



LIFE
EXTENSION®

The Science of a Healthier Life®

May/June 2026

FEATURE ARTICLES

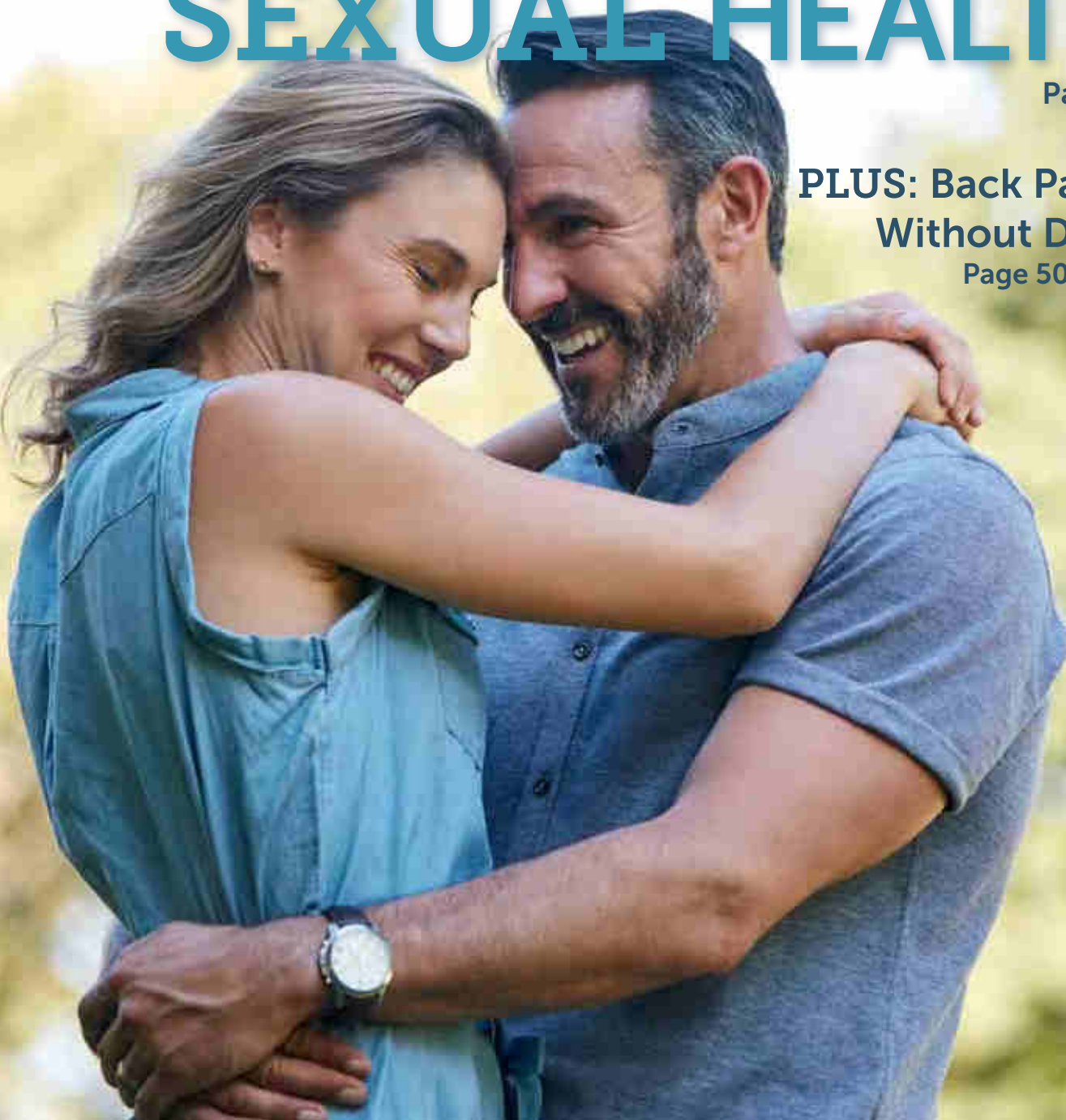
- 16 A Fruit that Protects the Heart
- 24 Boost Respiratory Health
- 32 Lower Excess Cortisol, Decelerate Aging
- 58 7.5-Year Reversal of Brain Age
- 70 Pomegranate's Diverse Benefits
- 90 Digestive Enzyme Support

BOOST MALE SEXUAL HEALTH

Page 40

**PLUS: Back Pain Relief
Without Drugs**

Page 50





"I love it."
Steven
VERIFIED CUSTOMER
REVIEW

UP TO 45 TIMES
GREATER
BIOAVAILABILITY†

CURCUMIN



Item #02407

60 vegetarian capsules

Patented technology combining **turmeric** and **fenugreek fiber** results in up to **45 times** greater bioavailability of free **curcuminoids**.

This product is available at fine health food stores everywhere.

† Studied against powder turmeric extract standardized to 95% curcuminoids



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.



"I love this product!"

Susan

VERIFIED CUSTOMER
REVIEW

Enjoy the Finer Things in Life

with Optimized Resveratrol Elite™ Formula!

Resveratrol is good for your heart, mind, and cellular health—but is hard to absorb.

Optimized Resveratrol Elite™ supplement is formulated to yield up to 10x better resveratrol bioavailability* along with highly absorbable forms of quercetin and fisetin.



Item #02230

60 vegetarian capsules

This product is available at fine health food stores everywhere.

*Than unformulated resveratrol



RESVERATROL ELITE™

UP TO 10 TIMES
GREATER BIOAVAILABILITY

FOR A HEALTHY,
LONG LIFE

Does not contain wine. Our trans-resveratrol is extracted from Japanese Knotweed root.

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.

VOTED
#1

MULTIVITAMIN

Compare
Two-Per-Day Multivitamin
to the Leading Brand



"Covers all
the bases."

Brian
VERIFIED
CUSTOMER
REVIEW

Compared to Centrum®
Silver® Adults 50+
Two-Per-Day Provides:

- 50 TIMES THE **VITAMIN B1**
- 25 TIMES THE **VITAMIN B6**
- 12 TIMES THE **VITAMIN B12**
- 10 TIMES THE **BIOTIN**
- 10 TIMES THE **SELENIUM**
- 7 TIMES THE **VITAMIN C**
- 2 TIMES THE **VITAMIN E**
- 2.5 TIMES THE **VITAMIN B3**
- 2 TIMES THE **VITAMIN D**
- 2 TIMES THE **ZINC**

Two-Per-Day Multivitamin Capsules

Item #02314 • 120 capsules (two-month supply)

Two-Per-Day Multivitamin Tablets

Item #02315 • 120 tablets (two-month supply)

These products are available at
fine health food stores everywhere.

Alpha lipoic acid, quercetin and plant extracts
lacking in most commercial multivitamins.

The **Two-Per-Day**
multinutrient
formula is superior because
it provides vastly **higher**
potencies of **vitamins**,
minerals and **plant extracts**.



2024
#1 Rated
Multivitamins –
11 Time Winner†

CAUTION: Individuals consuming more than 50 mcg (2000 IU)/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy vitamin D measurement. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

† Ratings based on results of the 2024 ConsumerLab.com Survey of Supplement Users. More information at www.consumerlab.com/survey.

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

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.



Super Omega-3

Fish oil is a popular supplement people use to boost omega-3 levels in the heart, brain, eyes, and other tissues.

Super Omega-3 provides healthy components of the Mediterranean diet, including highly purified fish oil, sesame lignans and standardized olive fruit extracts.

2,400 mg
of EPA + DHA
in four softgels



Item #01982
120 softgels

This product is available at fine health food stores everywhere.

IFOS™ certification mark is a registered trademark of Nutrasource Diagnostics, Inc. This product has been tested to the quality and purity standards of the IFOS™ program conducted at Nutrasource Diagnostics, Inc.

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

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

"I like the fact that it's high potency and so small and easy to swallow."

Barbara
VERIFIED BUYER

VITAMIN



FOR LASTING HEALTH

Strong bones and a healthy heart—two benefits of adding vitamin K to your routine. You can ensure you're getting enough of this important nutrient by supplementing with exactly as much—or as little—vitamin K as you need.

Super K*

Vitamin K1 (as phytonadione) 2,000 mcg
Vitamin K2 (Mk-4) 1,000 mcg
Vitamin K2 (as MenaQ7® trans menaquinone-7) 180 mcg

Item #02334

90 softgels

Low Dose Vitamin K*

45 mcg

Item #01936

90 softgels

Mega Vitamin K2*

45,000 mcg

Item #02417

30 capsules

These products are available at fine health food stores everywhere.

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

MenaQ7® is a registered trademark of Lesaffre et Compagnie, France.



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.

REPORTS

Page
40
ON THE
COVER



Boost Male Sexual Health and Function

In a recent **human** study, a blend of **cacao seed** and **pomegranate** *increased* **sexual function** scores by **80%**, boosting arousal, behavior, and satisfaction.

In another trial, a *bioavailable* form of **luteolin** reduced compounds linked to male sexual health problems.

16 A FRUIT THAT PROTECTS THE HEART

A **fruit extract** clinically *reduced* **LDL** cholesterol by **22%**, lowered **CRP** by **54%**, and *boosted* the antioxidant **glutathione** by **53%**.

24 RESPIRATORY HEALTH

A **probiotic** clinically *reduced* **cold** and **flu** incidence by more than **half**, while a **postbiotic** yeast strain *reduced* days with **nasal congestion** in seasonal allergy sufferers by **43%**.

32 LOWER EXCESS CORTISOL

Chronic stress can raise **cortisol levels** and is associated with **accelerated aging**. In clinical trials, specific botanicals helped maintain healthy cortisol levels and reduce levels of psychological stress.

50 LOW BACK PAIN RELIEF

A clinical trial showed that two **plant extracts** significantly *reduced* **lower back pain** for **79%** of patients in 30 days. In a separate clinical trial, another plant extract eliminated chronic low back pain for **22%** of subjects after four weeks.

58 IMPROVE YOUR ESTIMATED BRAIN AGE

A highly bioavailable form of **magnesium** was shown in a recent clinical trial to *improve* function-based estimates of **cognitive age** by more than **7 years** within six weeks.

70 DIVERSE EFFECTS OF POMEGRANATE ON AGING

Densely packed with synergistic nutrients, **pomegranate** may help forestall common disorders related to **biological aging**.

84 RESEARCH UPDATE: PROBIOTICS IMPROVE SURVIVAL DURING CANCER TREATMENT

A recent study found that cancer patients on a common class of immunotherapy drugs who took **probiotics** had prolonged progression-free survival. The **probiotic** group was **42% less** likely to die during follow-up.

90 SOLUTIONS: IMPROVE DIGESTION WITH ENZYMES

With age, the body produces fewer **digestive enzymes**, which may cause bloating, gas, general discomfort, and nutrient deficiencies. Taking digestive enzymes before meals offers a solution.

DEPARTMENTS

10 IN THE NEWS

Cardiovascular disease remains America's top killer; selenium improved ICU survival rates; vitamin D and fatty acids improved rheumatoid arthritis scores; whey improved kidney function and uric acid blood levels.



LIFE EXTENSION®

The Science of a Healthier Life®

May/June 2026

Confidence *Between the Sheets*

There are many components to a man's sexual health, from physical aspects like erectile function and stamina, to the emotional elements of desire, mood and energy. Advanced Male Sexual Support promotes them all, with clinically researched ingredients.

NEW

LIFE EXTENSION
Advanced Male Sexual Support

Item #02549
60 vegetarian capsules

GLUTEN FREE **NON GMO**
LE CERTIFIED

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.

Editorial

Editor-in-Chief • Philip Smith
Executive Managing Editor • Renee Smith
Medical Editor • Mahwish Aurangzeb, MD, MPH
Senior Editor • Dan Jewel
Senior Staff Writer • Michael Downey
Department Editor • Laurie Mathena
Associate Editor • Rivka Rosenberger, EdD
Creative Director • Robert Vergara, MS
Art Director • Alexandra Maldonado

Chief Medical Officer

Steven Joyal, MD

Chief Scientific Officer

Andrew Swick, MS, PhD

Scientific Advisory Board

Richard Black, DO • Aubrey de Grey, PhD • Joel Kahn, MD, FACC
Sandra C. Kaufmann, MD • Peter H. Langsjoen, MD, FACC
Dipnarine Maharaj, MD • L. Ray Matthews, MD, FACS
Ralph W. Moss, PhD • Michael D. Ozner, MD, FACC
Xiaoxi Wei, PhD • Jonathan V. Wright, MD

Contributors

Michael Downey • Laurie Mathena • Marsha McCulloch, MS, RD
Stuart Rey • Ryan Sullivan • Randall Thompson

Advertising

Chief Marketing Officer • Rey Searles • rsearles@lifeextension.com
National Advertising Manager • JT Hroncich • 404-347-4170

Vice President, Business Development

Ryan Thompson • rythompson@lifeextension.com • 954-202-7685

Circulation & Distribution

Life Extension • 3600 West Commercial Blvd., Ft. 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 • Email: wellness@LifeExtension.com

Life Extension Magazine values your opinion and welcomes 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

LIFE EXTENSION (ISSN 1524-198X) May/June 2026 ©2026 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 L4B4R6. 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 Magazine* 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 it, 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 information and blocks of undeliverable copies to P.O. Box 1051, Fort Erie, ON L2A 6C7.

Oh-Mg!

105 mg



Bioavailable **MAGNESIUM GLYCINATE** For Whole-Body Health

Magnesium is involved in over **600** biochemical reactions in the human body.

Each capsule of **Magnesium Glycinate** provides **105 mg** of elemental magnesium. This can enable healthy magnesium levels to be achieved throughout the body.

