These were the “vets.”

**LE:** How deeply did that attitude reflect on the quality of the staff?

**MM:** It was not that all VA employees were incompetent or lazy, or that there were no incredibly talented, hardworking individuals at the VA. Certainly there were. But every VA employee was affected by an institutional laziness, institutional assumptions about what could and could not get done. Even when VA initiatives and congressional appropriations led to updated equipment and facilities, these entrenched attitudes and assumptions remained. If acceptance of reduced pay and professional self-esteem was associated with a career at the VA, there had to be some benefit in return. A quid pro quo. For many—not all, but many—it was the promise of a slow and comfortable pace of work, an environment where checking boxes would fully meet professional expectations and where demands for outstanding performances just did not exist.

For those few who remained committed to achieving the best possible care for their VA patients, the institutional laziness meant that their work would be even harder and more exhausting.
Advanced Technology
TO OPTIMIZE
B12 ABSORPTION

ELIGEN B12™
(cyanocobalamin/SNAC)
1000 mcg/100 mg tablets

Learn more at www.EligenB12.com

Eligen B12™ helps maintain normal vitamin B12 levels. Eligen® Technology is designed to allow patients to absorb an oral B12 formulation independent of intrinsic factor, a protein required to effectively absorb B12.

Eligen B12™ uses an advanced patented carrier technology to optimize vitamin B12 absorption by chaperoning B12 through the gastric lining directly into the bloodstream within 30 minutes. This enables individuals who are unable to absorb vitamin B12 intestinally to use an oral supplement to help inhibit B12 deficiency.

BENEFITS AT A GLANCE:

- Optimizes B12 absorption, especially among individuals lacking intrinsic factor.
- Helps maintain consistent long-term and predictable healthy B12 blood levels with a single daily dose.
- Helps inhibit B12 deficiency.

ABOUT EMISPHERE

Emisphere is a drug delivery company that utilizes its proprietary Eligen® Technology to develop new oral formulations of therapeutic agents. Emisphere is currently partners with global pharmaceutical companies for the development of new orally delivered therapeutics. For more information, please visit the company’s website at www.emisphere.com.

Eligen B12 30 Tablets

Item Number: 53518  Retail: 45.99  Your Price: 34.49

For full product description and to order Eligen B12™, please 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.
GET RELIEF FROM FOOT, LEG & BACK PAIN

Kenkoh® Revitalizes and Rejuvenates Your Whole Body!

A clinical study in a Japanese school of medicine concluded that Kenkoh massage footwear improves circulation, reduces swelling around the legs and ankles, and improves energy levels and mood.

THE Kenkoh MASSAGE SANDAL IS UNIQUELY DESIGNED TO STIMULATE THOUSANDS OF NERVE ENDINGS IN THE FEET

- Nerves corresponding to organs and tissues are concentrated in the soles of the feet.
- Stimulating these nerves daily helps improve overall health.
- Orthotic arch support alleviates foot pain.

Kenkoh® The Original Japanese Massage Sandal

LEM.DiscoverKenkoh.com
1-800-336-6657

Kenkoh® IS JAPANESE FOR HEALTH AND BEAUTY

Kyu-Kichi Yamanashi invented the Kenkoh massage sandal in Japan in 1962. He designed the unique foot bed to mimic two ancient healing techniques that saved his life: Aodake-Fumi (stepping on bamboo) and Sokushindo (Japanese reflexology), meaning “the path that leads to the heart.”

FOOT REFLEXOLOGY CHART

A FOOT MASSAGE WITH EVERY STEP
Fast-Acting Betaine HCl for Relief of occasional Heartburn & Indigestion*

The right amount Balanced gentle potency to speed up the digestive process.*

Optimize acid levels for those taking acid blockers for occasional heartburn.*

Speeds up digestion for those with low acid*

Mucosave® blend provides a protective barrier for the stomach lining*

Enzymedica Betaine HCl
120 caps Item Number: 53348 Retail: $22.59 Your Price: $16.94
For full product description and to order Enzymedica Betaine HCl, please call 1-800-544-4440 or visit www.LifeExtension.com
1-2-3 EASY
How it works:

ORDER
Call 1-800-208-3444 toll-free or visit LifeExtension.com/LabServices.

DRAW
For blood tests, take your form to a local lab. Collect at home for saliva, breath, etc.

REVIEW
Go over results for free with our Wellness Specialists by calling 1-800-226-2370. You may wish to review them with your doctor as well.

IT'S THAT SIMPLE!
DON'T DELAY! CALL TODAY!

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

5990 North Federal Highway, Ft. Lauderdale, FL, 33308-2633

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

<table>
<thead>
<tr>
<th>Test Panel</th>
<th>Price</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male Life Extension Panel (LC322582)</strong></td>
<td>$269</td>
<td>CBC/Chemistry Profile - DHEA-S, PSA, Progesterone, Estradiol, TSH, Free T3, T4, Reverse T3, Free PSA, IGF-1, SHBG, HbA1c, Vitamin D, hs-CRP, Ferritin, Homocysteine, Hemoglobin A1c, Apolipoprotein B (ApoB)</td>
</tr>
<tr>
<td><strong>Male Elite Panel (LC100016)</strong></td>
<td>$575</td>
<td>CBC/Chemistry Profile - Free and Total Testosterone, Total Estrogens, Estradiol, DHEA-S, Progesterone, Pregnenolone, DHT, FSH, LH, TSH, Free T3, Free T4, Reverse T3, Free and Total PSA, IGF-1, SHBG, HbA1c, Vitamin D, 25-OH, hs-CRP, Ferritin, Homocysteine, Hemoglobin A1c, Apolipoprotein B (ApoB)</td>
</tr>
<tr>
<td><strong>Male Comprehensive Hormone Panel (LC100010)</strong></td>
<td>$299</td>
<td>CBC/Chemistry Profile - DHEA-S, Estradiol, TSH, Free T4, and Cortisol with no increase in price!</td>
</tr>
<tr>
<td><strong>Male Basic Hormone Panel (LC100012)</strong></td>
<td>$75</td>
<td>DHEA-S, Estradiol, Total and Free Testosterone, PSA</td>
</tr>
<tr>
<td><strong>Female Elite Panel (LC100017)</strong></td>
<td>$575</td>
<td>CBC/Chemistry Profile - Total Estrogens, Estradiol, Oestrone, DHEA-S, Progesterone, Pregnenolone, Apolipoprotein B (ApoB), DHT, FSH, LH, TSH, Free T3, Free T4, Reverse T3, IGF-1, SHBG, HbA1c, Vitamin D, 25-OH, hs-CRP, Ferritin, Homocysteine, Hemoglobin A1c</td>
</tr>
<tr>
<td><strong>Female Comprehensive Hormone Panel (LC100011)</strong></td>
<td>$299</td>
<td>CBC/Chemistry Profile - DHEA-S, Estradiol, Total Estrogens, Progesterone, Pregnenolone, Total and Free Testosterone, SHBG, TSH, Free T3</td>
</tr>
<tr>
<td><strong>Female Basic Hormone Panel (LC100013)</strong></td>
<td>$75</td>
<td>DHEA-S, Estradiol, Total and Free Testosterone, Progesterone</td>
</tr>
<tr>
<td><strong>NMR Lipoprotein® (LC123810)</strong></td>
<td>$99</td>
<td>The NMR Lipoprotein® directly measures LDL particle size and number as well as HDL particle number, total cholesterol, and triglycerides. It also provides a calculation of one's risk of insulin resistance by assessing abnormalities in lipoprotein markers.</td>
</tr>
<tr>
<td><strong>Weight Loss Panel-Comprehensive (LC100028)</strong></td>
<td>$275</td>
<td>CBC/Chemistry Profile - DHEA-S, Free and Total Testosterone, Estradiol, Progesterone, Cortisol, TSH, Free T3, Free T4, Reverse T3, Insulin, Hemoglobin A1c, Vitamin D, 25-Hydroxy, C-reactive Protein (high sensitivity), Ferritin</td>
</tr>
<tr>
<td><strong>Healthy Aging Panel-Comprehensive (LC100026)</strong></td>
<td>$249</td>
<td>CBC/Chemistry Profile - Vitamin B12, Folate, Homocysteine, Vitamin D, 25-Hydroxy, Hemoglobin A1c, TSH, Free T3, Free T4, Ferritin, Urinalysis, Fibrinogen, Insulin</td>
</tr>
<tr>
<td><strong>Adrenal Stress Profile – Saliva (LC100070)</strong></td>
<td>$159</td>
<td>Check your red flags of adrenal imbalance. This panel contains Cortisol (v4), DHEA, and Siga.</td>
</tr>
<tr>
<td><strong>SIBO Home Breath Kit (Lactulose) (LC100063)</strong></td>
<td>$249</td>
<td>SIBO stands for small intestinal bacterial overgrowth. Research shows that up to 70% or more of those diagnosed with IBS have SIBO.</td>
</tr>
<tr>
<td><strong>Comprehensive Thyroid Panel (LC100018)</strong></td>
<td>$199</td>
<td>TSH, Total T4, Free T4, Free T3, Reverse T3, Thyroglobulin Antibody (ATA), Thyroid Peroxidase Antibody (TPO)</td>
</tr>
<tr>
<td><strong>Thyroid Panel with Reverse T3 (LC100044)</strong></td>
<td>$120</td>
<td>TSH, Total T4, Free T4, Free T3, Reverse T3</td>
</tr>
<tr>
<td><strong>Omega-3 Index Complete</strong> (LC100066)**</td>
<td>$99</td>
<td>Beneficial for everyone taking omega-3/fish oil! You want to target a range of 8%-12% for optimal health.</td>
</tr>
</tbody>
</table>

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

* 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.
PRODUCTS

**Blood Pressure & Vascular Support**
- Advanced Olive Leaf Vascular Support
- with Celery Seed Extract
- Arterial Protect
- Blood Pressure Monitor Arm Cuff
- Endothelial Defense™ with Pomegranate
- Complete and CORDIART™
- Endothelial Defense™ with GliSODin®
- Optimal BP Management
- NitroVasc with CORDIART™
- Pomegranate Complete
- Pomegranate Fruit Extract
- Triple Action Blood Pressure AM/PM
- VenoFlow™

**Brain Health**
- Acetyl-L-Carnitine
- Acetyl-L-Carnitine Arginate
- Blast™
- Brain Shield® Gastrodin
- Cognitex® Basics
- Cognitex® with Brain Shield®
- Cognitex® with Pregnenolone & Brain Shield®
- Cognizin® CDP-Choline Caps
- DMAE Bitartrate (dimethylaminoethanol)
- Dopa-Mind™
- Focus Tea™
- Ginkgo Bloba Certified Extract™
- Hyperzine A
- Lecithin Granules
- Memory Protect
- Migra-Eeze™
- Neuro-Mag® Magnesium L-Threonate
- Optimized Ashwagandha Extract
- PS (Phosphatidylserine) Caps
- Vinpocetine

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

**Digestion Support**
- Digest RC®
- Effervescent Vitamin C - Magnesium Crystals
- Enhanced Super Digestive Enzymes
- with Probiotics
- Esophaguard
- Extraordinary Enzymes
- Gastro-Ease™

**Energy Management**
- Adrenal Energy Formula
- Asian Energy Boost
- D-Ribose Powder
- D-Ribose Tablets
- Forskolin
- Mitochondrial Basics with PQQ
- Mitochondrial Energy Optimizer with PQQ
- NAD+ Cell Regenerator™
- Optimized NAD+ Cell Regenerator™ with Resveratrol
- PQQ Caps
- Rhodiola Extract
- RiboGem™ French Oak Wood Extract
- Triple Action Thyroid

**Eye Health**
- Astaxanthin with Phospholipids
- Brite Eyes III
- Eye Pressure Support with Mirtogenol®
- MacuGuard® Ocular Support
- MacuGuard® Ocular Support with Astaxanthin
- Standardized European Bilberry Extract
- Tear Support with MaquiBright™

**Fish Oil & Omegas**
- OMEGA FOUNDATIONS® Clearly EPA/DHA
- OMEGA FOUNDATIONS® Mega EPA/DHA
- OMEGA FOUNDATIONS® Mega GLA
- with Sesame Lignans
- OMEGA FOUNDATIONS® Super Omega-3 EPA/DHA with Sesame Lignans & Olive Extract
- OMEGA FOUNDATIONS® Super Omega-3 Plus EPA/DHA with Sesame Lignans, Olive Extract, Krill & Astaxanthin
- OMEGA FOUNDATIONS® Proval®
- Purified Omega-7
- OMEGA FOUNDATIONS® Vegetarian DHA
- Organic Golden Flax Seed

**Food**
- California Estate Extra Virgin Olive Oil
- Kenyan Green Tea Crystals
- Kenyan Purple Tea Crystals
- Rainforest Blend Decaf Ground Coffee
- Rainforest Blend Ground Coffee
- Rainforest Blend Ground Natural Mocha Flavor
- Rainforest Blend Natural Vanilla Flavor
- Rainforest Blend Whole Bean Coffee
- Stevia Sweetener

**Glucose Management**
- CinSulin® with InSea2® and Crominex® 3+
- Glycemic Guard®
- Mega Benotatin
- Tri Sugar Shield®

**Hormone Balance**
- DHEA (Dehydroepiandrosterone)
- Pregnenolone
- Triple Action Cruciferous Vegetable Extract
- with Resveratrol
- Triple Action Cruciferous Vegetable Extract

**Immune Support**
- AHCC®
- Enhanced Zinc Lozenges
- Immune Modulator with Treofend®
- Immune Protect with PARACTION™
- Immune Senescence Protection Formula™
- Kinoko® Gold AHCC
- Kinoko® Platinum AHCC
- Kyolic® Garlic Formula 102
- Kyolic® Reserve
- Lactoferin (Apalactoferrin) Caps
- NK Cell Activator™
- Optimized Garlic
- Optimized Quercetin
- Peony Immune
- ProBoost Thymic Protein A
- Reishi Extract Mushroom Complex
- Standardized Cistanche
- Ten Mushroom Formula®
- Zinc Lozenges

**Inflammation Management**
- 5-LOX Inhibitor with AprèsFlex®
- Advanced Bio-Curcumin® with Ginger & Turmericones
- Black Cumin Seed Oil
- Black Cumin Seed Oil with Bio-Curcumin®
- Boswellia
- ComfortMax™
- Cytokine Supress™ with EGCG
- Serrafolin
- Specially-Coated Bromelain
- Super Bio-Curcumin®
- Zyflamend™ Whole Body

**Joint Support**
- Arthro-Immune Joint Support
- ArthroMax® Advanced with UC-II® & AprèsFlex®
- ArthroMax® with Theaflavins & AprèsFlex®
- ArthroMax® Elite
- Fast-Acting Joint Formula
- Glucosamine/Chondroitin Capsules
- Krill Healthy Joint Formula
- MSM (Methylsulfonylmethane)
- NT2 Collagen™

**Kidney & Bladder Support**
- Cran-Max® Cranberry Whole Fruit Concentrate
- Optimized Cran-Max® with Ellirol®
- Uric Acid Control
- Water-Soluble Pumpkin Seed Extract

**Liver Health & Detoxification**
- Anti-Acid HepatoProtection Complex
- Calcium D-Glucarate
- Chlorella
- Chlorophyll
- European Milk Thistle
- Glutathione, Cysteine & C
- HepatoPro
- Liver Efficiency Formula
- N-Acetyl-L-Cysteine
- PectaSol®
- Silymarin
- SODzyme® with GliSODin® & Wolfberry

**Longevity & Wellness**
- Alpha-Lipoic Acid
- AppleWise Polyphenol Extract
- Berry Complete
- Blueberry Extract
- Blueberry Extract with Pomegranate
- DNA Protection Formula
- Enhanced Berry Complete with Acai
- GEROPROTECT® Ageless Cell™
- GEROPROTECT® Longevity A.I.™
Grapeseed Extract
Mediterranean Whole Food Blend
Mega Green Tea Extract (decaffeinated)
Mega Green Tea Extract (lightly decaffeinated)
Optimized Fucoidan with Maritech® 926
Optimized Resveratrol
Pycnogenol® French Maritime
Pine Bark Extract
Resveratrol
RNA (Ribonucleic Acid)
Super R-Lipoic Acid
X-R Shield

Men's Health
Male Vascular Sexual Support
Mega Lycopene Extract
PalmettoGuard® Saw Palmetto with Beta-Sitosterol
PalmettoGuard® Saw Palmetto/Nettle Root Formula with Beta-Sitosterol
Pomegranate Pomegranate
Prelax® Enhanced Sex for Men
Super MiraForte with Standardized Lignans
Triple Strength ProstaPollen™ Ultra Prostate Formula

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

Miscellaneous
Potassium Iodide
Solarshield® Sunglasses

Mood & Stress Management
Advanced Cortisol Balance
Enhanced Stress Relief
L-Theanine
L-Theanine
L-Theanine
SAMe (S-Adenosyl-Methionine)

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

Personal Care
Anti-Aging Rejuvenating Scalp Serum Biosil
Dr. Proctor’s Advanced Hair Formula
Dr. Proctor’s Shampoo
European Leg Solution Featuring Certified Diosmin 95
Hair, Skin & Nai Rejuvination Formula WVERISOL®
Hair Suppression Formula
Life Extension Toothpaste
Venetoxen®
Xyliwhite Mouthwash

Pet Care
Cat Mix
Dog Mix

Probiotics
Blifdo GI Balance
FLORASSIST® Balance
FLORASSIST® GI with Phage Technology
FLORASSIST® Heart Health
FLORASSIST® Immune Health
FLORASSIST® Mood
FLORASSIST® Nasal
FLORASSIST® Oral Hygiene
FLORASSIST® Prebiotic
FLORASSIST® Throat Health
Jarro-Dophilus® for Women
Theracal® Probiotics
TruFlora® Probiotics

Sleep
Bioactive Milk Peptides
Enhanced Sleep with Melatonin
Enhanced Sleep without Melatonin
Fast-Acting Liquid Melatonin
Glycine
L-Theophyllin
Melatonin
Melatonin IR/IXR
Optimized Tryptophan Plus
Quiet Sleep Melatonin