Item #02535

90 vegetarian capsules

This product is available at fine health food stores everywhere.

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.

Mark S. Bezzek, MD, FACP, FAARM, FAAEM, is board-certified in internal medicine, emergency medicine, and anti-aging/regenerative medicine. He holds U.S. patents for a multivitamin/mineral supplement, an Alzheimer's/dementia compilation, and a diabetic regimen.

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*.

Thomas F. Crais, MD, FACS, a board-certified plastic surgeon, was medical director of the microsurgical research and training lab at Southern Baptist Hospital in New Orleans, LA, and currently works in Hailey, ID.

Martin Dayton, MD, DO, has a private practice and 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.

Mitchell J. Ghen, DO, PhD, holds a doctorate in holistic health and anti-aging and practices at Dr. Mitch's Total Health.

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 has a skin care line.

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

Ingo Mahn, DDS, AIAOMT, is the founder of Natural Dental Partners in North Scottsdale, AZ. A 1985 graduate of Marquette University School of Dentistry, he also earned a degree in Integrative Medicine from Capital University in Georgetown in 2004. Dr. Mahn is on the board of the International Academy of Oral Medicine and Toxicology (IAOMT) and serves as the chairman of the IAOMT Ozone committee. He is the author of *A Healthy Mouth - The Missing Link to Optimal Health*, and *A Breath of Health*.

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.

Professor 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 honorary resident professor, Nutrition, Texas Women's University. He is the author of more than 130 papers and 400 lectures.

Philip Lee Miller, MD, is founder and medical director of California Age Management 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 a pioneer in functional and anti-aging medicine in Italy where he also works as a journalist and a writer.

Lambert Titus K. Parker, MD, 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 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.

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

Ron Rothenberg, MD, is a former Clinical Professor in Family and Preventive Medicine at UCSD School of Medicine and founder of California HealthSpan Institute in San Diego.

Roman Rozencwaig, MD, is a pioneer in research on melatonin and aging. He practices in Montreal, Canada.

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



Sandra C. Kaufmann, MD, is a fellowship-trained and board-certified pediatric anesthesiologist as well as the Chief of Anesthesia at the Joe DiMaggio Children's Hospital in Hollywood, Florida. She is the founder of The Kaufmann Anti-Aging Institute and the author of the book *The Kaufmann Protocol: Why we Age and How to Stop It* (2018). Her expertise is in the practical application of anti-aging research.



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.



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.



Joel Kahn, MD, FACC of Detroit, Michigan, is a practicing cardiologist, and a Clinical Professor of Medicine at Wayne State University School of Medicine. He graduated Summa Cum Laude from the University of Michigan Medical School. Known as "America's Healthy Heart Doc", Dr. Kahn has triple board certification in Internal Medicine, Cardiovascular Medicine and Interventional Cardiology. He was the first physician in the world to certify in Metabolic Cardiology with A4M/MMI and the University of South Florida. He founded the Kahn Center for Cardiac Longevity in Bingham Farms, MI.



Peter H. Langsjoen, MD, FACC, is distinguished by a long career in cardiology with a specialization in congestive heart failure, primary and statin-induced diastolic dysfunction and other heart diseases. He is a leading authority on coenzyme Q10, having been involved with its clinical application since 1983. He is a founding and executive committee member 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, is the Medical Director of the South Florida Bone Marrow Stem Cell Transplant Institute doing business as the Maharaj Institute of Immune Regenerative Medicine, and is regarded as one of the world's foremost experts on adult stem cells. He received his medical degree in 1978 from the University of Glasgow Medical School, Scotland. He completed his internship and residency in Internal Medicine and Hematology at the University's Royal Infirmary.



L. Ray Matthews, MD, FACS, is a professor of surgery and director of Surgical Critical Care at Morehouse School of Medicine in Atlanta, GA, and a trauma and critical care surgeon at Grady Memorial Hospital. He has published widely and is known as one of the top vitamin D experts. Dr. Matthews has spoken before the U.S. Food and Drug Administration several times, presenting a recent update about clinical research on vitamin D.



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 *Heart Attacks Are Not Worth Dying For*, *The Great American Heart Hoax*, and *The Complete Mediterranean Diet*. 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 more than 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.



In the News

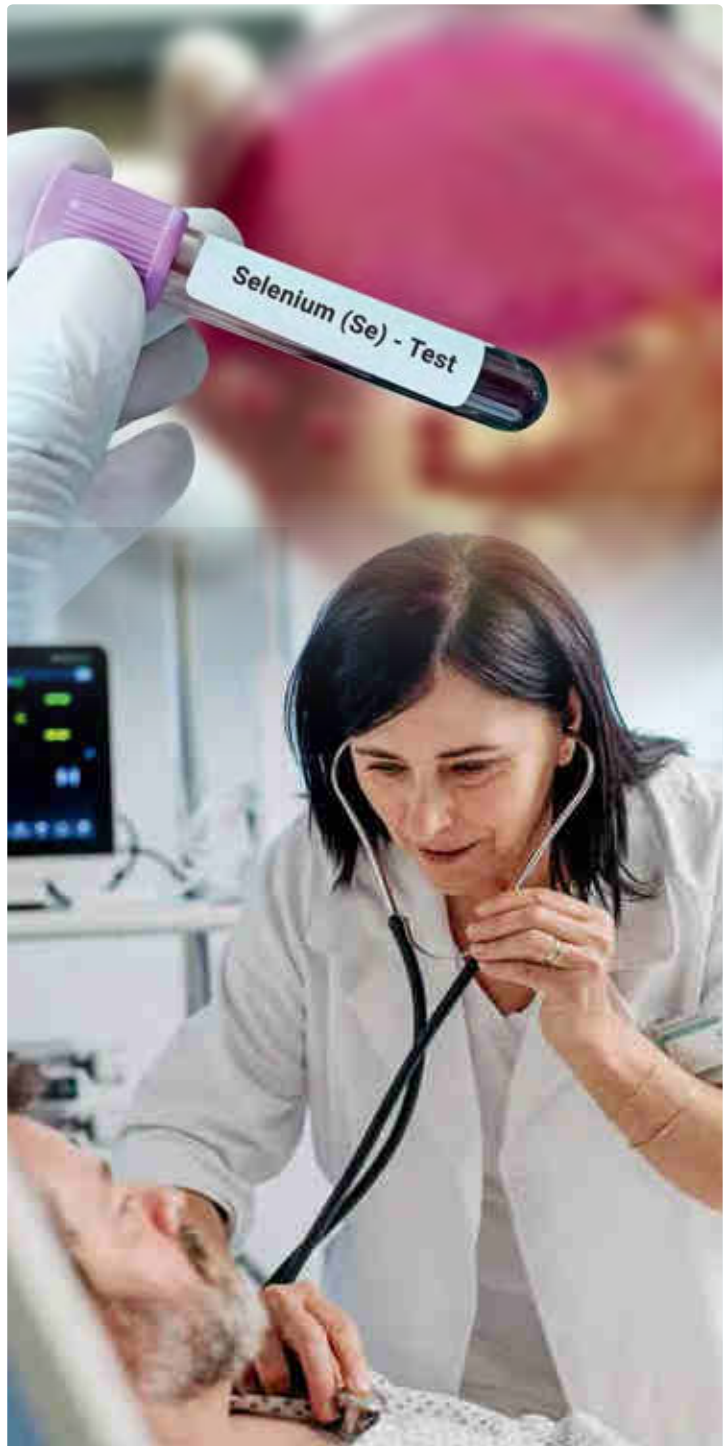
Selenium May Help Improve Intensive Care Unit Survival

Low selenium levels were associated with worse clinical outcomes among intensive care unit (ICU) patients compared to those with higher levels. After being given this essential mineral, patients experienced significantly improved ICU mortality.*

Serum selenium levels were measured in **144** men and women admitted to the ICU from March 2022 through October 2023. Deficient selenium levels of less than **70 mcg/L** were revealed in 40 participants who exhibited significantly *higher* illness severity scores and C-reactive protein (a blood marker of systemic inflammation). Those with lower selenium levels also suffered *longer* hospital stays than those with higher levels.

Sixty-seven participants, including 23 of the 40 with deficient levels, were subsequently given **1,000 mcg** intravenous selenium for five days, after which selenium levels were measured again. The survival rate was **91%** for those who received selenium and **65%** among those who did not receive it.

* *Sci Rep.* 2025 Oct 10;15(1):35478.



Cardiovascular Disease Remains a Leading Cause of Death in U.S.

The American College of Cardiology released the 2026 Cardio-vascular Statistics in the United States.

No surprises as their report shows that cardiovascular disease remains one of the leading causes of death in the U.S.*

Data was analyzed from the National Health and Nutrition Examination Survey (NHANES), the National Health Interview Survey, the Centers for Disease Control and Prevention, and U.S. Vital Statistics databases. Collectively, these sources represent data on tens of thousands of participants and millions of mortality records, with analysis spanning several decades.

While deaths from heart disease and stroke declined from the 1990s through the early 2010s, the report revealed that progress has stalled over the past decade, and the overall cardiovascular risk is showing upward trends.

The rise in cardiovascular burden is especially pronounced among younger adults, in lower income populations, and in certain racial groups.

Editor's Note: Several major contributors to cardiovascular risk, according to the report, include widespread hypertension, rising rates of obesity and type 2 diabetes, and inadequate control of LDL cholesterol among high-risk individuals.

* Wadhera, R, Dhruva, S, Bickdeli, B. et al. Cardiovascular Statistics in the United States, 2026: JACC Stats. JACC.



Whey Improves Kidney Function, Reduces BMI, and Uric Acid

Supplementation with whey protein hydrolysate improved markers of kidney function, and reduced body mass index (BMI) and uric acid in a randomized, parallel group, placebo-controlled study.*

The study recruited men with fasting serum uric acid levels of **6.0-7.9 mg/dL**. (Under **6 mg/dL** is considered ideal.) They consumed just **5 grams** of **whey** protein hydrolysate or a placebo daily for 12 weeks.

Compared with **placebo**, the whey protein hydrolysate group showed significant improvements in blood measures of kidney function such as uric acid, creatinine, and eGFR (glomerular filtration rate).

The **whey** supplemented group also experienced a significant reduction in **body mass index** (BMI) compared to the placebo arm.

Editor's Note: Whey protein hydrolysate is a form of protein that's made from enzymatic hydrolysis of whey protein isolate or concentrate into smaller peptides.

* Food Sci Nutr. 2025 Nov 2;13(11):e71150.

Vitamin D and Fatty Acids May Reduce Rheumatoid Arthritis Symptoms

A systematic review and meta-analysis of 24 randomized controlled trials totaling 1,713 participants found that vitamin D and polyunsaturated fatty acids had benefits for people with rheumatoid arthritis.*

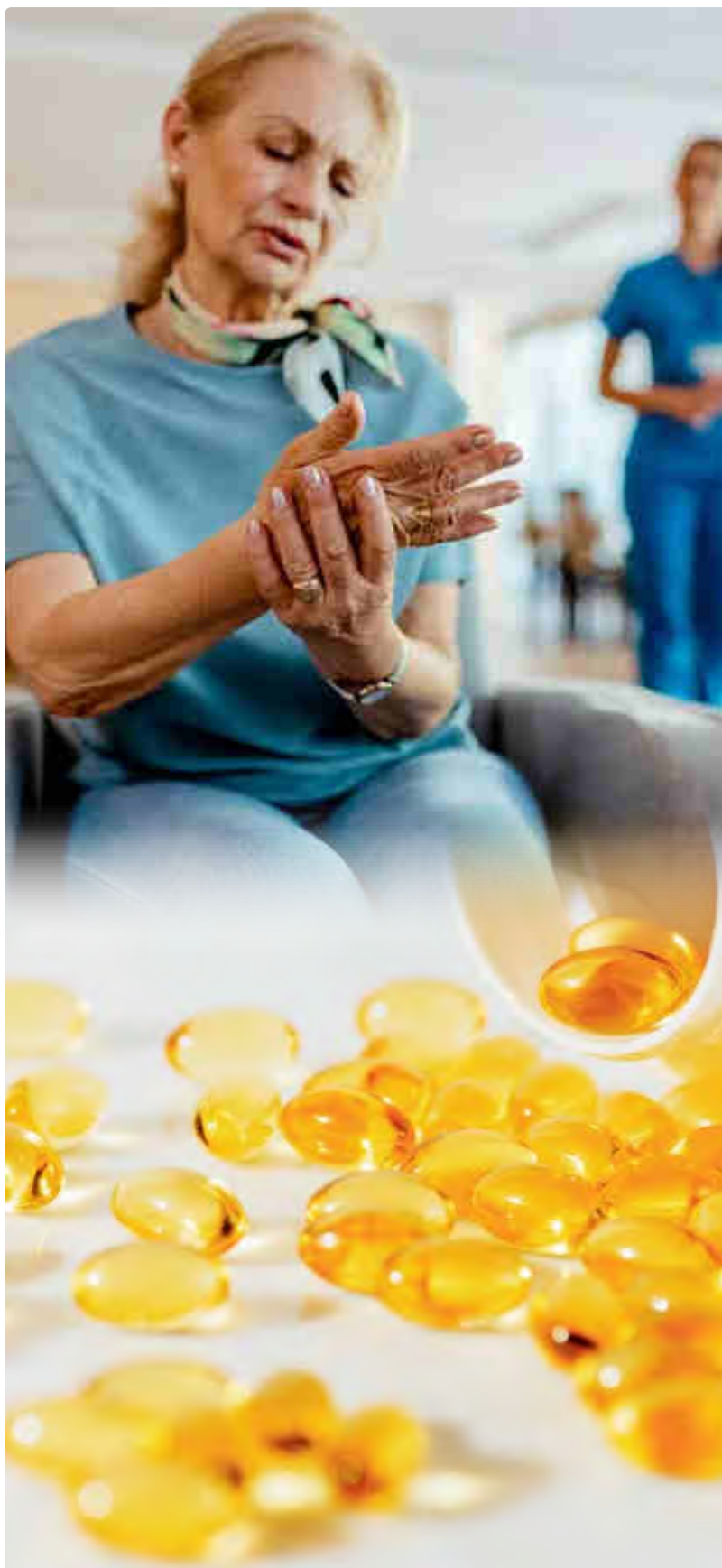
Polyunsaturated fatty acids were evaluated in 14 trials and vitamin D in the remaining 10. Those who received polyunsaturated fatty acids showed significant improvements in Disease Activity Scores in 28 joints, as well as significant improvements in tender joint count and health assessment questionnaire scores compared with controls.