Sports Performance
Creatine Capsules
Plant Protein Complete & Amino Acid Complex
Tart Cherry with CherryPure®
Wellness Code™ Muscle Strength and Restore Formula
Wellness Code™ Whey Protein Concentrate (Chocolate and Vanilla Flavor)
Wellness Code™ Advanced Whey Protein Isolate (Vanilla Flavor)
Wellness Code™ Whey Protein Isolate (Chocolate and Vanilla Flavor)

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

Weight Management
7-Keto® DHEA Metabolite
Advanced Anti-Adipocyte Formula
Advanced Appetite Suppress
AMPK Metabolic Activator
CalReduce Selective Fat Binder
DHEA Complete
Garcinia HCA
HCActive™ Garcinia Cambogia Extract
Integra-Lean™
Mediterranean Trim with Sinetrol™-Xpur
Optimized Irvingia with Phase 3™ Calorie Control Complex
Optimized Saffron with Satiereal®
Super CLA Blend with Sesame Lignans
Wast-Line Control™

Women's Health
Enhanced Sex for Women 50+
Breast Health Formula
Femmenessence MacaPause®
Estrogen for Women
Menopause 731™
Progesta-Care®
Super-Absorbable Soy Isoflavones
Ultra Soy Extract
<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>Retail Each</th>
<th>1 Unit Each</th>
<th>4 Unit Each</th>
<th>10 Unit Each</th>
<th>QTY Total</th>
<th>YOUR PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>01022</td>
<td>BIOTIN</td>
<td>600 mcg, 100 caps</td>
<td>7.50</td>
<td>5.63</td>
<td>4.88</td>
<td>100.00</td>
<td>39.00</td>
</tr>
<tr>
<td>02012</td>
<td>ADVANCED CORONARY</td>
<td>30 veg. caps</td>
<td>45.00</td>
<td>33.75</td>
<td>30.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00821</td>
<td>BACOPA MONNIERI</td>
<td>500 mg, 60 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>02011</td>
<td>ADVANCED PERIORAL CREAM</td>
<td>0.5 fl oz</td>
<td>35.00</td>
<td>26.25</td>
<td>22.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00822</td>
<td>SIBERIAN GINSENG (Eleuthero)</td>
<td>60 caps</td>
<td>22.00</td>
<td>16.50</td>
<td>14.25</td>
<td>60.00</td>
<td>18.00</td>
</tr>
<tr>
<td>02010</td>
<td>ADVANCED LIPID CONTROL</td>
<td>60 veg. caps</td>
<td>29.00</td>
<td>21.75</td>
<td>19.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01726</td>
<td>BONE RESTORE</td>
<td>120 caps</td>
<td>22.00</td>
<td>16.50</td>
<td>14.25</td>
<td>120.00</td>
<td>36.00</td>
</tr>
<tr>
<td>01509</td>
<td>ANTI-ADIPOCYTE FORMULA W/MERATRIM® &amp; INTEGRA LEAN®</td>
<td>60 veg. caps</td>
<td>39.00</td>
<td>29.25</td>
<td>27.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00457</td>
<td>ALPHA-LIPOIC ACID W/BIOTIN</td>
<td>250 mg, 60 caps</td>
<td>37.00</td>
<td>27.75</td>
<td>24.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>02207</td>
<td>AMPK METABOLIC ACTIVATOR</td>
<td>30 veg. tabs</td>
<td>38.00</td>
<td>28.50</td>
<td>24.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01974</td>
<td>ACETYL-L-CARNITINE ARGinine</td>
<td>90 veg. caps</td>
<td>38.00</td>
<td>28.50</td>
<td>26.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01524</td>
<td>ACETYL-L-CARNITINE</td>
<td>500 mg, 100 veg. caps</td>
<td>34.00</td>
<td>25.50</td>
<td>22.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>02024</td>
<td>BLOOD PRESSURE (Triple Action AM/FM)</td>
<td>60 veg. tabs</td>
<td>44.00</td>
<td>33.00</td>
<td>28.00</td>
<td>132.00</td>
<td>39.60</td>
</tr>
<tr>
<td>01214</td>
<td>BLUEBERRY EXTRACT</td>
<td>60 veg. caps</td>
<td>22.50</td>
<td>16.88</td>
<td>15.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01438</td>
<td>BLUEBERRY EXTRACT W/ POMEGRANATE</td>
<td>60 veg. caps</td>
<td>30.00</td>
<td>22.50</td>
<td>20.25</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01506</td>
<td>BONE FORMULA (ODR. STRUM’S INTENSIVE)</td>
<td>300 caps</td>
<td>56.00</td>
<td>42.00</td>
<td>37.50</td>
<td>900.00</td>
<td>270.00</td>
</tr>
<tr>
<td>01720</td>
<td>BONE RESTORE W/VITAMIN K2</td>
<td>120 caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.50</td>
<td>120.00</td>
<td>36.00</td>
</tr>
<tr>
<td>01725</td>
<td>BONE STRENGTH FORMULA W/KOACT®</td>
<td>120 caps</td>
<td>45.00</td>
<td>33.75</td>
<td>30.00</td>
<td>120.00</td>
<td>36.00</td>
</tr>
<tr>
<td>00313</td>
<td>BONE-UP®</td>
<td>240 caps</td>
<td>28.95</td>
<td>21.71</td>
<td>20.41</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01681</td>
<td>BORON</td>
<td>3 mg, 100 veg. caps</td>
<td>5.95</td>
<td>4.46</td>
<td>3.94</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00202</td>
<td>BOSWELLA</td>
<td>100 caps</td>
<td>38.00</td>
<td>28.50</td>
<td>22.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00984</td>
<td>BP MANAGEMENT (Optimal)</td>
<td>60 tablets</td>
<td>44.00</td>
<td>33.00</td>
<td>30.00</td>
<td>240.00</td>
<td>72.00</td>
</tr>
<tr>
<td>01802</td>
<td>BRAIN SHIELD® GASTRODIN</td>
<td>300 mg, 60 veg. caps</td>
<td>33.00</td>
<td>24.75</td>
<td>22.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01253</td>
<td>BRANCHED CHAIN AMINO ACIDS</td>
<td>90 caps</td>
<td>19.50</td>
<td>14.63</td>
<td>12.75</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01942</td>
<td>BREAST HEALTH FORMULA</td>
<td>60 caps</td>
<td>34.00</td>
<td>25.50</td>
<td>22.50</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>00893</td>
<td>BRUTE EYES III</td>
<td>2 vials, 5 ml each</td>
<td>34.00</td>
<td>25.50</td>
<td>24.00</td>
<td>90.00</td>
<td>27.00</td>
</tr>
<tr>
<td>01203</td>
<td>BROMELAIN (Specially-coated)</td>
<td>500 mg, 60 enteric coated tablets</td>
<td>21.00</td>
<td>15.75</td>
<td>14.25</td>
<td>90.00</td>
<td>27.00</td>
</tr>
</tbody>
</table>

**SUBTOTAL OF COLUMN C:** 360,000

**SUBTOTAL OF COLUMN 2:** 1,200,000

**RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**
<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>Retail Each $</th>
<th>1 Unit Each</th>
<th>4 Unit Each</th>
<th>10 Unit Each</th>
<th>QTY Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>01897</td>
<td>COGNITEX W/PREGNENOLONE &amp; BRAIN SHIELD</td>
<td>62.00</td>
<td>46.50</td>
<td>39.75</td>
<td>37.50</td>
<td>300.00</td>
</tr>
<tr>
<td>01421</td>
<td>COGNITEX BASICS • 60 softgels</td>
<td>38.00</td>
<td>28.50</td>
<td>26.25</td>
<td>24.00</td>
<td>200.00</td>
</tr>
<tr>
<td>01859</td>
<td>COGNIZIN® CDP-CHOLINE CAPS • 250 mg, 60 veg. caps</td>
<td>36.00</td>
<td>27.00</td>
<td>25.50</td>
<td>24.00</td>
<td>1200.00</td>
</tr>
<tr>
<td>02202</td>
<td>COMFORTMAX™ • 30 day supply</td>
<td>44.00</td>
<td>33.00</td>
<td>29.00</td>
<td>26.00</td>
<td>300.00</td>
</tr>
<tr>
<td>01945</td>
<td>COMPLETE B-COMPLEX (BioActiv®) • 60 veg. caps</td>
<td>12.00</td>
<td>9.00</td>
<td>8.00</td>
<td>7.00</td>
<td>120.00</td>
</tr>
<tr>
<td>02298</td>
<td>COMPREHENSIVE NUTRIENT PACKS ADVANCED • 30 packs</td>
<td>90.00</td>
<td>67.50</td>
<td>61.50</td>
<td>55.50</td>
<td>300.00</td>
</tr>
<tr>
<td>01949</td>
<td>COQ10 W/δ-LIMONENE (Super-Absorbable) • 50 mg, 60 softgels</td>
<td>25.00</td>
<td>18.75</td>
<td>16.50</td>
<td>15.00</td>
<td>150.00</td>
</tr>
<tr>
<td>01951</td>
<td>COQ10 W/δ-LIMONENE (Super-Absorbable)</td>
<td>30.00</td>
<td>22.50</td>
<td>20.00</td>
<td>18.00</td>
<td>300.00</td>
</tr>
<tr>
<td>01929</td>
<td>COQ10 (Super Ubiquinol) • 100 mg, 60 softgels</td>
<td>56.00</td>
<td>42.00</td>
<td>36.00</td>
<td>33.00</td>
<td>300.00</td>
</tr>
<tr>
<td>01733</td>
<td>COQ10 W/PQQ (Super Ubiquinol) • 100 mg, 30 softgels</td>
<td>50.00</td>
<td>37.50</td>
<td>30.00</td>
<td>27.00</td>
<td>150.00</td>
</tr>
<tr>
<td>01437</td>
<td>COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (Super Ubiquinol) • 100 mg, 30 softgels</td>
<td>33.00</td>
<td>24.75</td>
<td>22.00</td>
<td>19.50</td>
<td>100.00</td>
</tr>
<tr>
<td>01426</td>
<td>COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (Super Ubiquinol) • 100 mg, 60 softgels</td>
<td>62.00</td>
<td>46.50</td>
<td>39.00</td>
<td>36.00</td>
<td>300.00</td>
</tr>
<tr>
<td>01425</td>
<td>COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (Super Ubiquinol) • 50 mg, 100 softgels</td>
<td>58.00</td>
<td>43.50</td>
<td>34.50</td>
<td>31.50</td>
<td>150.00</td>
</tr>
<tr>
<td>01427</td>
<td>COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (Super Ubiquinol) • 50 mg, 30 softgels</td>
<td>20.00</td>
<td>15.00</td>
<td>12.00</td>
<td>10.50</td>
<td>60.00</td>
</tr>
<tr>
<td>01431</td>
<td>COQ10 W/ENH MITOCHONDRIAL SUPPORT™ (Super Ubiquinol) • 200 mg, 30 softgels</td>
<td>62.00</td>
<td>46.50</td>
<td>39.00</td>
<td>36.00</td>
<td>300.00</td>
</tr>
<tr>
<td>00882</td>
<td>CRAN-MAX® • 500 mg, 60 veg. caps</td>
<td>17.50</td>
<td>13.13</td>
<td>11.25</td>
<td>10.00</td>
<td>300.00</td>
</tr>
<tr>
<td>01424</td>
<td>CRAN-MAX® WITH ELLIROSETM (Optimized) • 60 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td>10.50</td>
<td>300.00</td>
</tr>
<tr>
<td>01529</td>
<td>CREATINE CAPSULES • 120 veg. caps</td>
<td>10.95</td>
<td>8.21</td>
<td>6.94</td>
<td>5.70</td>
<td>300.00</td>
</tr>
<tr>
<td>00467</td>
<td>CURCUMIN® (Super Bio) • 400 mg, 30 veg. caps</td>
<td>20.00</td>
<td>15.00</td>
<td>14.00</td>
<td>12.50</td>
<td>120.00</td>
</tr>
<tr>
<td>00407</td>
<td>CURCUMIN® (Super Bio) • 400 mg, 60 veg. caps</td>
<td>38.00</td>
<td>28.50</td>
<td>26.25</td>
<td>24.00</td>
<td>240.00</td>
</tr>
<tr>
<td>01924</td>
<td>CURCUMIN® W/GINGER &amp; TURMEROINES (Advanced Bio) 30 softgels</td>
<td>30.00</td>
<td>22.50</td>
<td>20.25</td>
<td>18.00</td>
<td>90.00</td>
</tr>
<tr>
<td>01804</td>
<td>CYTOKINE SUPPRESS™ W/ESCC • 30 veg. caps</td>
<td>30.00</td>
<td>22.50</td>
<td>20.25</td>
<td>18.00</td>
<td>90.00</td>
</tr>
</tbody>
</table>

**COSMESIS**

<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>Retail Each $</th>
<th>1 Unit Each</th>
<th>4 Unit Each</th>
<th>10 Unit Each</th>
<th>QTY Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>01015</td>
<td>ADULT BLEMISH LOTION + ECG1</td>
<td>74.50</td>
<td>55.88</td>
<td>49.17</td>
<td>44.10</td>
<td>300.00</td>
</tr>
<tr>
<td>01057</td>
<td>ADVANCED PEPTIDE ANTI-OXIDANT SERUM + 1 fl. oz</td>
<td>53.00</td>
<td>39.75</td>
<td>34.50</td>
<td>28.88</td>
<td>150.00</td>
</tr>
<tr>
<td>01865</td>
<td>ADVANCED GROWTH FACTOR SERUM + 1 fl. oz</td>
<td>65.00</td>
<td>48.75</td>
<td>42.75</td>
<td>35.30</td>
<td>300.00</td>
</tr>
<tr>
<td>01700</td>
<td>ADVANCED HYALURONIC ACID SERUM + 1 fl. oz</td>
<td>45.00</td>
<td>33.75</td>
<td>29.25</td>
<td>23.50</td>
<td>150.00</td>
</tr>
<tr>
<td>01584</td>
<td>ADVANCED LIGHTENING CREAM + 1 oz</td>
<td>65.00</td>
<td>48.75</td>
<td>42.75</td>
<td>35.30</td>
<td>300.00</td>
</tr>
<tr>
<td>01555</td>
<td>ADVANCED PEPTIDE HAND THERAPY + 4 oz</td>
<td>46.00</td>
<td>34.50</td>
<td>29.25</td>
<td>23.50</td>
<td>150.00</td>
</tr>
<tr>
<td>01552</td>
<td>ADVANCED TRIPLE PEPTIDE SERUM + 1 fl. oz</td>
<td>65.00</td>
<td>48.75</td>
<td>42.75</td>
<td>35.30</td>
<td>300.00</td>
</tr>
<tr>
<td>01490</td>
<td>ADVANCED UNDER EYE SERUM W/STEM CELLS + .33 fl. oz</td>
<td>49.00</td>
<td>36.75</td>
<td>31.50</td>
<td>25.00</td>
<td>150.00</td>
</tr>
<tr>
<td>01399</td>
<td>AMER SELF MICRODERMABRASION + 2 oz</td>
<td>49.00</td>
<td>36.75</td>
<td>31.50</td>
<td>25.00</td>
<td>150.00</td>
</tr>
<tr>
<td>01585</td>
<td>ANTI-AGING FACE OIL + 1 fl. oz</td>
<td>59.00</td>
<td>44.25</td>
<td>38.90</td>
<td>30.50</td>
<td>300.00</td>
</tr>
<tr>
<td>01118</td>
<td>ANTI-AGING MASK + 2 oz</td>
<td>72.00</td>
<td>54.00</td>
<td>47.52</td>
<td>37.12</td>
<td>300.00</td>
</tr>
<tr>
<td>01511</td>
<td>ANTI-AGING REJUVENATING FACE CREAM + 2 oz</td>
<td>65.00</td>
<td>48.75</td>
<td>42.75</td>
<td>35.30</td>
<td>300.00</td>
</tr>
<tr>
<td>01535</td>
<td>ANTI-AGING REJUVENATING SCALP SERUM + 2 fl. oz</td>
<td>46.00</td>
<td>34.50</td>
<td>29.25</td>
<td>23.50</td>
<td>150.00</td>
</tr>
<tr>
<td>01347</td>
<td>ANTI-OXIDANT SERUM WBLUEBERRY &amp; POMEGRANATE EXTRACTS + 1 fl. oz</td>
<td>33.00</td>
<td>24.75</td>
<td>21.38</td>
<td>17.14</td>
<td>150.00</td>
</tr>
<tr>
<td>01330</td>
<td>ANTI-OXIDANT FACIAL MIST HYDRATOR + 2 fl. oz</td>
<td>32.00</td>
<td>24.00</td>
<td>22.80</td>
<td>18.96</td>
<td>150.00</td>
</tr>
<tr>
<td>01566</td>
<td>COLLAGEN BOOSTING PEPTIDE SERUM + 1 fl. oz</td>
<td>59.00</td>
<td>44.25</td>
<td>38.90</td>
<td>30.50</td>
<td>300.00</td>
</tr>
<tr>
<td>01868</td>
<td>CUCUMBER HYDRA PEPTIDE EYE CREAM + .5 oz</td>
<td>38.00</td>
<td>28.50</td>
<td>26.00</td>
<td>21.00</td>
<td>150.00</td>
</tr>
</tbody>
</table>