Those who received vitamin D showed significant improvements in health assessment questionnaire scores compared to controls.

The included studies were highly heterogeneous, with wide variations in dosage, fatty acid type (EPA, DHA, GLA and CLA), and combinations with other anti-inflammatory and disease-modifying antirheumatic drugs.

Editor's Note: The association between vitamin D and fatty acids with reduced rheumatoid arthritis symptoms needs to be evaluated in larger trials with homogeneous patient groups, interventions, and longer follow-up durations.

* *Food Sci Nutr*. 2025 Jul 21;13(7):e70473.



Immune Defense Year-Round

"I feel that this product is a great partner in my quest for a healthy life"

Patricia

VERIFIED CUSTOMER REVIEW

spring

summer

fall

winter

Immune challenges can lead to nose, throat, and eye discomfort.

FLORASSIST® Probiotic Immune & Nasal Defense

combines a probiotic with a yeast fermentate to support a year-round healthy immune response.

Convenient, once-daily formula.

This product is available at fine health food stores everywhere.



EpiCor® is a registered trademark of Embria Health Sciences, L.L.C.

Item #02208

30 vegetarian capsules



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.

Fuller, Stronger Hair



GLUTEN
FREE

1
DAILY

NON
GMO
LE CERTIFIED

Item #02541

30 softgels

Contains wheat.

Hair Growth for Women is an oral formula with two scientifically studied **plant extracts** that:^{1,2}

- Help **maintain** existing hair,
- Support normal **hair growth** cycle,
- Support healthy **scalp oil** levels,
- Support **hair density** and **volume** for fuller hair, and
- Maintain already normal **DHT** levels (a hormone linked to maintaining hair follicle health).

In separate **clinical trials**, these standardized extracts show *reduced hair shedding*—by up to **48%** in one study.¹

Another study showed a **hair shedding** reduction of up to **20%**.² Some users noticed results in as little as two months.

For full product description and to order **Hair Growth for Women**,
call **1-800-544-4440** or visit **www.LifeExtension.com**

VI-SPO® is a trademark of Vidya Herbs Inc. and used with permission. Ceramides™ is a trademark of Seppic SA.

References: 1. *Int J Cosmet Sci.* 2024;46(2):284-296. 2. *Clin Cosmet Investig Dermatol.* 2023;16:3251-3266.

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

"Super product!"

Richard

VERIFIED CUSTOMER
REVIEW

CoQ10

FOR HEART HEALTH AND GENERAL FATIGUE

CoQ10 helps energize
every cell in your body.

But standard CoQ10
(called ubiquinone) isn't
as well absorbed.

The ubiquinol form of
CoQ10 maintains higher
blood concentrations.



Item #01426 | Best Seller

Our customer favorite
CoQ10 formula

100 mg

60 softgels • 2-month supply



Item #01733 | Best in Class

Supercharged heart health &
general fatigue fighter

100 mg ubiquinol + 10 mg PQQ

100 mg

30 softgels • 1-month supply



Item #01431

Our maximum
dose ubiquinol

200 mg

30 softgels • 1-month supply



**#1 Rated CoQ10
Products[†]
7 Time Winner!**



These products are available at fine
health food stores everywhere.

[†]Ratings based on results of the 2026 ConsumerLab.com Survey of Supplement Users. For more information, visit www.consumerlab.com/survey.
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. These products are not intended to diagnose, treat, cure, or prevent any disease.



Amla
Indian gooseberry





A Fruit that Protects the HEART

BY MARSHA MCCULLOCH, MS, RD

Cardiovascular disease is the leading global cause of death, claiming over **19 million** deaths worldwide in 2023.¹

Reducing risk of heart disease involves targeting key risk factors, including unhealthy **lipid levels**, **inflammation**, and **oxidative stress**.²

To further support cardiovascular health, scientists developed a standardized extract from the fruit called **amla**.

In a clinical study, people with metabolic syndrome took **500 mg** of amla extract twice daily, which resulted in:³

- Decrease in **LDL** cholesterol by **22%**,
- Lowering of **CRP**, a marker of **inflammation** by **54%**, and
- Increased levels of the antioxidant **glutathione** by **53%**.

Together, these effects may help promote better **heart health**.



Understanding Cardiovascular Risk

Atherosclerosis is the underlying cause of most **cardiovascular disease** cases.⁴

Atherosclerosis is characterized by the gradual buildup of **lipoproteins**, **inflammatory** cells, and **fibrous** tissue within arterial walls, leading to **plaque** formation. These plaques can then become inflamed, and rupture, causing a coronary thrombosis (coronary artery clot, a common cause of heart attacks).⁴

Though atherosclerosis commonly starts in childhood, it generally doesn't result in obvious problems until middle or late adulthood.⁴

Effective screening is needed to detect this **silent killer** sooner.

Screening for cardiovascular risk may include the following blood tests:

- **Lipid-carrying proteins:** Elevated lipids like **low density lipoprotein (LDL)** and **apolipoprotein B (ApoB)** are associated with increased cardiovascular disease risk⁵ and mortality.⁶
- **Triglycerides:** High levels of triglycerides, a type of fat that circulates in the blood, contribute to **atherosclerosis**.^{7,8}
- **C-reactive protein (CRP):** This test helps gauge **vascular inflammation**.⁹

It is *not* sufficient to focus on a single measure of cardiovascular health. For example, someone with low LDL but high triglyceride levels can have a significant risk of cardiovascular disease.^{10,11}

A Superfruit

Amla, also known as **Indian gooseberry**, has long been used in traditional Indian medicine, including Ayurveda, to support overall health.¹²

Preclinical research shows that it has potent **antioxidant** and **anti-inflammatory** activity.^{12,13}

A significant portion of amla's benefits come from its **polyphenol** content, particularly **tannins**.^{12,14,15}

Scientists have developed and clinically tested an **amla extract** standardized to contain **60%** bioactive **tannins**.

Amla Supports Artery Health

Dysfunction of the **endothelium**, the inner lining of arteries, contributes to **arterial stiffness** and **atherosclerosis**.^{14,16}

The risk of **endothelial dysfunction** is increased by high cholesterol, smoking, obesity, hypertension, diabetes, inflammation, oxidative stress, and aging.¹⁷

Many of these risk factors reduce the production of **nitric oxide**, a compound made by endothelial cells¹⁷ that signals arteries to expand so blood can flow through more easily.^{14,18}

In a 12-week clinical trial, adults with **type 2 diabetes** (treated with the drug metformin) were randomized to receive **250 mg** or **500 mg** of standardized **amla extract** or a placebo twice daily.¹⁴

Both amla doses improved **endothelial function** and **nitric oxide** levels (measured by a test called the reflection index) compared with baseline and the placebo.





What You Need To Know

Amla Supports the Heart

- **Cardiovascular disease** is the leading cause of death worldwide.
- Scientists have developed an extract from the **superfruit amla (Indian gooseberry)** that supports heart health.
- In two clinical trials, amla extract significantly improved **blood lipid levels**, lowered **inflammation**, and increased the antioxidant **glutathione**, helping reduce risk factors for atherosclerosis and cardiovascular disease.
- Clinical studies show amla extract can also improve **endothelial function** and promote **arterial flexibility**, supporting healthy blood flow.
- Oral intake of **500 mg** of amla extract **twice** daily is more cardioprotective than lower doses.

Stress-Reducing Benefits

Stress is an underappreciated risk factor for cardiovascular disease.²¹

Researchers can simulate the body's stress response by using a **cold pressor test (CPT)**, which involves briefly immersing the hand in ice water. This stress activates the sympathetic nervous system, causing temporary blood vessel constriction, increased arterial stiffness, and a short-term rise in blood pressure.²²

In a preliminary trial, healthy men took either **250 mg** of standardized **amla extract** or a placebo twice daily.²³

When challenged with the cold pressor test after two weeks of treatment, the amla group had a **7% decrease** in **arterial stiffness** compared to baseline and placebo.²³

In another 14-day trial, healthy men took **500 mg** of **amla extract** or a placebo twice daily. They were then subjected to a **mentally** stressful computerized test given amidst loud, distracting noises.²⁴

The *higher* dose was more effective for improving biomarkers of **oxidative stress** (glutathione) and **inflammation** (CRP) than the lower dose.¹⁴

Combating Metabolic Syndrome

Metabolic syndrome affects about **40%** of American adults. It consists of a cluster of conditions that are associated with increased risk of heart disease and type 2 diabetes.¹⁹

First-line treatment of metabolic syndrome involves diet and lifestyle changes. Individual components of metabolic syndrome, such as elevated blood sugar, high blood pressure, and high triglycerides, can be treated with medication.²⁰ **Amla extract** can complement these efforts.

A 12-week clinical trial was conducted of 80 people with **type 2 diabetes** who had been treated with the drug **metformin**. The addition of standardized **amla extract** (twice daily at doses of **250** or **500 mg**) improved blood vessel function and reduced oxidative stress as well as improved inflammation, cholesterol, and HbA1c compared to placebo.¹⁴

In another 12-week clinical trial, 59 people with metabolic syndrome were randomized to take **250 mg** or **500 mg** of the same standardized **amla extract** or a **placebo** twice daily.³

Amla, particularly at the *higher* dose, significantly improved **endothelial function** compared with both baseline and placebo.

The *higher* amla dose also improved lipid levels and markers of oxidative stress and inflammation. Compared to baseline, taking **500 mg** of amla **twice** daily led to:³

- **11%** decrease in total cholesterol,
- **22%** decrease in LDL ("bad") cholesterol,
- **22%** increase in HDL ("good") cholesterol,
- **19%** decrease in triglycerides,
- **51%** increase in artery-protective nitric oxide,
- **53%** increase in antioxidant glutathione levels, and
- **54%** decrease in inflammation marker CRP.

The **placebo** group had no significant improvement in any of these measures.

Compared to pretreatment stress testing, **amla** intake resulted in significantly less **arterial stiffness** with stress, suggesting it helped protect **arterial flexibility**. This measure was unchanged in the placebo group.²⁴

By supporting arterial health, improving lipid levels, and reducing inflammation and oxidative stress markers, **amla** extract can help ward off risk factors for heart disease.

Summary

An extract of the **amla** fruit may help fortify **heart health** in multiple ways.

In clinical studies, taking **500 mg** of standardized amla extract twice daily significantly improved lipid levels, including **cholesterol** and **triglycerides**.

Amla has also been clinically shown to reduce **inflammation**, increase the antioxidant **glutathione**, and support arterial flexibility, helping protect against key drivers of **cardiovascular disease**.

Those concerned with cardiovascular health should consider trying **500 mg** of standardized amla extract twice daily. ■

References

1. Federica Galimberti MC, Elena Olmastroni. Global, Regional, and National Burden of Cardiovascular Diseases and Risk Factors in 204 Countries and Territories, 1990-2023. *J Am Coll Cardiol*. 2025 Dec 2;86(22):2167-243.
2. Batty M, Bennett MR, Yu E. The Role of Oxidative Stress in Atherosclerosis. *Cells*. 2022 Nov 30;11(23):3843.
3. Usharani P, Merugu PL, Notalapati C. Evaluation of the effects of a standardized aqueous extract of *Phyllanthus emblica* fruits on endothelial dysfunction, oxidative stress, systemic inflammation and lipid profile in subjects with metabolic syndrome: a randomised, double blind, placebo controlled clinical study. *BMC Complement Altern Med*. 2019 May 6;19(1):97.
4. Luca AC, David SG, David AG, et al. Atherosclerosis from Newborn to Adult-Epidemiology, Pathological Aspects, and Risk Factors. *Life (Basel)*. 2023 Oct 14;13(10).
5. Das P, Ingole N. Lipoproteins and Their Effects on the Cardiovascular System. *Cureus*. 2023 Nov;15(11):e48865.
6. Jung E, Kong SY, Ro YS, et al. Serum Cholesterol Levels and Risk of Cardiovascular Death: A Systematic Review and a Dose-Response Meta-Analysis of Prospective Cohort Studies. *Int J Environ Res Public Health*. 2022 Jul 6;19(14).
7. Akivis Y, Alkaissi H, McFarlane SI, et al. The Role of Triglycerides in Atherosclerosis: Recent Pathophysiologic Insights and Therapeutic Implications. *Curr Cardiol Rev*. 2024;20(2):39-49.
8. Mizuta H, Ishii M, Ikebe S, et al. Triglycerides and the Risk of Atherosclerotic Cardiovascular Events Across Different Risk Categories. *J Atheroscler Thromb*. 2025 Jul 1;32(7):786-803.