**SUBTOTAL OF COLUMN 3**

**SUBTOTAL OF COLUMN 4**

**RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS**

**NOVEMBER 2018**
<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>Retail Each</th>
<th>1 Unit Each</th>
<th>4 Unit Each</th>
<th>10 Unit Each</th>
<th>QTY Total</th>
<th>YOUR PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>02021</td>
<td>DIGESTIVE ENZYMES (Enhanced Super) • 60 veg. caps</td>
<td>22.00</td>
<td>16.50</td>
<td>15.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02022</td>
<td>DIGESTIVE ENZYMES W/PROBIOTICS (Enhanced Super) • 60 veg. caps</td>
<td>28.00</td>
<td>21.00</td>
<td>18.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01671</td>
<td>D, L-PHENYLALANINE • 500 mg, 100 veg. caps</td>
<td>18.75</td>
<td>14.06</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01540</td>
<td>DMAE BITARTRATE • 150 mg, 200 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>11.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02270</td>
<td>DNA PROTECTION FORMULA • 30 veg. caps</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01931</td>
<td>DOG MIX • 100 grams powder</td>
<td>18.00</td>
<td>13.50</td>
<td>11.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02006</td>
<td>DOPIA-MIND™ • 60 veg. tabs</td>
<td>44.00</td>
<td>33.00</td>
<td>28.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00321</td>
<td>DR. PROCTOR’S ADVANCED HAIR FORMULA • 2 oz</td>
<td>39.95</td>
<td>29.06</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00320</td>
<td>DR. PROCTOR'S HAIR SHAMPOO • 8 oz</td>
<td>24.95</td>
<td>18.71</td>
<td>16.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00997</td>
<td>ENDOTHELIAL DEFENSE™ W/POMEGRANATE COMPLETE AND CORDIART™ • 60 softgels</td>
<td>68.00</td>
<td>51.00</td>
<td>46.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00997</td>
<td>ENDOTHELIAL DEFENSE™ W/GLICO DIVIN • 60 veg. caps</td>
<td>54.00</td>
<td>40.50</td>
<td>36.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02200</td>
<td>EPA/DHA (Clearly) • 120 softgels</td>
<td>30.00</td>
<td>22.50</td>
<td>20.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01937</td>
<td>EPA/DHA (Mega) • 120 softgels</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02033</td>
<td>ESOPHAGOCOL™ • 60 chewable tablets</td>
<td>12.00</td>
<td>9.00</td>
<td>8.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01737</td>
<td>ESOPHAGEAL GUARDIAN (Berry flavor) • 60 chewable tablets</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01894</td>
<td>ESTROGEN FOR WOMEN • 30 veg. tabs</td>
<td>30.00</td>
<td>22.50</td>
<td>20.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01042</td>
<td>EUROPEAN LEG SOLUTION DIOSMIN 95 • 600 mg, 30 veg. tabs</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01706</td>
<td>EXTRAORDINARY ENZYMES • 60 caps</td>
<td>26.00</td>
<td>19.50</td>
<td>18.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02006</td>
<td>[CALIFORNIA ESTATE] EXTRA VIRGIN OLIVE OIL • 500 ml (16.9 fl. oz)</td>
<td>33.00</td>
<td>24.75</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01514</td>
<td>EYE PRESSURE SUPPORT W/MIRTIOGENOL® • 30 veg. caps</td>
<td>38.00</td>
<td>28.50</td>
<td>25.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00965</td>
<td>FAST-ACTING JOINT FORMULA • 30 caps</td>
<td>39.00</td>
<td>29.25</td>
<td>27.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01717</td>
<td>FAST-C® W/DIHYDROQUERCETIN • 120 veg. tabs</td>
<td>26.00</td>
<td>19.50</td>
<td>18.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01964</td>
<td>FEMMENESSENCE MACAPUSS® • 120 veg. caps</td>
<td>34.99</td>
<td>26.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02125</td>
<td>FLORASSIST® GI W/PHAGE TECHNOLOGY 30 liquid veg. caps</td>
<td>33.00</td>
<td>24.75</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01821</td>
<td>FLORASSIST® HEART HEALTH • 60 veg. caps</td>
<td>32.00</td>
<td>24.00</td>
<td>21.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02124</td>
<td>FLORASSIST® IMMUNE HEALTH • 30 veg. caps</td>
<td>26.00</td>
<td>19.50</td>
<td>18.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02120</td>
<td>FLORASSIST® ORAL HYGIENE • 30 lozenges</td>
<td>20.00</td>
<td>15.00</td>
<td>13.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01825</td>
<td>FLORASSIST® BALANCE • 30 liquid veg. caps</td>
<td>32.00</td>
<td>24.00</td>
<td>21.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02000</td>
<td>FLORASSIST® MOOD • 60 caps</td>
<td>33.00</td>
<td>24.75</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02208</td>
<td>FLORASSIST® NASAL • 30 veg. caps</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02203</td>
<td>FLORASSIST® PREBIOTIC • Strawberry flavor, 60 chewable tabs</td>
<td>20.00</td>
<td>15.00</td>
<td>13.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01920</td>
<td>FLORASSIST® THROAT HEALTH • 30 lozenges</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02212</td>
<td>FOCUS TEA® • Spearmint flavor, 14 stick packs</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01913</td>
<td>FOLATE HIGH POTENCY (Optimized) • 5,000 mcg, 30 veg. tablets</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01939</td>
<td>FOLATE (Optimized) • 1,000 mcg, 100 veg. tablets</td>
<td>15.00</td>
<td>11.25</td>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01842</td>
<td>FOLATE + VITAMIN B12 (BioActive) • 90 veg. caps</td>
<td>12.00</td>
<td>9.00</td>
<td>8.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01544</td>
<td>FORSKOLIN • 10 mg, 60 veg. caps</td>
<td>16.00</td>
<td>12.00</td>
<td>10.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01513</td>
<td>FUCOIDAN W/MARITECH® 926 (Optimized) • 60 veg. caps</td>
<td>36.00</td>
<td>27.00</td>
<td>24.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02070</td>
<td>GAMMA E MIXED TOCOPHEROL/TOCOTRIENOLS • 60 softgels</td>
<td>40.00</td>
<td>30.00</td>
<td>27.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02075</td>
<td>GAMMA E MIXED TOCOPHEROL W/ENHANCED SESAME LIGNANS • 60 softgels</td>
<td>32.00</td>
<td>24.00</td>
<td>21.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01394</td>
<td>GARLIC (Optimized) • 200 veg. caps</td>
<td>24.95</td>
<td>18.71</td>
<td>17.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02100</td>
<td>GASTRO-EASE™ • 60 veg. caps</td>
<td>44.00</td>
<td>33.00</td>
<td>30.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITEM No.</td>
<td>PRODUCT</td>
<td>YOUR PRICE</td>
<td>1 Unit Each</td>
<td>4 Unit Each</td>
<td>10 Unit Each</td>
<td>QTY</td>
<td>Total</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
<td>--------------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>00020</td>
<td>LECITHIN • 16 oz granules</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02255</td>
<td>LIFE EXTENSION MIX™ • 240 tablets</td>
<td>74.00</td>
<td>55.50</td>
<td>48.00</td>
<td>42.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02257</td>
<td>LIFE EXTENSION MIX™ W/EXTRA NIAIN • 240 tablets</td>
<td>74.00</td>
<td>55.50</td>
<td>48.00</td>
<td>42.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02254</td>
<td>LIFE EXTENSION MIX™ • 360 caps</td>
<td>78.00</td>
<td>58.50</td>
<td>50.00</td>
<td>44.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02256</td>
<td>LIFE EXTENSION MIX™ POWDER • 12.70 oz</td>
<td>72.00</td>
<td>54.00</td>
<td>46.00</td>
<td>40.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02265</td>
<td>LIFE EXTENSION MIX™ • 240 tablets W/O copper</td>
<td>74.00</td>
<td>55.50</td>
<td>48.00</td>
<td>42.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>02264</td>
<td>LIFE EXTENSION MIX™ • 360 caps W/O copper</td>
<td>78.00</td>
<td>58.50</td>
<td>50.00</td>
<td>44.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01608</td>
<td>LIVER EFFICIENCY FORMULA • 30 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01639</td>
<td>S-LOX INHIBITOR W/APRÈSFLÉX® • 100 mg, 60 veg. caps</td>
<td>22.00</td>
<td>16.50</td>
<td>15.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01678</td>
<td>L-LYSINE • 620 mg, 100 veg. caps</td>
<td>9.00</td>
<td>6.75</td>
<td>6.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00455</td>
<td>LYPOPENE (Mega) • 15 mg, 90 softgels</td>
<td>35.00</td>
<td>26.25</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01992</td>
<td>MACUGUARD® OCULAR SUPPORT W/SAFFRON• 60 softgels</td>
<td>25.00</td>
<td>18.75</td>
<td>17.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01993</td>
<td>MACUGUARD® OCULAR SUPPORT W/SAFFRON &amp; ASTAXANTHIN • 60 softgels</td>
<td>44.00</td>
<td>33.00</td>
<td>30.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01459</td>
<td>MAGNESIUM CAPS • 500 mg, 100 veg. caps</td>
<td>12.00</td>
<td>9.00</td>
<td>7.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01682</td>
<td>MAGNESIUM (CITRATE) • 160 mg, 100 veg. caps</td>
<td>13.00</td>
<td>9.75</td>
<td>8.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02107</td>
<td>(EXTEND-RELEASE) MAGNESIUM • 60 veg. caps</td>
<td>13.00</td>
<td>9.75</td>
<td>8.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02209</td>
<td>MALE VASCULAR SEXUAL SUPPORT • 30 veg. caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01908</td>
<td>MEDITERRANEAN TRIM WITH SINETROL™-XPUR 60 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02109</td>
<td>MEDITERRANEAN WHOLE FOOD BLEND • 90 veg. caps</td>
<td>44.00</td>
<td>33.00</td>
<td>30.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01668</td>
<td>MELATONIN • 300 mcg, 100 veg. caps</td>
<td>7.00</td>
<td>5.25</td>
<td>4.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01883</td>
<td>MELATONIN • 500 mcg, 200 veg. caps</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00329</td>
<td>MELATONIN • 1 mg, 60 caps</td>
<td>5.00</td>
<td>3.75</td>
<td>3.47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00330</td>
<td>MELATONIN • 3 mg, 60 veg. caps</td>
<td>8.00</td>
<td>6.00</td>
<td>5.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00331</td>
<td>MELATONIN • 10 mg, 60 veg. caps</td>
<td>28.00</td>
<td>21.00</td>
<td>18.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00332</td>
<td>MELATONIN • 3 mg, 60 veg. lozenges</td>
<td>8.00</td>
<td>6.00</td>
<td>5.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02234</td>
<td>MELATONIN (Fast-Acting Liquid) • 2 fl. oz (Citrus-Vanilla)</td>
<td>12.00</td>
<td>9.00</td>
<td>8.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02201</td>
<td>MELATONIN IR/XR • 60 caps</td>
<td>12.00</td>
<td>9.00</td>
<td>7.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01786</td>
<td>MELATONIN Timed Release • 300 mcg, 100 veg. tabs</td>
<td>12.00</td>
<td>9.00</td>
<td>8.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01788</td>
<td>MELATONIN Timed Release • 750 mcg, 60 veg. tablets</td>
<td>8.00</td>
<td>6.00</td>
<td>5.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02101</td>
<td>MEMORY PROTECT • 36 day supply</td>
<td>24.00</td>
<td>18.00</td>
<td>16.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02204</td>
<td>MENOPENASE 731™ • 30 tablets</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01536</td>
<td>METHYLCOBALAMIN • 1 mg, 60 veg. lozenges (vanilla)</td>
<td>9.95</td>
<td>7.46</td>
<td>6.60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01537</td>
<td>METHYLCOBALAMIN • 5 mg, 60 veg. lozenges (vanilla)</td>
<td>32.00</td>
<td>24.00</td>
<td>18.75</td>
<td>17.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>00709</td>
<td>MIGRA-EZEE™ (Butterbur)</td>
<td>33.00</td>
<td>24.75</td>
<td>22.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01522</td>
<td>MILK THISTLE (European) • 60 veg. caps</td>
<td>34.00</td>
<td>25.50</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01922</td>
<td>MILK THISTLE (European) • 60 softgels</td>
<td>28.00</td>
<td>21.00</td>
<td>18.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01925</td>
<td>MILK THISTLE (European) • 120 softgels</td>
<td>44.00</td>
<td>33.00</td>
<td>30.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01940</td>
<td>MIRAFORTE W/STANDARDIZED LIGNANS (Super) • 120 veg caps</td>
<td>62.00</td>
<td>46.50</td>
<td>42.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01869</td>
<td>MITOCONDRIAL BASICS W/POQ • 30 caps</td>
<td>40.00</td>
<td>30.00</td>
<td>27.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01868</td>
<td>MITOCONDRIAL ENERGY OPTIMIZER W/POQ • 120 caps</td>
<td>68.00</td>
<td>51.00</td>
<td>45.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00065</td>
<td>MK-7 • 90 mcg, 60 softgels</td>
<td>28.00</td>
<td>21.00</td>
<td>18.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00451</td>
<td>MSM (Methylsulfonylmethane) • 1,000 mg, 100 caps</td>
<td>14.00</td>
<td>10.50</td>
<td>8.96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02221</td>
<td>MUSCLE STRENGTH &amp; RESTORE FORMULA • 94.2 grams powder</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBTOTAL OF COLUMN 7**

**SUBTOTAL OF COLUMN 8**
<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>YOUR PRICE</th>
<th>QTY Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0025</td>
<td>PROBOST™ THYMIC PROTEIN A • 30 packets</td>
<td>$400.00</td>
<td>100.00</td>
</tr>
<tr>
<td>0144</td>
<td>PROGESTA-CARE® • 4 oz cream</td>
<td>$36.39</td>
<td>24.00</td>
</tr>
<tr>
<td>0209</td>
<td>PROSTATE FORMULA (Ultra) • 60 softgels</td>
<td>$38.00</td>
<td>24.00</td>
</tr>
<tr>
<td>0109</td>
<td>PROSTAPOLLEN™ (Triple strength) • 30 softgels</td>
<td>$28.00</td>
<td>18.75</td>
</tr>
<tr>
<td>0226</td>
<td>PROTEIN CONCENTRATE (Whey) Chocolate • 640 gram</td>
<td>$30.00</td>
<td>19.95</td>
</tr>
<tr>
<td>0228</td>
<td>PROTEIN CONCENTRATE (Whey) Vanilla • 500 grams</td>
<td>$30.00</td>
<td>19.95</td>
</tr>
<tr>
<td>0224</td>
<td>PROTEIN ISOLATE (Advanced Whey) Vanilla • 454 grams</td>
<td>$30.00</td>
<td>19.50</td>
</tr>
<tr>
<td>0243</td>
<td>PROTEIN ISOLATE (Whey) Chocolate • 437 grams</td>
<td>$30.00</td>
<td>19.50</td>
</tr>
<tr>
<td>0242</td>
<td>PROTEIN ISOLATE (Whey) Vanilla • 403 grams</td>
<td>$30.00</td>
<td>19.50</td>
</tr>
<tr>
<td>0217</td>
<td>PROTEIN (PLANT) COMPLETE &amp; AMINO ACID COMPLEX 15.87 oz</td>
<td>$34.00</td>
<td>23.00</td>
</tr>
<tr>
<td>0182</td>
<td>PROVINAL® • PURIFIED OMEGA-7 • 30 softgels</td>
<td>$27.00</td>
<td>18.00</td>
</tr>
<tr>
<td>0167</td>
<td>PS CAPS (Phosphatidylserine) • 100 mg, 100 veg. caps</td>
<td>$54.00</td>
<td>30.00</td>
</tr>
<tr>
<td>0129</td>
<td>PUMPKIN SEED EXTRACT (Water-soluble) • 60 veg. caps</td>
<td>$20.00</td>
<td>13.50</td>
</tr>
<tr>
<td>0163</td>
<td>PYCNOGENOL® FRENCH MARITIME PINE BARK EXTRACT 100 mg, 60 veg. caps</td>
<td>$64.00</td>
<td>45.00</td>
</tr>
<tr>
<td>0212</td>
<td>PYRIDOXAL 5'-PHOSPHATE • 100 mg, 60 veg. caps</td>
<td>$22.00</td>
<td>14.85</td>
</tr>
<tr>
<td>0139</td>
<td>QUERCETIN (Optimized) • 250 mg, 60 veg. caps</td>
<td>$22.00</td>
<td>15.00</td>
</tr>
<tr>
<td>0219</td>
<td>RAINFRESH BLEND GROUND COFFEE • 12 oz. bag</td>
<td>$13.00</td>
<td>9.75</td>
</tr>
<tr>
<td>0213</td>
<td>RAINFRESH BLEND GROUND COFFEE Natural Mocha • 12 oz. bag</td>
<td>$15.00</td>
<td>11.25</td>
</tr>
<tr>
<td>0215</td>
<td>RAINFRESH BLEND GROUND COFFEE Natural Vanilla • 12 oz. bag</td>
<td>$15.00</td>
<td>11.25</td>
</tr>
<tr>
<td>0217</td>
<td>RAINFRESH BLEND WHOLE BEAN COFFEE 12 oz. bag</td>
<td>$13.00</td>
<td>9.75</td>
</tr>
<tr>
<td>0218</td>
<td>RAINFRESH BLEND DECAF GROUND COFFEE 12 oz. bag</td>
<td>$14.00</td>
<td>10.50</td>
</tr>
<tr>
<td>0130</td>
<td>RED YEAST RICE (Bluebonnet) • 600 mg, 60 veg. caps</td>
<td>$18.08</td>
<td>13.56</td>
</tr>
<tr>
<td>0005</td>
<td>REGIMINT • 60 enteric-coated caps</td>
<td>$19.95</td>
<td>14.96</td>
</tr>
<tr>
<td>0170</td>
<td>REISHI EXTRACT MUSHROOM COMPLEX • 60 veg. caps</td>
<td>$30.00</td>
<td>20.25</td>
</tr>
<tr>
<td>0148</td>
<td>REJUVENEX® BODY LOTION • 6 fl. oz</td>
<td>$24.00</td>
<td>18.00</td>
</tr>
<tr>
<td>0161</td>
<td>REJUVENEX® FACTOR FIRMING SERUM • 1.7 oz</td>
<td>$65.00</td>
<td>37.50</td>
</tr>
<tr>
<td>0122</td>
<td>REJUVENEX® (Ultra) • 2 oz</td>
<td>$52.00</td>
<td>33.00</td>
</tr>
<tr>
<td>0067</td>
<td>REJUVENIGHT® (Ultra) • 2 oz</td>
<td>$39.95</td>
<td>26.68</td>
</tr>
<tr>
<td>0221</td>
<td>RESVERATROL • 100 mg, 60 veg. caps</td>
<td>$32.00</td>
<td>21.00</td>
</tr>
<tr>
<td>0220</td>
<td>RESVERATROL (Optimized) • 60 veg. caps</td>
<td>$45.00</td>
<td>33.75</td>
</tr>
<tr>
<td>0089</td>
<td>RHODIOLA EXTRACT • 250 mg, 60 veg. caps</td>
<td>$14.00</td>
<td>9.00</td>
</tr>
<tr>
<td>0190</td>
<td>RIBOGEN™ FRENCH OAK WOOD EXTRACT 200 mg, 30 veg. caps</td>
<td>$36.00</td>
<td>24.75</td>
</tr>
<tr>
<td>0097</td>
<td>(D) RIBOSE POWDER • 150 grams</td>
<td>$27.50</td>
<td>18.56</td>
</tr>
<tr>
<td>0147</td>
<td>(D) RIBOSE TABLETS • 100 veg. tabs</td>
<td>$32.00</td>
<td>21.00</td>
</tr>
<tr>
<td>0120</td>
<td>R-LIPIC ACID (Super) • 240 mg, 60 veg. caps</td>
<td>$49.00</td>
<td>33.75</td>
</tr>
<tr>
<td>0007</td>
<td>RNA CAPSULES • 500 mg, 100 caps</td>
<td>$17.95</td>
<td>12.12</td>
</tr>
<tr>
<td>0142</td>
<td>SAFFRON W/SATIAREAL® (Optimized) • 60 veg. caps</td>
<td>$26.00</td>
<td>24.00</td>
</tr>
<tr>
<td>0215</td>
<td>SAMe (S-Adenosyl-Methionine) 200 mg, 30 enteric coated tablets</td>
<td>$25.00</td>
<td>16.50</td>
</tr>
<tr>
<td>0216</td>
<td>SAMe (S-Adenosyl-Methionine) 400 mg, 30 enteric coated tablets</td>
<td>$26.00</td>
<td>24.00</td>
</tr>
</tbody>
</table>