9. Mehta A, Blumenthal RS, Gluckman TJ, et al. High-sensitivity C-reactive Protein in Atherosclerotic Cardiovascular Disease: To Measure or Not to Measure? *US Cardiol*. 2025;19:e06.
10. Bashir B, Schofield J, Downie P, et al. Beyond LDL-C: unravelling the residual atherosclerotic cardiovascular disease risk landscape-focus on hypertriglyceridaemia. *Front Cardiovasc Med*. 2024;11:1389106.
11. Castañer O, Pintó X, Subirana I, et al. Remnant Cholesterol, Not LDL Cholesterol, Is Associated With Incident Cardiovascular Disease. *J Am Coll Cardiol*. 2020 Dec 8;76(23):2712-24.
12. Saini R, Sharma N, Oladeji OS, et al. Traditional uses, bioactive composition, pharmacology, and toxicology of *Phyllanthus emblica* fruits: A comprehensive review. *J Ethnopharmacol*. 2022 Jan 10;282:114570.
13. Li W, Zhu HW, Chen YJ, et al. Bioactivity-guided isolation of anti-inflammatory components from *Phyllanthus emblica*. *Food Sci Nutr*. 2020 Jun;8(6):2670-9.
14. Usharani P, Fatima N, Muralidhar N. Effects of *Phyllanthus emblica* extract on endothelial dysfunction and biomarkers of oxidative stress in patients with type 2 diabetes mellitus: a randomized, double-blind, controlled study. *Diabetes Metab Syndr Obes*. 2013;6:275-84.
15. Gul M, Liu ZW, Iahitsham UI H, et al. Functional and Nutraceutical Significance of Amla (*Phyllanthus emblica* L.): A Review. *Antioxidants (Basel)*. 2022 Apr 22;11(5).
16. Gimbrone MA, Jr., García-Cardeña G. Endothelial Cell Dysfunction and the Pathobiology of Atherosclerosis. *Circ Res*. 2016 Feb 19;118(4):620-36.
17. Naderi-Meshkin H, Setyaningsih WAW. Endothelial Cell Dysfunction: Onset, Progression, and Consequences. *Front Biosci (Landmark Ed)*. 2024 Jun 20;29(6):223.
18. Pautz A, Li H, Kleinert H. Regulation of NOS expression in vascular diseases. *Front Biosci (Landmark Ed)*. 2021 Apr 30;26(5):85-101.
19. Liang X, Or B, Tsoi MF, et al. Prevalence of metabolic syndrome in the United States National Health and Nutrition Examination Survey 2011-18. *Postgrad Med J*. 2023 Aug 22;99(1175):985-92.
20. Available at: <https://www.nhlbi.nih.gov/health/metabolic-syndrome/treatment>. Accessed January 19, 2026.
21. Vancheri F, Longo G, Vancheri E, et al. Mental Stress and Cardiovascular Health-Part I. *J Clin Med*. 2022 Jun 10;11(12).
22. Gentilin A, Rakobowchuk M, Mourut L. Sex-specific responses of central artery stiffness to cold pressor test-mediated sympathetic activation. *Physiol Behav*. 2025 Feb 1;289:114755.
23. Fatima N, Pingali U, Pilli R. Evaluation of *Phyllanthus emblica* extract on cold pressor induced cardiovascular changes in healthy human subjects. *Pharmacognosy Res*. 2014 Jan;6(1):29-35.
24. Usharani P, SudhaRani K, KiranKishore K, et al. Evaluation of the effect of a standardized aqueous extract of the fruits of *Emblica officinalis* on mental stress induced cardiovascular changes in healthy human subjects. *IJPSR*. 2017;8(10):4138-46.



"Works great!"

Eric

VERIFIED CUSTOMER
REVIEW



Let the Sunshine In

D3, the sunshine vitamin, is key to strong bones and immune health

Vitamin D3 is the ultimate whole-body health supporter. A daily dose of D3 also helps maintain healthy cardiovascular function.

Item #01713

125 mcg (5000 IU) • 60 softgels

GLUTEN
FREE

1
DAILY

NON
GMO
LE CERTIFIED

This product is available at fine health food stores everywhere.

Caution: Individuals consuming more than 50 mcg (2000 IU)/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy vitamin D measurement. Do not exceed 10000 IU per day unless recommended by your doctor. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.

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.

"I do believe this works."
Carolyn
VERIFIED BUYER

Stressed?

"Won't want to be without it."

Donna
VERIFIED BUYER

Stress releases the hormone **cortisol** throughout the body. Maintaining healthy cortisol levels promotes healthy **mood** and **stress response**.

Cortisol-Stress Balance provides a proprietary blend of magnolia, phellodendron, lychee, and green tea extracts for a greater sense of calm.

This product is available at fine health food stores everywhere.



Item #02312

30 vegetarian capsules

4.6
★★★★★

96%
OF RESPONDENTS
WOULD RECOMMEND
THIS TO A FRIEND



Relora® is a trademark of Lonza, registered in the USA. Oligonol® is a registered trademark of Amino Up Co., Ltd.

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

"Good stuff!"

Steven

VERIFIED CUSTOMER
REVIEW



A Bodyguard for Your BRAIN



(1000 mcg of lithium per tiny cap)

Item #02403

100 vegetarian capsules

Each bottle lasts 100 days.



* European Journal of Nutrition. 2011;50(5):387-389.

People tend to live longer in areas where lithium is abundant in the drinking water.*

Lithium is a low-cost mineral that functions in several ways to support cognition and overall brain health.

Maintain healthy cognition with lithium—it's like a bodyguard for your brain!

This product is available at fine health food stores everywhere.

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.



Bolster RESPIRATORY HEALTH All Year Long



BY MARSHA MCCULLOCH, MS, RD

Runny nose. Congestion. Sore throat.

These upper respiratory tract symptoms can be due to the **common cold**, **influenza**, or environmental **allergies**.^{1,2}

Scientists have found a **probiotic** and a **post-biotic** that can tackle these upper respiratory tract symptoms.

In a **clinical trial**, a specific **probiotic** strain cut the incidence of **colds** and flu by more than **half** compared to a placebo.³

Additionally, a placebo-controlled trial of individuals with seasonal **allergies** showed that a **postbiotic** strain of yeast reduced days with **nasal congestion** by **43%** during high pollen counts.⁴

Combining these ingredients can help support **respiratory health** throughout the year.

Respiratory System Under Attack

Upper respiratory tract symptoms are common:

- Adults average **two** to **four** colds a year,¹
- **Influenza** afflicts up to **11%** of Americans annually,⁵ and
- **Allergic rhinitis** (allergies) causes nasal symptoms like sneezing or congestion, and affects up to **40%** of people worldwide.⁶

The flu, a common name for influenza, can be dangerous, killing **tens of thousands** of people in the U.S. every year.⁷

Colds are bad enough on their own but can also lead to more severe illnesses like **pneumonia**, especially in immune-compromised individuals.^{8,9}

Respiratory infections may also worsen existing conditions, including **asthma** and **chronic obstructive pulmonary disease (COPD)**.¹

A clinically tested probiotic *and* postbiotic can help **prevent** and **reduce the severity** of respiratory illnesses.

Probiotic Defense

***Lactobacillus rhamnosus* CRL 1505** is a **probiotic** originally isolated from goat's milk in Argentina.¹⁰

The health properties of probiotics are often unique to a specific **strain**.

"**CRL 1505**" refers to the **strain** of the bacteria discussed in this article.



The CRL 1505 strain of *L. rhamnosus* can promote **immune responses** in the **respiratory tract** as well as the gut. It is considered so beneficial to immune health that it was made part of the **nutrition program** for children in Argentina.¹⁰

Preclinical research shows that *L. rhamnosus* CRL 1505 **primes the immune system** to respond and helps clear infections faster.^{11,12}

Preventing Colds and Flu

Young children are an ideal group on whom to test the **respiratory effects** of a probiotic. Their immature immune system puts them at increased risk of catching colds and flu.¹³

In a large placebo-controlled trial, preschool children received **100 million CFU** (colony-forming units) of ***L. rhamnosus* CRL 1505** in yogurt five days a week for six months.¹⁰

During the study, **31%** of the **probiotic group** had upper respiratory tract infections like colds and flu compared to **69%** of those receiving a placebo yogurt, an astonishing difference.

Similarly, only **28%** of children in the treatment group developed **pharyngitis** (sore throat) and **tonsillitis**, while **72%** of those in the placebo group did.

Taking the probiotic also cut instances of **fever** nearly in **half**.

The study found that the treatment group had a **47%** increase in levels of salivary **IgA** (immunoglobulin A), an antibody that protects against viruses and bacteria.¹⁴ Levels in the placebo group were unchanged from baseline.¹⁰

Boosting **IgA** in the respiratory tract helps prevent infections from **colonizing** and **spreading** in the body.¹⁵

Postbiotic Protection

Postbiotics are compounds produced when gut microbes ferment fiber. They can also include inactive microorganisms and their beneficial byproducts. In **human** studies, **postbiotics** have shown immune support, reduced inflammation, and improved gut barrier function.¹⁶

About two decades ago, this was illustrated when an employer discovered that factory workers manufacturing a **yeast** culture took significantly **fewer sick days** than their coworkers with desk jobs.¹⁷

The factory workers were unknowingly inhaling airborne **yeast fermentate**, a **postbiotic**, as part of their daily work.

They also had beneficial changes in their bloodwork compared to their office-based colleagues, including:

- **Higher levels of secretory IgA**,¹⁷ the antibody essential to the mucosal immune system's defense against infection,¹⁴ and
- **Increased activity of natural killer cells**,¹⁷ immune cells that can recognize and rapidly eliminate virus-infected cells.¹⁸

Clinical trials have confirmed that a specific **dried yeast fermentate** promotes IgA production and natural killer cell activity.^{4,19,20}

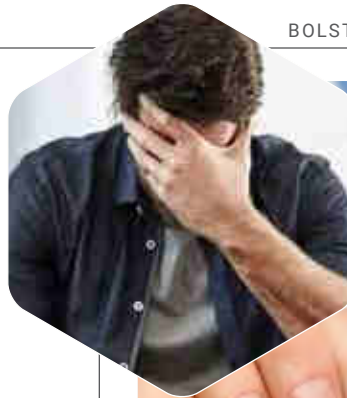
In one trial in healthy adults, a single **500 mg** dose of the yeast fermentate *increased* markers of **natural killer cell** activity within just **two hours**.¹⁹

Easing Allergy Symptoms

After the “accidental” discovery of the immune effects of this **yeast fermentate**, the company went on to make the postbiotic commercially. Its effects have been verified in multiple **clinical trials**.

The benefits of the specialized **dried yeast fermentate** include:

- **Fewer colds and influenza.** In clinical trials of healthy adults, daily intake of **500 mg** of yeast fermentate reduced the **incidence** of **cold** or **flu-like symptoms** by up to **13%** during peak cold and flu season.^{21,22} It also decreased the **duration** of symptoms by **17%**.²¹
- **Reduced seasonal allergies.** When adults with seasonal allergies took **500 mg** of yeast fermentate daily during six weeks of high pollen counts, they had significantly milder **nasal symptoms** and a whopping **43%** fewer days of **nasal congestion** than a placebo group.⁴
- **Decreased effects of histamine.** Histamine is one of the compounds that causes allergy symptoms. In an allergy test, the inflammatory effects of histamine were reduced by **54%** in healthy adults given this **yeast fermentate**.²³



What You
Need
To Know

Fend Off Colds, Flu, and Seasonal Allergies

- Upper respiratory tract ailments, including colds, flu, and environmental allergies, are top causes of sore throats, stuffy noses, and other symptoms.
- The probiotic strain ***Lactobacillus rhamnosus* CRL 1505** primes the immune system to respond to infections faster. In a clinical trial, it cut the incidence of **colds** and **flu** by **more than half** compared to a placebo.
- Placebo-controlled trials have shown that taking **500 mg** daily of a specific **yeast fermentate**, a postbiotic, can decrease the incidence and duration of colds and flu and dramatically reduce seasonal **allergy** symptoms.
- A **combination** of these ingredients can help ward off colds, flu, and allergy symptoms year-round.

In another clinical trial, taking the specialized yeast fermentate significantly reduced the need for respiratory **medications**.²⁴

Combining yeast fermentate with the probiotic *Lactobacillus rhamnosus* CRL 1505 may provide powerful protection against symptoms of allergies, colds, and flu.

Summary

There's a way to help counter cold, flu, and seasonal allergies.

Clinical trials have shown that the probiotic ***Lactobacillus rhamnosus* CRL 1505** and a **yeast fermentate** can reduce the incidence and duration of **colds and flu**.

This yeast fermentate can also significantly ease symptoms of seasonal **allergies**.

These ingredients each bolster the immune system's ability to quickly respond to respiratory invaders. ■

References

1. Eccles R. Common cold. *Front Allergy*. 2023;4:1224988.
2. Available at: <https://newsinhealth.nih.gov/2014/10/cold-flu-or-allergy>. Accessed January 2, 2026.
3. Alvarez. Probiotics for Everyone! The Novel Immunobiotic *Lactobacillus rhamnosus* CRL1505 and the Beginning of Social Probiotic Programs in Argentina. *International Journal of Biotechnology for Wellness Industries*. 2012 01/01;1.
4. Moyad MA, Robinson LE, Kittelsrud JM, et al. Immunogenic yeast-based fermentation product reduces allergic rhinitis-induced nasal congestion: a randomized, double-blind, placebo-controlled trial. *Adv Ther*. 2009 Aug;26(8):795-804.