SUBTOTAL OF COLUMN 9

<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>YOUR PRICE</th>
<th>QTY Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0214</td>
<td>SAME (S-Adenosyl-Methionine) 400 mg, 60 enteric coated tablets</td>
<td>$66.00</td>
<td>49.50</td>
</tr>
<tr>
<td>0170</td>
<td>SEA-IODINE™ • 1,000 mcg, 60 veg. caps</td>
<td>$8.00</td>
<td>6.00</td>
</tr>
<tr>
<td>0189</td>
<td>SE-METHYL L-SELENOCYSTINE • 200 mcg, 90 veg. caps</td>
<td>$11.00</td>
<td>8.25</td>
</tr>
<tr>
<td>0031</td>
<td>SERRAFLAYZEME • 100 tablets</td>
<td>$18.00</td>
<td>12.00</td>
</tr>
<tr>
<td>0126</td>
<td>SEX FOR WOMEN 50+ • (Enhanced) • 90 veg. caps</td>
<td>$59.00</td>
<td>44.25</td>
</tr>
<tr>
<td>0138</td>
<td>SHADE FACTOR™ • 120 veg. caps</td>
<td>$44.00</td>
<td>33.00</td>
</tr>
<tr>
<td>0210</td>
<td>SHADE FACTOR™ SUNSCREEN LOTION • 4 fl. oz</td>
<td>$20.00</td>
<td>15.00</td>
</tr>
<tr>
<td>0211</td>
<td>SHADE FACTOR™ SUNSCREEN SPRAY • 6 fl. oz</td>
<td>$22.00</td>
<td>16.50</td>
</tr>
<tr>
<td>0134</td>
<td>SILMYRIN • 100 mg, 90 veg. caps</td>
<td>$14.00</td>
<td>9.50</td>
</tr>
<tr>
<td>0129</td>
<td>SKIN CARE COLLECTION ANTI-AGING SERUM • 1.75 fl. oz</td>
<td>$60.00</td>
<td>45.00</td>
</tr>
<tr>
<td>0132</td>
<td>SKIN CARE COLLECTION BODY LOTION • 6 oz</td>
<td>$28.00</td>
<td>18.00</td>
</tr>
<tr>
<td>0130</td>
<td>SKIN CARE COLLECTION DAY CREAM • 1.65 oz</td>
<td>$50.00</td>
<td>37.50</td>
</tr>
<tr>
<td>0131</td>
<td>SKIN CARE COLLECTION NIGHT CREAM • 1.65 oz</td>
<td>$39.00</td>
<td>29.25</td>
</tr>
<tr>
<td>0209</td>
<td>SKIN RESTORING CERAMIDES 30 liquid veg. caps</td>
<td>$25.00</td>
<td>17.25</td>
</tr>
<tr>
<td>0144</td>
<td>SLEEP (Quiet) • 60 veg. caps</td>
<td>$13.00</td>
<td>7.50</td>
</tr>
<tr>
<td>0145</td>
<td>SLEEP MELATONIN (Quiet) • 5 mg, 60 veg. caps</td>
<td>$18.00</td>
<td>12.00</td>
</tr>
<tr>
<td>0151</td>
<td>SLEEP W/ MELATONIN (Enhanced) • 30 caps</td>
<td>$22.00</td>
<td>15.00</td>
</tr>
<tr>
<td>0111</td>
<td>SLEEP W/O MELATONIN (Enhanced) • 30 caps</td>
<td>$22.00</td>
<td>15.00</td>
</tr>
<tr>
<td>0061</td>
<td>SODZYM(E)® W/GLISODIN® &amp; WOLFBERRY® • 90 veg. caps</td>
<td>$28.00</td>
<td>21.00</td>
</tr>
<tr>
<td>0067</td>
<td>SOLARSHIELD™ SUNGLASSES • Smoke color</td>
<td>$12.99</td>
<td>8.73</td>
</tr>
<tr>
<td>0109</td>
<td>SOY EXTRACT (Ultra) • 150 veg. caps</td>
<td>$76.00</td>
<td>57.00</td>
</tr>
<tr>
<td>0149</td>
<td>SOY ISOFLAVONES (Super Absorbable) • 60 veg. caps</td>
<td>$28.00</td>
<td>18.75</td>
</tr>
<tr>
<td>0043</td>
<td>STEVIA® (Better) • 100 packets, 1 gram each</td>
<td>$9.95</td>
<td>7.46</td>
</tr>
<tr>
<td>0048</td>
<td>STEVIA® ORGANIC LIQUID SWEETENER (Better) • 2 oz</td>
<td>$11.00</td>
<td>8.25</td>
</tr>
<tr>
<td>0087</td>
<td>STRESS RELIEF (Enhanced) • 30 veg. caps</td>
<td>$28.00</td>
<td>21.00</td>
</tr>
<tr>
<td>0147</td>
<td>STRONTIUM • 750 mg, 90 veg. caps</td>
<td>$20.00</td>
<td>15.00</td>
</tr>
<tr>
<td>0178</td>
<td>SUPER SELENIUM COMPLEX • 200 mcg, 100 veg. caps</td>
<td>$14.00</td>
<td>9.00</td>
</tr>
</tbody>
</table>