5. Tokars JI, Olsen SJ, Reed C. Seasonal Incidence of Symptomatic Influenza in the United States. *Clin Infect Dis*. 2018 May 2;66(10):1511-8.
6. Nugmanova D, Feshchenko Y, Khagay Y, et al. The Prevalence of Allergic Rhinitis, its Triggers, and Associated Factors in Commonwealth of Independent States Countries (Ukraine, Kazakhstan, and Azerbaijan): Results of the CORE Study. *Dubai Medical Journal*. 2021;4(2):81-92.
7. Available at: <https://www.statista.com/statistics/1124915/flu-deaths-number-us/>. Accessed January 4, 2026.
8. Häder A, Köse-Vogel N, Schulz L, et al. Respiratory Infections in the Aging Lung: Implications for Diagnosis, Therapy, and Prevention. *Aging Dis*. 2023 Aug 1;14(4):1091-104.
9. Kellich SR, Bartley JM, Haynes L. Diminished immune responses with aging predispose older adults to common and uncommon influenza complications. *Cellular Immunology*. 2019 2019/11/01;345:103992.
10. Villena J, Salva S, Nunez M, et al. Probiotics for everyone! The novel immunobiotic *Lactobacillus rhamnosus* CRL1505 and the beginning of social probiotic programs in Argentina. *International Journal of Biotechnology for Wellness Industries*. 2012;1:189-98.
11. Tomosada Y, Chiba E, Zelaya H, et al. Nasally administered *Lactobacillus rhamnosus* strains differentially modulate respiratory antiviral immune responses and induce protection against respiratory syncytial virus infection. *BMC Immunol*. 2013 Aug 15;14:40.
12. Chiba E, Tomosada Y, Vizoso-Pinto MG, et al. Immunobiotic *Lactobacillus rhamnosus* improves resistance of infant mice against respiratory syncytial virus infection. *Int Immunopharmacol*. 2013 Oct;17(2):373-82.
13. Zeru T, Berihu H, Buruh G, et al. Magnitude and factors associated with upper respiratory tract infection among under-five children in public health institutions of Aksum town, Tigray, Northern Ethiopia: an institutional based cross-sectional study. *Pan Afr Med J*. 2020;36(307):307.
14. de Sousa-Pereira P, Woof JM. IgA: Structure, Function, and Developability. *Antibodies (Basel)*. 2019 Dec 5;8(4).
15. Joseph J. Harnessing nasal immunity with IgA to prevent respiratory infections. *Immuno*. 2022;2(4):571-83.
16. Asefa Z, Belay A, Welelaw E, et al. Postbiotics and their biotherapeutic potential for chronic disease and their feature perspective: a review. *Frontiers in Microbiomes*. 2025 03/03;4.
17. Schauss AG, Vojdani A. Discovery of edible fermentation product with unusual immune enhancing properties in humans. *The FASEB Journal*. 2006;20(4):A143-A.
18. Letafati A, Ardekani OS, Naderisemiromi M, et al. Unraveling the dynamic mechanisms of natural killer cells in viral infections: insights and implications. *Viral J*. 2024 Jan 12;21(1):18.
19. Jensen GS, Redman KA, Benson KF, et al. Antioxidant bioavailability and rapid immune-modulating effects after consumption of a single acute dose of a high-metabolite yeast immunogen: results of a placebo-controlled double-blind crossover pilot study. *J Med Food*. 2011 Sep;14(9):1002-10.
20. Jensen GS, Patterson, K.M., Barnes, J., Schauss, A.G., Beaman, R., Reeves, S.G. and Robinson, L.E.,. A double-blind placebo-controlled, randomized pilot study: consumption of a high-metabolite immunogen from yeast culture has beneficial effects on erythrocyte health and mucosal immune protection in healthy subjects. *The Open Nutrition Journal*. 2008;2:pp.68-75.
21. Moyad MA, Robinson LE, Zawada ET, Jr., et al. Effects of a modified yeast supplement on cold/flu symptoms. *Urol Nurs*. 2008 Feb;28(1):50-5.
22. Moyad MA, Robinson LE, Zawada ET, et al. Immunogenic yeast-based fermentate for cold/flu-like symptoms in nonvaccinated individuals. *J Altern Complement Med*. 2010 Feb;16(2):213-8.
23. Jensen GS, Carter SG, Reeves SG, et al. Anti-inflammatory properties of a dried fermentate in vitro and in vivo. *J Med Food*. 2015 Mar;18(3):378-84.
24. Singh RG, Garcia-Campayo V, Green JB, et al. Efficacy of a yeast postbiotic on cold/flu symptoms in healthy children: A randomized-controlled trial. *Pediatr Res*. 2024 Dec;96(7):1739-48.



"NAC is a powerful tool."

Maury

VERIFIED CUSTOMER REVIEW

TAP THE POWER OF N-ACETYL-L-CYSTEINE

TO SUPPORT IMMUNE FUNCTION

N-Acetyl-L-Cysteine (NAC) has been shown to support healthy immune response and respiratory function.

NAC supports healthy levels of **glutathione** that helps promote a healthy **inflammatory response** and protect cells from **oxidative damage**.

This product is available at fine health food stores everywhere.



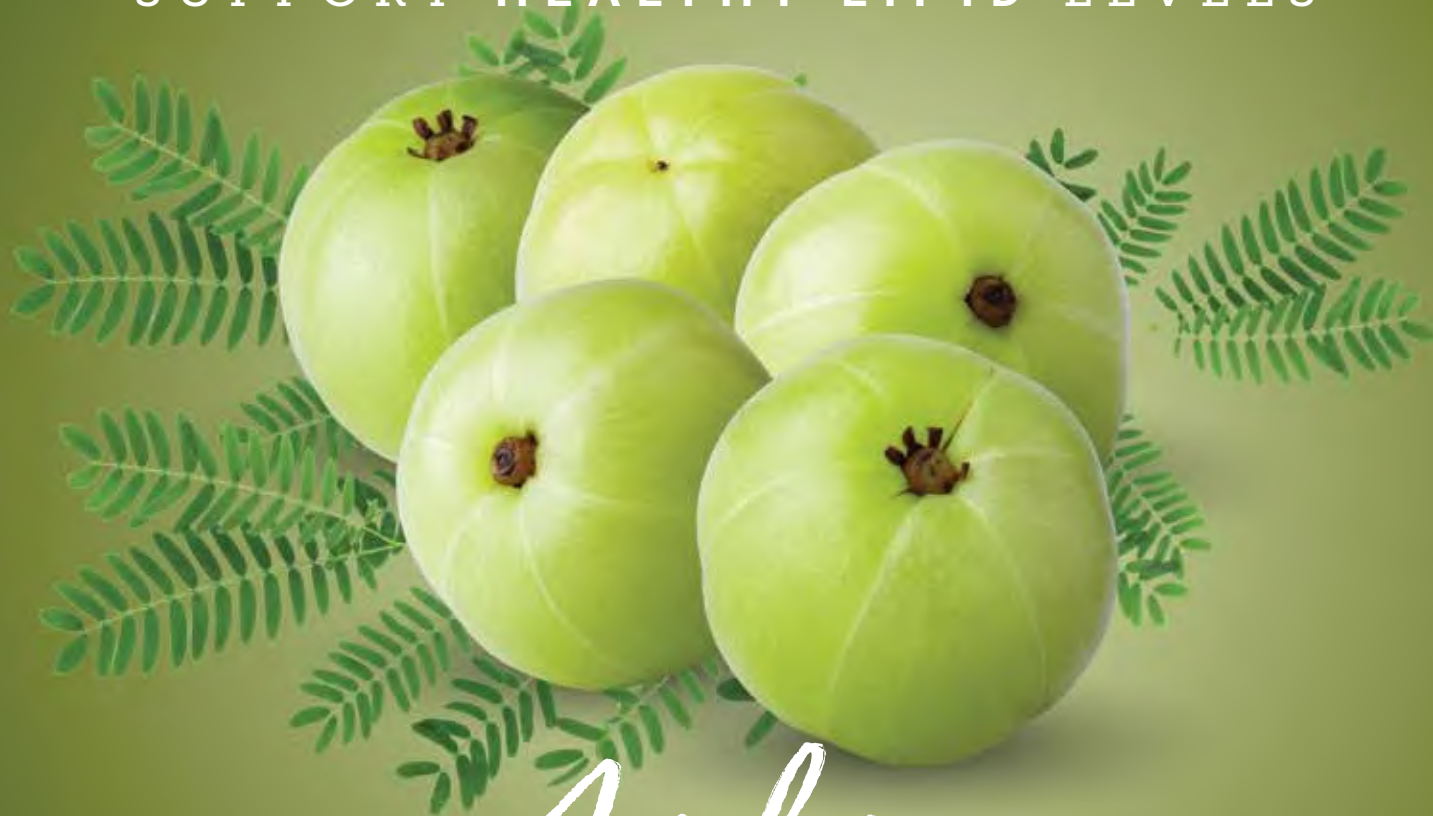
Item #01534

600 mg • 60 capsules



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 HEALTHY LIPID LEVELS



FRUIT *Amla* EXTRACT



Item #01828

60 vegetarian capsules



ADVANCED LIPID CONTROL
CAN HELP SUPPORT
HEART HEALTH.

ADVANCED LIPID CONTROL[†]
contains a standardized
500 mg extract of **amla** in
each capsule.

Researchers have discovered
that **amla** supports various
markers of **cardiovascular**
health.¹

In a **placebo-controlled** clinical
trial, **amla extract** helped maintain
already healthy levels of:

- ▶ **LDL**
- ▶ **HDL**
- ▶ **Triglycerides**
- ▶ **CRP (C-reactive protein)**



This product is available at fine health food stores everywhere.

[†]For those already within normal range.

1. *BMC Complement Altern Med.* 2019;19:97.

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.

Confidence

Between the Sheets

Sexual Health Support for Men

Turn up your libido with clinically researched ingredients that:

- Support healthy erectile & sexual function
- Promote male arousal, satisfaction & desire
- Support healthy mood, energy & stamina

Dim the lights and set the mood with
Advanced Male Sexual Support!

**This product is available at
fine health food stores everywhere.**

NEW



Item #02549

60 vegetarian capsules

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.



Lower Excess CORTISOL to Decelerate Aging





BY RANDALL THOMPSON

When we're **stressed**, our body increases production of the hormone **cortisol**.¹

When **cortisol** is elevated for prolonged periods, it may lead to weight gain, higher blood glucose levels, and higher blood pressure.¹

Human studies show that increased **stress** is associated with **accelerated aging** and abnormalities of metabolism and immune function.²

Stress has even been linked to shortening of **telomeres**, the protective caps on the ends of chromosomes.³⁻⁵ Telomere shortening has been associated with **reduced lifespan**.⁶

Scientists have identified **plant extracts** with anti-stress, anti-anxiety, and **cortisol-lowering** effects.

In **clinical trials**, these botanicals helped maintain healthy levels of cortisol and reduce levels of psychological stress.⁷⁻¹⁰

These extracts have been investigated for their potential role in managing stress and its impact on health.



How Stress Damages Health

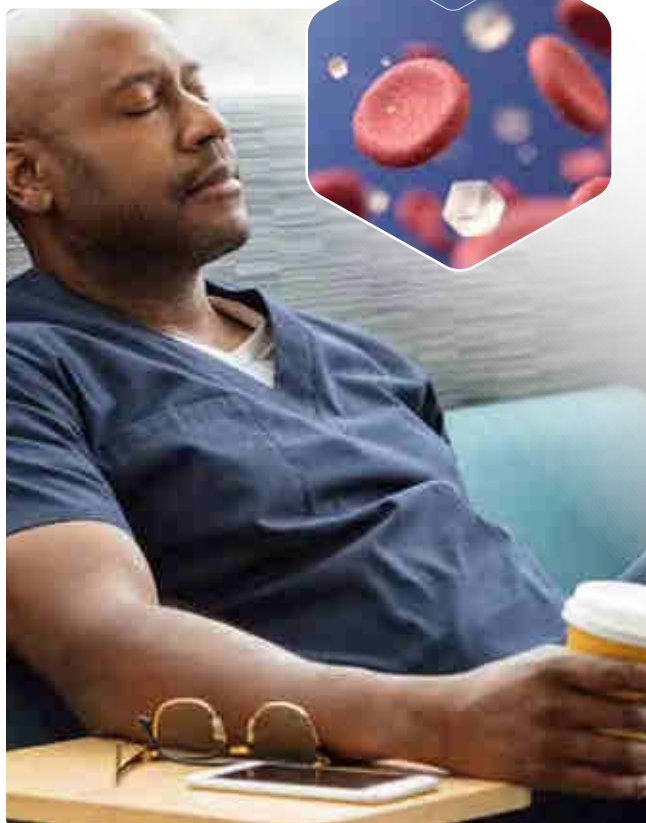
A large observational study in nearly two-and-a-half million people worldwide found that daily stress has increased over recent decades, in a range of different populations.¹¹

That can take a serious toll. In human studies, increased stress is linked to **accelerated aging**, **metabolic abnormalities**, and **weakened immunity**.²

In the scientific search for the cause of this damage, one suspect is **cortisol**, a steroid hormone produced primarily by the adrenal glands. Under normal conditions, cortisol levels peak after awakening and slowly decline throughout the day, remaining low at night.¹²

During times of stress, cortisol levels rise, which is why it is often referred to as the “stress hormone.”¹² In the short term, that helps the body cope. But chronic stress may disrupt healthy cortisol regulation and lead to persistently elevated levels,^{1,2} which may result in:¹³

- Elevated blood glucose,^{2,14}
- High blood pressure,^{14,15}
- Fatigue,^{13,15} and
- Difficulty sleeping.¹³



Human studies have confirmed the association with immune and metabolic disruptions and accelerated biological aging, as well as increased risk of cardiovascular disease, metabolic disorders, diabetes, obesity, fatty liver disease, immune dysfunction, and adverse mental health outcomes.²

Stress is associated with shorter **telomeres**,¹⁶ the protective caps on the ends of chromosomes. Shortening of telomeres is associated with **premature aging** and *increased* risk of disease and death.¹⁷

Fortunately, several plant extracts have been found to reduce stress and maintain healthy cortisol levels.

Magnolia and Phellodendron Bark

The barks of two trees, **magnolia** and **phellodendron** (also known as the cork tree), contain compounds that have been studied for their potential to help alleviate stress.

In animal models, extracts of these plants have been observed to reduce markers of stress.

Each extract demonstrates these benefits alone, but a combination of the two has been shown in a placebo-controlled **clinical trial** to reduce measures of stress and anxiety.¹⁰

In multiple human studies, a combination of magnolia and phellodendron bark extracts reduced **anxiety scores**, improved self-reported feelings of **well-being**, and lowered **cortisol** levels.^{7,8,10}

In one clinical study, for example, adults with moderate stress who took **250 mg** of the **magnolia-phellodendron** blend twice daily for four weeks had **18% lower cortisol levels** than those taking a placebo.¹⁰

Participants taking the extracts reported lower overall stress scores compared to placebo, including a:¹⁰

- **13%** reduction in tension,
- **20%** reduction in depression,
- **42%** reduction in anger,
- **31%** reduction in fatigue,
- **27%** reduction in confusion,
- **18%** increase in vigor, and
- **11%** improvement in mood.



MAGNOLIA TREE



Lychee and Green Tea Extract

Extracts of **lychee fruit**¹⁸ and **green tea**¹⁹ have been studied for potential health effects.

For example, scientists combined lychee fruit and green tea leaf extracts and tested them in **human** studies.

In a randomized, placebo-controlled crossover trial, healthy young men took **200 mg** of a **lychee–green tea blend** daily for one week or a placebo, followed by a two-week washout period, then switched treatments.⁹

After each phase, participants underwent 30 minutes of hot water immersion to induce heat stress. Compared with placebo, the **lychee–green tea blend** blunted increases in the proinflammatory factors **IL-1 β** and **IL-6** after heat exposure.⁹

Overall, short-term **lychee–green tea blend** supplementation was associated with lower inflammatory responses and enhanced immune cell activity during acute heat stress in healthy men.

Chronic stress has also been associated with increased risk of fatty liver and obesity. Scientists have tested the **lychee–green tea blend** in both of these conditions.

Reduce Stress and Keep Cortisol in Check

- **Stress** can increase risk for cardiovascular disease, obesity, metabolic disease, and impaired immune function.
- Elevated levels of the “stress hormone” **cortisol** have also been shown to be associated with these and other negative outcomes.
- In a clinical study, a blend of extracts from **magnolia** and **phellodendron** bark lowered cortisol levels by **18%** compared to placebo, while reducing feelings of stress and tension.
- A combination of **lychee fruit** and **green tea leaf** extracts was associated with reductions in cortisol and inflammatory markers, changes in the gut microbiome, and other observed health effects.
- A **combination** of these extracts may help reduce stress and anxiety, support healthy cortisol levels, and address some effects associated with elevated cortisol.

In one clinical study, adults with **non-alcoholic fatty liver disease (NAFLD)** took **100 mg** of the extract blend or a placebo daily for 24 weeks. MRI scans showed a statistically significant reduction in liver fat in the extract group compared to placebo. Changes in the gut **microbiome** were also observed, including a reduction in potentially pathogenic bacteria and an increase in bacteria considered beneficial.²⁰

In a study published in **2025**, overweight adults who took the **lychee-green tea blend** daily for 12 weeks had a significant reduction in dangerous **visceral fat** compared to those receiving a placebo.²¹

Combining extracts of lychee, green tea leaf, magnolia bark, and phellodendron bark may help manage stress, support healthy cortisol levels, and contribute to overall health.

Summary

Chronic stress causes an increase in levels of **cortisol**, which can lead to elevated blood glucose, high blood pressure, weight gain, and depressed immune function.

That may increase risk for obesity, cardiovascular disease, metabolic disease, and other health problems.

A blend of extracts of **magnolia bark** and **phellodendron bark** reduced cortisol levels and eased feelings of stress, anger, and tension in a clinical study.

In other clinical studies, a **lychee fruit-green tea leaf** extract blend reduced cortisol levels and produced improvements in measures of stress, anger, and tension.

A combination of these four nutrients may help manage stress and support healthy **cortisol** levels. ■

References

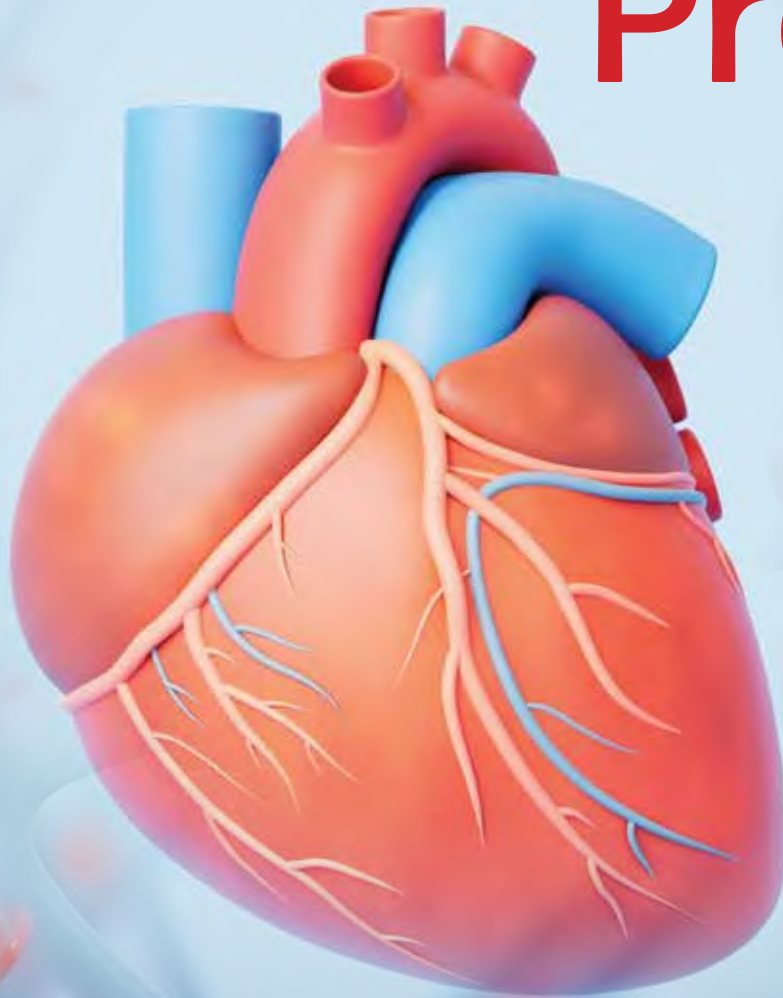
1. Russell G, Lightman S. The human stress response. *Nat Rev Endocrinol*. 2019 Sep;15(9):525-34.
2. Kivimäki M, Bartolomucci A, Kawachi I. The multiple roles of life stress in metabolic disorders. *Nat Rev Endocrinol*. 2023 Jan;19(1):10-27.
3. Burgin D, Varghese N, Eckert A, et al. Higher hair cortisol concentrations associated with shorter leukocyte telomere length in high-risk young adults. *Sci Rep*. 2022 Jul 11;12(1):11730.
4. Meier HCS, Hussein M, Needham B, et al. Cellular response to chronic psychosocial stress: Ten-year longitudinal changes in telomere length in the Multi-Ethnic Study of Atherosclerosis. *Psychoneuroendocrinology*. 2019 Sep;107:70-81.
5. Cabeza de Baca T, Prather AA, Lin J, et al. Chronic psychosocial and financial burden accelerates 5-year telomere shortening: findings from the Coronary Artery Risk Development in Young Adults Study. *Mol Psychiatry*. 2020 May;25(5):1141-53.

6. Whittemore K, Vera E, Martinez-Nevado E, et al. Telomere shortening rate predicts species life span. *Proc Natl Acad Sci U S A*. 2019 Jul 23;116(30):15122-7.
7. Garrison R, Chambliss WG. Effect of a proprietary Magnolia and Phellodendron extract on weight management: a pilot, double-blind, placebo-controlled clinical trial. *Altern Ther Health Med*. 2006 Jan-Feb;12(1):50-4.
8. Kalman DS, Feldman S, Feldman R, et al. Effect of a proprietary Magnolia and Phellodendron extract on stress levels in healthy women: a pilot, double-blind, placebo-controlled clinical trial. *Nutr J*. 2008 Apr 21;7:11.
9. Lee JB, Shin YO, Min YK, et al. The effect of Oligonol intake on cortisol and related cytokines in healthy young men. *Nutr Res Pract*. 2010 Jun;4(3):203-7.
10. Talbott SM, Talbott JA, Pugh M. Effect of Magnolia officinalis and Phellodendron amurense (Relora(R)) on cortisol and psychological mood state in moderately stressed subjects. *J Int Soc Sports Nutr*. 2013 Aug 7;10(1):37.
11. Piao X, Xie J, Managi S. Continuous worsening of population emotional stress globally: universality and variations. *BMC Public Health*. 2024 Dec 23;24(1):3576.
12. Adam EK, Quinn ME, Tavernier R, et al. Diurnal cortisol slopes and mental and physical health outcomes: A systematic review and meta-analysis. *Psychoneuroendocrinology*. 2017 Sep;83:25-41.
13. Passos GS, Youngstedt SD, Rozales A, et al. Insomnia Severity is Associated with Morning Cortisol and Psychological Health. *Sleep Sci*. 2023 Mar;16(1):92-6.
14. Whitworth JA, Williamson PM, Mangos G, et al. Cardiovascular consequences of cortisol excess. *Vasc Health Risk Manag*. 2005;1(4):291-9.
15. Lee JH, Meyer EJ, Nenke MA, et al. Cortisol, Stress, and Disease-Bidirectional Associations; Role for Corticosteroid-Binding Globulin? *J Clin Endocrinol Metab*. 2024 Aug 13;109(9):2161-72.
16. Lin J, Epel E. Stress and telomere shortening: Insights from cellular mechanisms. *Ageing Res Rev*. 2022 Jan;73:101507.
17. Shammass MA. Telomeres, lifestyle, cancer, and aging. *Curr Opin Clin Nutr Metab Care*. 2011 Jan;14(1):28-34.
18. Zhao L, Wang K, Wang K, et al. Nutrient components, health benefits, and safety of litchi (*Litchi chinensis* Sonn.): A review. *Compr Rev Food Sci Food Saf*. 2020 Jul;19(4):2139-63.
19. Unno K, Taguchi K, Matsuda T, et al. Stress-Relieving Effects of Green Tea Depend on the Ratio of Its Special Ingredients and the Infusion Conditions. *Molecules*. 2024 Sep 25;29(19).
20. Jinato T, Chayanupatkul M, Dissayabutra T, et al. Litchi-Derived Polyphenol Alleviates Liver Steatosis and Gut Dysbiosis in Patients with Non-Alcoholic Fatty Liver Disease: A Randomized Double-Blinded, Placebo-Controlled Study. *Nutrients*. 2022 Jul 16;14(14).
21. Takanari J, Misu M, Goto K, et al. Effects of Oligonol((R)) Supplementation on Abdominal Fat in Japanese Overweight Volunteers: A Randomized, Double-Blind, Placebo-Controlled, Parallel Group Study. *J Nutr Sci Vitaminol (Tokyo)*. 2025;71(4):357-65.



Maintain Vascular and
Endothelial Health with

Arterial Protect



Arterial Protect supports the body's natural processes for managing arterial debris to help maintain endothelial and circulatory health.*

Each capsule provides the patented French Maritime **pine bark extract** used in clinical studies along with **Gotu Kola**.

**This product is available at fine
health food stores everywhere.**

* Int Angiol. 2014 Feb;33(1):20-6.

Item #02004

30 vegetarian capsules



Pycnogenol® and Centellicum® are registered trademarks of Horphag Research.
Use of this product may be protected by one or more U.S. patents and other international patents.

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.

Reishi

SUPPORTS
A HEALTHY
IMMUNE
SYSTEM

Reishi mushroom has been used for centuries. Now, get the benefits of **reishi** in a scientifically studied extract form.¹

Reishi mushroom has been traditionally used to support immune system vitality.¹⁻³

Animal and lab studies show that Reishi promotes numerous immune cell activities.³⁻⁶

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

Reishi mushroom **980 mg**
(*Ganoderma lucidium*) extract
(Fruit body) [standardized
to **13.5%** polysaccharides and
6% triterpenes]

Shell-broken Reishi mushroom **150 mg**
(*Ganoderma lucidium*) spore



Item #01708

60 vegetarian capsules



References

1. *Front Microbiol.* 2018;9:1557.
2. *Am J Chin Med.* 2007;35(3):407-14.
3. *Foods.* 2022;11(7):1030.
4. *Front Pharmacol.* 2012;3:135.
5. *Food Science and Human Wellness.* 2024 2024/03/01;13(2):568-96.
6. *International Journal of Molecular Sciences.* 2021;22(2):634.

This product is available at fine
health food stores everywhere.

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



The **SUPER AGING** Secret

Have you heard?
Luteolin is a
flavonoid that
may be the key
to healthy aging.