SUBTOTAL OF COLUMN 10

NOVEMBER 2018

RECEIVE 25% OFF THE RETAIL PRICE OF ALL PRODUCTS
<table>
<thead>
<tr>
<th>ITEM No.</th>
<th>PRODUCT</th>
<th>Retail Each</th>
<th>1 Unit Each</th>
<th>4 Unit Each</th>
<th>10 Unit Each</th>
<th>QTY Total</th>
<th>YOUR PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>01917</td>
<td>TRANQUIL TRACT™ • 60 veg. caps</td>
<td>52.00</td>
<td>39.00</td>
<td>34.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01466</td>
<td>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT 60 veg. caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01469</td>
<td>TRIPLE ACTION CRUCIFEROUS VEGETABLE EXTRACT W/RESEATROL® • 60 veg. caps</td>
<td>32.00</td>
<td>24.00</td>
<td>22.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02003</td>
<td>TRIPLE ACTION THYROID • 60 veg. caps</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01803</td>
<td>TRI SUGAR SHIELD™ • 60 veg. caps</td>
<td>36.00</td>
<td>27.00</td>
<td>24.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01386</td>
<td>TRUFIBER™ • 180 grams</td>
<td>32.95</td>
<td>24.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01389</td>
<td>TRUFLORA™ PROBIOTICS • 32 veg. caps</td>
<td>42.95</td>
<td>32.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01722</td>
<td>L-TRYPTOPHAN • 500 mg, 90 veg. caps</td>
<td>33.00</td>
<td>24.75</td>
<td>22.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01721</td>
<td>TRYPTOPHAN PLUS (Optimized) • 90 veg. caps</td>
<td>32.00</td>
<td>24.00</td>
<td>21.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02216</td>
<td>TWO-PER-DAY • 60 tablets</td>
<td>12.00</td>
<td>9.00</td>
<td>7.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02215</td>
<td>TWO-PER-DAY • 120 tablets</td>
<td>23.00</td>
<td>17.25</td>
<td>15.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02217</td>
<td>TWO-PER-DAY • 60 caps</td>
<td>13.00</td>
<td>9.75</td>
<td>8.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02214</td>
<td>TWO-PER-DAY • 120 caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00326</td>
<td>L-TYROSINE • 500 mg, 100 tablets</td>
<td>13.50</td>
<td>10.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01921</td>
<td>URIC ACID CONTROL • 60 veg. caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00218</td>
<td>VANADYL SULFATE • 7.5 mg, 100 veg. capsules</td>
<td>15.00</td>
<td>11.25</td>
<td>9.38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02102</td>
<td>VENOFLOW™ • 30 veg. caps</td>
<td>52.00</td>
<td>38.00</td>
<td>36.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00408</td>
<td>VENOTONE • 60 caps</td>
<td>18.95</td>
<td>14.21</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01327</td>
<td>VINPO CETINE • 10 mg, 100 veg. tablets</td>
<td>18.00</td>
<td>13.50</td>
<td>10.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00372</td>
<td>VITAMIN B3 NIACIN • 500 mg, 100 caps</td>
<td>7.65</td>
<td>5.74</td>
<td>4.99</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00208</td>
<td>VITAMIN B5 • 500 mg, 100 veg. caps (Panthenic Acid)</td>
<td>14.00</td>
<td>10.50</td>
<td>9.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01535</td>
<td>VITAMIN B6 • 250 mg, 100 veg. caps</td>
<td>12.50</td>
<td>9.38</td>
<td>8.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00361</td>
<td>VITAMIN B12 • 500 mcg, 100 lozenges</td>
<td>8.35</td>
<td>6.56</td>
<td>5.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01634</td>
<td>VITAMIN C W/DIHYDROQUERCETIN • 1,000 mg, 60 veg. tablets</td>
<td>10.00</td>
<td>7.50</td>
<td>6.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00287</td>
<td>VITAMIN C W/DIHYDROQUERCETIN 1,000 mg, 250 veg. tablets</td>
<td>30.00</td>
<td>22.50</td>
<td>20.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00084</td>
<td>VITAMIN C POWDER (Buffered) • 454 grams</td>
<td>28.00</td>
<td>21.00</td>
<td>19.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01736</td>
<td>VITAMIN C-MAGNESIUM CRYSTALS (Effervescent) • 180 grams</td>
<td>20.00</td>
<td>15.00</td>
<td>13.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02232</td>
<td>VITAMIN D3 • 2,000 IU, 1 fl. oz, Mint flavor</td>
<td>28.00</td>
<td>21.00</td>
<td>18.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01753</td>
<td>VITAMIN D3 • 1,000 IU, 90 softgels</td>
<td>7.00</td>
<td>5.25</td>
<td>4.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01751</td>
<td>VITAMIN D3 • 1,000 IU, 250 softgels</td>
<td>12.50</td>
<td>9.38</td>
<td>8.44</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01713</td>
<td>VITAMIN D3 • 5,000 IU, 150 softgels</td>
<td>10.00</td>
<td>7.50</td>
<td>6.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01718</td>
<td>VITAMIN D3 • 7,000 IU, 60 softgels</td>
<td>14.00</td>
<td>10.50</td>
<td>9.45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01758</td>
<td>VITAMIN D3 W/SEA-IODINE™ • 5,000 IU, 60 caps</td>
<td>14.00</td>
<td>10.50</td>
<td>9.38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02244</td>
<td>VITAMIN D3 LIQUID • 2,000 IU, 1 fl. oz</td>
<td>28.00</td>
<td>21.00</td>
<td>18.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02040</td>
<td>VITAMINS D AND K W/SEA-IODINE™ • 60 caps</td>
<td>24.00</td>
<td>18.00</td>
<td>16.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01863</td>
<td>VITAMIN E (Super) • 400 IU, 90 softgels</td>
<td>28.00</td>
<td>21.00</td>
<td>19.50</td>
<td>18.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01936</td>
<td>VITAMIN K2 (Low dose) • 45 mcg, 90 softgels</td>
<td>18.00</td>
<td>13.50</td>
<td>12.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01902</td>
<td>WAIST-LINE CONTROL™ • 120 veg. caps</td>
<td>42.00</td>
<td>31.50</td>
<td>28.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01919</td>
<td>X-R SHIELD™ • 90 veg. caps</td>
<td>15.00</td>
<td>11.25</td>
<td>9.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00409</td>
<td>XYLITOL W™ MOUTH WASH • 16 fl. oz</td>
<td>10.00</td>
<td>7.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SUBTOTAL OF COLUMN 11**

**SUBTOTAL OF COLUMN 12**

* These products are not 25% off retail price.
** Due to license restrictions, this product is not for sale to customers outside of the USA.
*** Due to license restrictions, this product is not for sale to customers outside of the USA.
† Due to license restrictions, this product is not for sale to customers outside of Canada.
† † These products are not 25% off retail price. Due to license restrictions this product is not for sale to customers outside of the USA.

Not sure exactly which supplements you need?

Talk to a Wellness Specialist toll-free at 1-800-226-2370
## ORDER SUBTOTALS

| Subtotal Column 1 |  |
| Subtotal Column 2 |  |
| Subtotal Column 3 |  |
| Subtotal Column 4 |  |
| Subtotal Column 5 |  |
| Subtotal Column 6 |  |
| Subtotal Column 7 |  |
| Subtotal Column 8 |  |
| Subtotal Column 9 |  |
| Subtotal Column 10 |  |
| Subtotal Column 11 |  |
| Subtotal Column 12 |  |

## ORDER TOTALS

| Subtotal of Columns 1 - 12 |  |

*Customers enrolled in Premier receive free unlimited standard delivery in the U.S., excluding U.S. territories, and do not have to pay the $5.50 postage and handling fee.*

<table>
<thead>
<tr>
<th>Postage &amp; Handling</th>
<th>(Any size order, in the U.S. includes Alaska &amp; Hawaii)</th>
<th>$5.50 ‡†</th>
</tr>
</thead>
</table>

| C.O.D.s (Add $7 for C.O.D. Orders) |  |

UPS OVERNIGHT add $16, UPS 2nd Day AIR add $7. For Puerto Rico, US Virgin Islands, add $7. CANADA UPS EXPRESS flat rate $17.50, UK flat rate $25 USD. ALL OTHER INTERNATIONAL AIR WILL BE ADDED.

| Shipping |  |

| Grand Total | (Must be in U.S. Dollars) |  |

---

**PLEASE MAIL TO:** Life Extension  
P.O. Box 407198 • Ft. Lauderdale, Florida 33340-7198  
Or Call Toll Free 1-800-544-4440 • Fax: 866-728-1050

---

**BILL TO ADDRESS**

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail</td>
<td></td>
</tr>
</tbody>
</table>

| Address |  |

| City/State/Zip-Postal Code |  |
| Country |  |

| Phone |  |
| Fax |  |

| Visa/Mastercard/Amer Express/Discover # |  |
| Exp. Date |  |
| Signature |  |

---

**SHIP TO ADDRESS**

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E-mail</td>
<td></td>
</tr>
</tbody>
</table>

| Address |  |

| City/State/Zip-Postal Code |  |
| Country |  |

| Phone |  |
| Fax |  |

---

Prices subject to change without notice.  
Please notify Life Extension of any address change.
HIGHLY PURIFIED FISH OIL

YOUR CHOICE OF HIGHLY-CONCENTRATED FORMULAS:

SUPER OMEGA-3 Fish oil EPA/DHA with sesame lignans and olive polyphenols

Retail Price Your Price
1 bottle $32 $24
4 bottles $21 each
Item # 01982 • 120 softgels

SUPER OMEGA-3 Fish oil EPA/DHA with sesame lignans and olive polyphenols (Enteric-coated for sensitive stomachs)

Retail Price Your Price
1 bottle $34 $25.50
4 bottles $23.25 each
Item # 01984 • 120 enteric coated softgels

SUPER OMEGA-3 Fish oil EPA/DHA with krill, astaxanthin, sesame lignans, and olive polyphenols

Retail Price Your Price
1 bottle $45 $33.75
4 bottles $31.50 each
Item # 01986 • 120 softgels

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

Highest Independent 5-star rating, International Fish Oil Society For Over Nine Years. IFOS certification mark is a registered trademark of Nutrasource Diagnostics, Inc.


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.
7 VIRAL INDUCED CANCERS
Head and neck cancer incidence in men is surging. The diet and supplement programs Life Extension® readers follow offer a degree of protection against viral (HPV) induced cancers.

46 INHIBIT ARTERIAL PLAQUE
Two plant extracts have been shown to reduce arterial plaque progression by 95% while promoting plaque stability to lessen the risk of rupture and arterial occlusion.

57 GREEN TEA AND BROCCOLI COMBAT BREAST CANCER
Compounds in green tea and broccoli can reprogram genes in treatment-resistant malignant cells to make them more susceptible to eradication by conventional therapies.

26 HOW BERRIES REDUCE OBESITY DAMAGE
Mixed berry extracts can reduce the size of fat cells, promote fat burning, and improve insulin sensitivity to help limit systemic damage caused by obesity.

36 PREVENT MUSCLE LOSS AND FRAILTY
Age-related muscle loss increases the risk for falls and fractures. Two nutrients have been shown to rebuild lost muscle in older individuals while mitigating frailty.

66 RESTORE YOUNGER IMMUNE FUNCTION
Cistanche, Reishi mushrooms, and Pu-erh tea have been shown to reverse harmful changes that occur in the immune system with advancing age.