This new, highly-bioavailable formula:

- Supports cellular health and healthy aging
- Has been shown to provide up to 14x increased bioavailability in a clinical study*
- Is formulated with innovative fenugreek fiber coating to enhance absorption

Absorb the healthy aging benefits of Bio-Luteolin™

Item #02547

30 vegetarian capsules

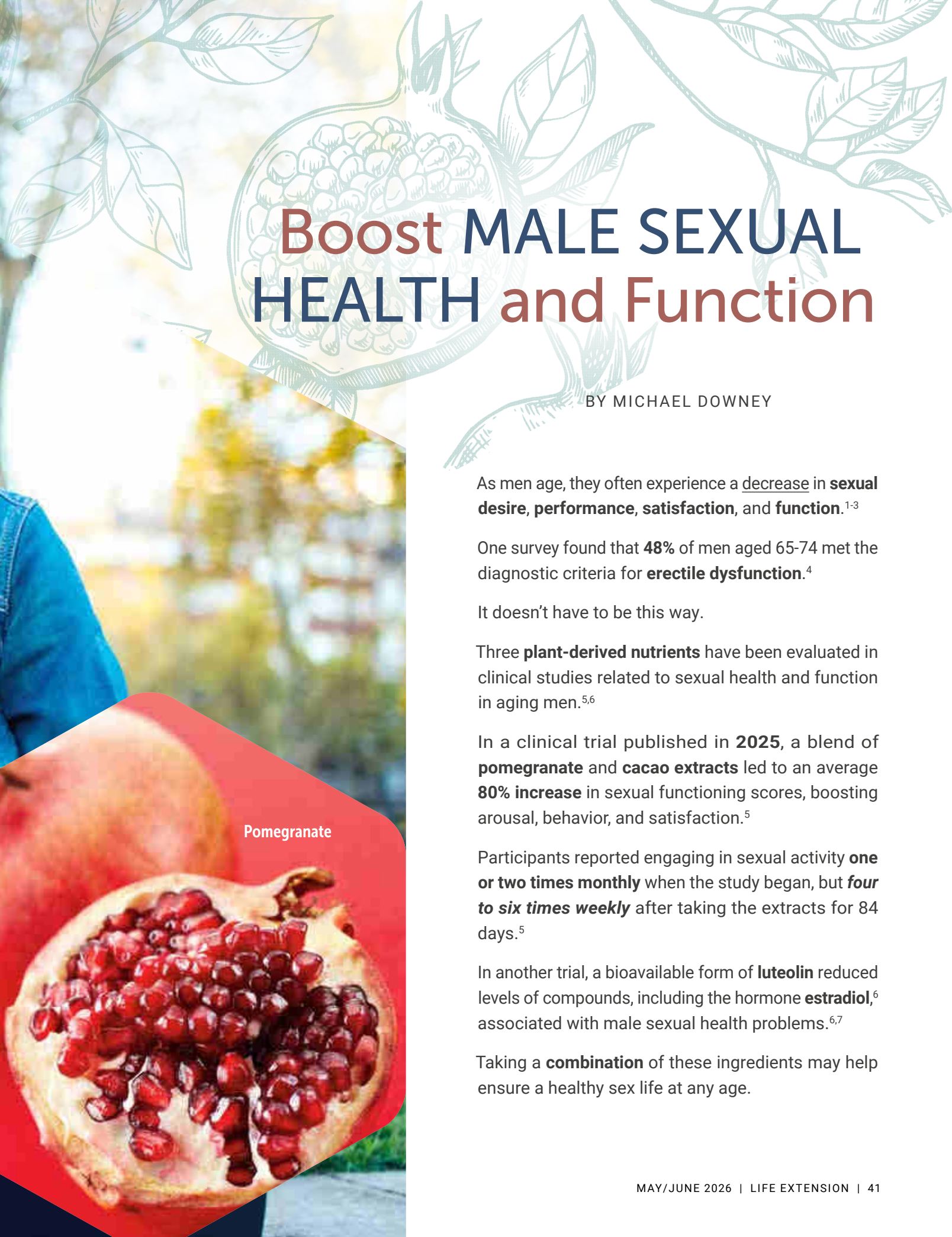
*Than regular luteolin defined as 98% pure powder luteolin

This product is available at fine health food stores everywhere.

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.



Cacao



Boost MALE SEXUAL HEALTH and Function

BY MICHAEL DOWNEY

As men age, they often experience a decrease in **sexual desire, performance, satisfaction, and function**.¹⁻³

One survey found that **48%** of men aged 65-74 met the diagnostic criteria for **erectile dysfunction**.⁴

It doesn't have to be this way.

Three **plant-derived nutrients** have been evaluated in clinical studies related to sexual health and function in aging men.^{5,6}

In a clinical trial published in **2025**, a blend of **pomegranate** and **cacao extracts** led to an average **80% increase** in sexual functioning scores, boosting arousal, behavior, and satisfaction.⁵

Participants reported engaging in sexual activity **one or two times monthly** when the study began, but **four to six times weekly** after taking the extracts for 84 days.⁵

In another trial, a bioavailable form of **luteolin** reduced levels of compounds, including the hormone **estradiol**,⁶ associated with male sexual health problems.^{6,7}

Taking a **combination** of these ingredients may help ensure a healthy sex life at any age.

Pomegranate

Sexual Health Promotes Healthy Aging

Sexual dysfunction can put stress on relationships and damage quality of life.⁸

In addition, studies link better sexual health to:

- Less depression and anxiety,⁹⁻¹¹
- Greater life satisfaction,^{9,12} and
- Better perceived *physical* health.^{13,14}

Sexual function is often considered in discussions of healthy aging in men.

Pomegranate and Cacao Bean

In efforts to explore male sexual health, researchers screened hundreds of **plant extracts** for potential sexual effects.

Two demonstrated promise in preclinical and clinical studies:¹⁵⁻¹⁷

- **Pomegranate** fruit rind, and
- **Cacao** beans used to make cocoa.

These extracts were **combined** and evaluated in a clinical study.⁵

Scientists enlisted 116 healthy and recreationally active men, **40-70 years old**. They took **400 mg** of the **pomegranate-cacao** blend or a **placebo** daily.⁵

After 84 days, the **pomegranate-cacao** group improved in **all aspects** of sexual health and function evaluated.⁵

Improved Sexual Health

All subjects completed a standard questionnaire assessing various aspects of **sexual function**.

Those taking the **pomegranate-cacao extract** blend had, compared to placebo, an average **80% increase** in *total* sexual functioning scores after 84 days.⁵

The treatment group had, compared to placebo, **improvements** of:⁵

- **93%** in sexual cognition and fantasies (how often they had sexual or erotic thoughts or fantasies),
- **105%** in sexual arousal,



- **115%** in sexual behavior and experiences,
- **27%** in orgasm achievement and satisfaction, and
- **58%** in sexual drive.

Remarkably, **55%** of participants in the **pomegranate-cacao** group who initially reported mild-to-moderate sexual dysfunction did not meet criteria of **any** sexual dysfunction at the end of the study.

By contrast, *every member* of the **placebo** group reported mild-to-moderate sexual dysfunction by the study's end.⁵

Drilling down, investigators looked at **two** specific questions in the survey.

One asked how often the subject had a full erection upon awakening. The **pomegranate-cacao** group averaged **one or two monthly** at baseline but **four to six weekly** after 84 days.⁵

Another question asked how often the participant had "sexual intercourse, oral sex, etc."

Those taking the **extract blend** reported engaging in sexual activity an average of **one or two times per month** at baseline but **four to six times weekly** at the end of the study.⁵

Boosting Erectile Function

Subjects also completed a standard questionnaire for clinically assessing **erectile function**.

After 84 days, the **pomegranate-cacao** group showed, compared to controls, a **36%** change in overall erectile and sexual function.⁵

The change included specific *improvements* of:⁵

- **28%** in erectile function,
- **43%** in orgasmic function,
- **44%** in sexual desire,
- **40%** in intercourse satisfaction, and
- **46%** in overall satisfaction with sex life and sexual relationships.

The study also used a self-reported tool known as the **Erection Hardness Score**.

At baseline, subjects averaged **Grade 2**, “not hard enough for penetration.”

After 84 days, the placebo group *still* averaged Grade 2. But the **pomegranate-cacao** group’s average improved to **Grade 3**, “sufficient for penetration.”⁵

Effect of Bioavailable Luteolin

Luteolin is a health-promoting compound found in some fruits and vegetables.¹⁸

On its own, it suffers from low **bioavailability**.¹⁹ But coating it in a plant-derived fiber called **galactomannans** has produced a highly **bioavailable luteolin**.²⁰

In a trial, this novel formulation produced blood levels of luteolin **14 times greater** than standard luteolin.²⁰

To test its effects on male sexual health, scientists enlisted 51 men aged 35-55 with low testosterone. After 84 days, those who took **500 mg** of **bioavailable luteolin** had, compared to a placebo:⁶

- **17%** lower blood levels of the **sex hormone binding globulin (SHBG)**, and
- **12%** lower blood levels of **estradiol** (a type of estrogen, the female sex hormone).

Lower **SHBG** levels are associated with *higher* circulating **testosterone**.²¹ The reason is that SHBG binds with testosterone, inhibiting it from attaching to testosterone receptors.^{22,23}

Lowering **estradiol** levels has been associated with aspects of male sexual health because elevated estradiol is associated with **erectile dysfunction**.²⁴

Luteolin has been shown in preclinical studies to inhibit **aromatase**, an enzyme that converts testosterone into estradiol.^{25,26}

Additionally, the **luteolin** group had, compared to placebo:⁶

- **8%** increased grip strength,
- **10.4%** improved vigor, and
- **11%** decreased tension levels.

Taking bioavailable **luteolin** along with a **pomegranate-cacao extract blend** has been explored for its potential role in male sexual health and function.



Support for Men's Sexual Health

- As men age, they typically experience a decline in **sexual health** and function.
- In a clinical trial, a blend of **pomegranate** and **cacao bean extract** was associated with an **80%** increase in sexual arousal, behavior, performance, and satisfaction.
- A bioavailable form of **luteolin** clinically reduced levels of the compounds SHBG and estradiol, changes that have been associated with erectile function and testosterone levels.
- Taken together, these three ingredients may substantially enhance male sexual function, desire, and satisfaction.

Summary

Aging men often experience reduced **sexual health**, including decreased desire, performance, erectile function, and satisfaction.

In a human study, a blend of **pomegranate** and **cacao bean** extracts was associated with changes across **all evaluated aspects** of sexual health and function.

In another human study, a bioavailable form of **luteolin** was associated with change in vigor while decreasing levels of compounds that can interfere with male sexual health.

Combining these ingredients may offer a complementary approach to addressing age-related change in sexual health as men age. ■

References

1. Jackson SE, Firth J, Veronese N, et al. Decline in sexuality and wellbeing in older adults: A population-based study. *J Affect Disord*. 2019;245:912-7.
2. Wang B, Peng X, Fu L, et al. Sexual function and correlates among adults aged 50+ years in China: Findings from the sexual well-being (SWELL) study. *J Am Geriatr Soc*. 2024;72(4):1122-35.
3. Chung E. Sexuality in Ageing Male: Review of Pathophysiology and Treatment Strategies for Various Male Sexual Dysfunctions. *Med Sci (Basel)*. 2019;7(10).
4. Mark KP, Arenella K, Girard A, et al. Erectile dysfunction prevalence in the United States: report from the 2021 National Survey of Sexual Wellbeing. *J Sex Med*. 2024;21(4):296-303.
5. Srivastava MK, Singh G, Kodur RR, et al. A Combination of Punica granatum Fruit Rind and Theobroma cacao Seed Extracts Enhances Sexual Function in Aging Males in a Randomized, Double-blind, Placebo-controlled Study. *Int J Med Sci*. 2025;22(2):383-97.
6. file. B-LESDo. Bio-Luteolin Efficacy Study. Data on file. 2025. 2025.
7. Wu X, Liu G, Zhang Y, et al. High estradiol level is associated with erectile dysfunction: A systematic review and meta-analysis. *Andrologia*. 2022;54(7):e14432.
8. McCabe MP, Connaughton C. Sexual dysfunction and relationship stress: how does this association vary for men and women? *Curr Opin Psychol*. 2017;13:81-4.
9. Lu Y, Fan S, Cui J, et al. The decline in sexual function, psychological disorders (anxiety and depression) and life satisfaction in older men: A cross-sectional study in a hospital-based population. *Andrologia*. 2020;52(5):e13559.
10. Wang V, Depp CA, Ceglowski J, et al. Sexual health and function in later life: a population-based study of 606 older adults with a partner. *Am J Geriatr Psychiatry*. 2015;23(3):227-33.
11. Carcedo RJ, Fernández-Rouco N, Fernández-Fuertes AA, et al. Association between Sexual Satisfaction and Depression and Anxiety in Adolescents and Young Adults. *Int J Environ Res Public Health*. 2020;17(3).
12. Lindau ST, Gavrilova N. Sex, health, and years of sexually active life gained due to good health: evidence from two US population based cross sectional surveys of ageing. *BMJ*. 2010;340:c810.
13. Buczak-Stec E, König HH, Hajek A. Sexual satisfaction of middle-aged and older adults: longitudinal findings from a nationally representative sample. *Age Ageing*. 2021;50(2):559-64.
14. Vasconcelos P, Carrito ML, Quinta-Gomes AL, et al. Associations between sexual health and well-being: a systematic review. *Bull World Health Organ*. 2024;102(12):873-87d.
15. Smail N, Al-Dujaili E. *Pomegranate juice intake enhances salivary testosterone levels and improves mood and well being in healthy men and women*. 2012.
16. Pandit SL, Yaligar D, Halemane M, et al. A proprietary blend of standardized Punica granatum fruit rind and Theobroma cocoa seed extracts mitigates aging males' symptoms: A randomized, double-blind, placebo-controlled study. *Int J Med Sci*. 2022;19(8):1290-9.
17. Nutraceutical L. Laila Nutraceutical Internal Study. Evaluating testosterone production activating capacity of herbal extracts in MA-10 mouse leydig cells. Data on file. 2018.
18. Punia Bangar S, Kajla P, Chaudhary V, et al. Luteolin: A flavone with myriads of bioactivities and food applications. *Food Bioscience*. 2023;52.
19. Shi M, Chen Z, Gong H, et al. Luteolin, a flavone ingredient: Anticancer mechanisms, combined medication strategy, pharmacokinetics, clinical trials, and pharmaceutical researches. *Phytother Res*. 2024;38(2):880-911.
20. file. B-LBSDo. Bio-Luteolin Bioavailability Study. Data on file. 2025.
21. Narinx N, David K, Walravens J, et al. Role of sex hormone-binding globulin in the free hormone hypothesis and the relevance of free testosterone in androgen physiology. *Cell Mol Life Sci*. 2022;79(11):543.
22. Rastrelli G, Corona G, Cipriani S, et al. Sex hormone-binding globulin is associated with androgen deficiency features independently of total testosterone. *Clin Endocrinol (Oxf)*. 2018;88(4):556-64.
23. Edwards RZ. Testosterone Deficiency. In: Rakel D, ed. *Integrative Medicine*: Elsevier; 2018:630-7.e1.
24. Dick B, Koller C, Herzog B, et al. The Role of Hormones in Male Sexual Function. *Current Sexual Health Reports*. 2020;12(3):101-12.
25. Lu DF, Yang LJ, Wang F, et al. Inhibitory effect of luteolin on estrogen biosynthesis in human ovarian granulosa cells by suppression of aromatase (CYP19). *J Agric Food Chem*. 2012;60(34):8411-8.
26. Shi XK, Peng T, Azimova B, et al. Luteolin and its analog luteolin-7-methylether from Leonurus japonicus Houtt suppress aromatase-mediated estrogen biosynthesis to alleviate polycystic ovary syndrome by the inhibition of tumor progression locus 2. *J Ethnopharmacol*. 2024;331:118279.



A Sense of Calm... All Day Long

Theanine XR™ Stress Relief supplement promotes **alert relaxation** and a feeling of well-being *throughout the day*.*

Just one extended-release tablet provides up to 6 hours of **L-theanine** release to support your daily tranquility.

* J Herb Pharmacother. 2006;6(2):21-30.

This product is available at fine health food stores everywhere.



Item #02429

30 vegetarian tablets

One tablet per day dosing.



AlphaWave® is a registered trademark of Ethical Naturals, 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.

ADVANCED Milk Thistle

ULTIMATE SUPPORT
FOR YOUR LIVER



Item #01922

60 softgels

Advanced Milk Thistle contains standardized, top-grade ingredients of *silymarin*, *silybin*, *isosilybin A*, and *isosilybin B*, providing a full spectrum of liver-supportive compounds.

SILIPHOS® phytosome in **Advanced Milk Thistle** resulted in almost **3.5-fold** greater bioavailability compared to unformulated milk thistle extract.



This product is available at fine health food stores everywhere.

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

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.

Biohack YOUR DNA

You can't stop the clock, but you can slow the hands of time with this new, cutting-edge formula.

- Support healthy biological aging by targeting key hallmarks of the aging process
- Help preserve DNA methylation age, an important factor in healthy biological aging
- Help maintain healthy telomere length, a key aging biomarker

Your healthy aging strategy just got smarter with Biological Aging Defense.



Item #02548

30 vegetarian capsules

This product is available at fine health food stores everywhere.

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.

"It is my goal
to never run out
of this. Ever!"

Rusty

VERIFIED CUSTOMER
REVIEW

Neuro-Mag[®]

THE SMART MAGNESIUM



Item #01603
90 vegetarian capsules

Supports Overall Cognitive Ability

Neuro-Mag[®] Magnesium L-Threonate
helps maintain working
(short-term) memory, encourages
healthy processing speed, and
supports overall cognitive function.^{1,2}



Item #02032
93.35 grams of powder

These products are available at fine health food stores everywhere.

References: 1. *Nutrients*;14:5235.10.3390/nu14245235. 2. *J Alzheimers Dis.* 2016;49(4):971-90.

Magtein[®] is protected under a family of patents, pending patents, and is protected worldwide.
Magtein[®] is a trademark of and is licensed exclusively by Threotech LLC.



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.

B12

B12

B12

B SMART

Body & Brain

"It is everything I wanted
in a B12 supplement."

Christine

VERIFIED CUSTOMER REVIEW

B12

BIOACTIVE FORMS OF VITAMIN B12

B12 Elite provides both:

ADENOSYLCOBALAMIN

- Active in brain cell mitochondria.
- Supports nerve cell function.
- Supports cellular energy production.

METHYLCOBALAMIN

- Supports brain cell function.
- Promotes red blood cell production.
- Helps maintain healthy homocysteine levels.

Dissolve in the mouth or chew one vegetarian
lozenge daily.



Item #02419

60 vegetarian lozenges

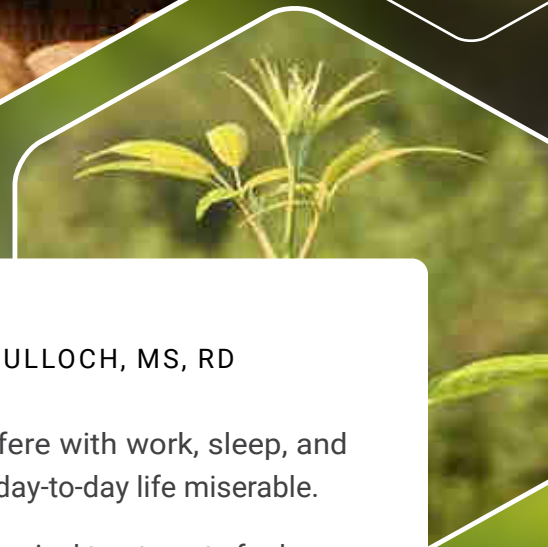


This product is available at fine health
food stores everywhere.

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.



Botanical Solution for **LOW BACK PAIN**



BY MARSHA MCCULLOCH, MS, RD

Lower back pain can interfere with work, sleep, and social activities¹ and make day-to-day life miserable.

Only **10%** of common non-surgical treatments for lower back pain are effective.²

Searching for plant-based alternatives,³ scientists focused on three **botanical extracts**. They all have documented anti-inflammatory and pain-relieving properties.⁴⁻⁷

A placebo-controlled clinical trial showed that about **79%** of people taking a blend of **chaste tree** and **ginger** extracts experienced clinically significant reduction in lower back pain intensity, compared with just **36%** in the placebo group.⁸

In a separate clinical trial, **22%** of subjects were **completely free** of chronic lower back pain after four weeks of taking white willow bark extract.⁹

A nutritional solution that combines these ingredients can help people stay active and independent as they age.

The Lowdown on Low Back Pain

Lower back pain is alarmingly common and is the single leading cause of disability worldwide.¹⁰

In the U.S., over **8%** of adults have **chronic severe back pain**, and according to an analysis from the National Health Interview Survey, nearly **75%** of them have trouble with **mobility**.¹¹

People will try anything to ease back pain. But a meta-analysis of **301** studies of non-surgical treatments found that the majority produced little to no improvement.²

Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil®, Motrin®) and aspirin, provided only slight reductions in low back pain.²

NSAIDs, however, increase the risk of gastrointestinal bleeding, heart attacks, renal damage, and strokes.¹² The risk of side effects grows with higher doses and long-term use.¹³⁻¹⁵

Chaste Tree, Ginger, and Willow Bark

To formulate a **safe** and potent pain solution, scientists selected three botanicals:

- **Five-leaf chaste tree**
- **Ginger**
- **White willow bark**



Five-leaf chaste tree is a shrub native to China and India.¹⁶ It has been used in **Ayurveda** (traditional Indian medicine) to relieve pain and inflammation.⁵

Ginger has a history of use in Chinese medicine and is known for its digestive health benefits.¹⁷ Newer research has explored its pain-relief properties.^{6,18}

White willow bark is chemically related to aspirin.⁷ It contains **salicin**, which can be converted to salicylic acid in the body.^{9,19} Unlike aspirin, which can cause gastrointestinal bleeding, willow bark has *not* shown this side effect.^{7,9,19}

Preclinical and clinical research suggest that **pain-relief benefits** from these extracts may come from inhibiting:

- **Enzyme** pathways that promote inflammation and pain,^{7,18,20,21}
- **Inflammatory signaling**, including by **NF-kB** (nuclear factor-kappa B)^{17,22} and **TNF-alpha** (tumor necrosis factor-alpha),^{8,19,23} and
- **Oxidative stress**, by suppressing **xanthine oxidase**,¹⁸ an enzyme that generates oxidative stress,²⁴ and increasing the antioxidant **glutathione**.²⁵

To maximize benefits, scientists **combined** standardized extracts from five-leaf chaste tree leaves and ginger root, then added white willow bark extract.

Clinical Results

To test the **chaste tree-ginger extract** blend, researchers enlisted 67 relatively sedentary adults, aged 18-60, with persistent **low back pain**.

They were given **200 mg** of **chaste tree-ginger** blend or a **placebo** twice daily for 30 days.⁸

Within **seven days**, those taking the extracts had a **three times** greater reduction in self-rated **pain** than those taking placebos.

By the end of the study, a whopping **79%** of the **extract** group reported a clinically significant reduction in **lower back pain intensity**, compared with only **36%** in the **placebo** group.

In this study, about **77%** achieved a meaningful improvement in **functional activity**, compared with **30%** in the placebo group.⁸



What You Need To Know

Beat Lower Back Pain

- Most medications to relieve **lower back pain** have limited benefits and carry risks.
- Scientists developed a safe blend of extracts from **five-leaf chaste tree** leaves, **ginger** root, and **white willow** bark, which have pain-relieving, anti-inflammatory, and antioxidant properties.
- A placebo-controlled clinical trial reported that nearly **79%** of participants treated with a combination of **five-leaf chaste tree** and **ginger extracts** experienced a clinically significant decrease in **lower back pain intensity**, versus just **36%** in the placebo group.
- In another clinical trial, **22%** of subjects taking white willow bark extract experienced complete relief from lower back pain.
- A blend of these extracts may help ease pain, reduce functional **disability**, and improve quality of life.

Those taking the **extract blend** also had:

- More than **twice** the reduction in low back pain-related **disability** compared to placebo, improving their ability to perform daily activities,
- A **40%** improvement in **bending flexibility** (the ability to touch their toes), compared to a **17%** improvement in the placebo group, and
- Improved **sleep quality**, compared to no clinically meaningful improvement in the placebo group.

Optimizing Pain Relief with Willow Bark

Researchers tested white willow bark in a clinical trial of 191 people with recent worsening of their chronic **lower back pain**.⁹

Subjects received either a **placebo** or a low-dose **willow bark** extract containing **120 mg** of **salicin**, roughly equal to **half** a baby aspirin.²⁶

All participants could use an opioid rescue medication (tramadol) for pain, if necessary.

After four weeks, **22%** of those taking low-dose willow bark were completely pain-free (without rescue medication), compared with **7%** of placebo recipients.

Only **15%** of subjects taking **willow bark** for four weeks needed the **opioid** pain medication, compared to **56%** in the **placebo** group.⁹

The pain-relieving benefits of willow bark likely come from its **salicin** and **polyphenol** content.^{7,19} The polyphenols may also help protect the stomach lining.^{7,19}

Willow bark was well tolerated in this⁹ and other studies.^{19,27} However, individuals allergic to aspirin or sensitive to salicylates should not take willow bark.¹⁹

White willow bark, five-leaf chaste tree, and ginger extracts clearly provide much-needed, safe relief for back pain.

Summary

A placebo-controlled trial showed that about **79%** of participants taking **five-leaf chaste tree** and **ginger extracts** reported a clinically significant reduction in **lower back pain intensity**, compared to only **36%** of the placebo group.

In another clinical trial, **22%** of participants with lower back pain became **pain-free** within four weeks of taking **white willow bark** extract.

Taking a blend of these extracts **twice** daily is recommended for maximum effectiveness. ■

References

- Cheung CKC, Cheung ETC, Schoeb V, et al. Lived Experiences of Older Adults With Chronic Low Back Pain and Implications on Their Daily Life: A Metasynthesis of Qualitative Research. *Arch Rehabil Res Clin Transl*. 2025 Jun;7(2):100456.
- Cashin AG, Furlong BM, Kamper SJ, et al. Analgesic effects of non-surgical and non-interventional treatments for low back pain: a systematic review and meta-analysis of placebo-controlled randomised trials. *BMJ Evid Based Med*. 2025 Mar 18.
- Hartvigsen J, Hancock MJ, Kongsted A, et al. What low back pain is and why we need to pay attention. *Lancet*. 2018 Jun 9;391(10137):2356-67.
- Dharmasiri MG, Jayakody JR, Galhena G, et al. Anti-inflammatory and analgesic activities of mature fresh leaves of *Vitex negundo*. *J Ethnopharmacol*. 2003 Aug;87(2-3):199-206.
- Khan A, Naz S, Farooq U, et al. Bioactive chromone constituents from *Vitex negundo* alleviate pain and inflammation. *J Pain Res*. 2018;11:95-102.
- Kim S, Cheon C, Kim B, et al. The Effect of Ginger and Its Sub-Components on Pain. *Plants (Basel)*. 2022 Sep 2;11(17):2296.
- Vlachojannis J, Magora F, Chrubasik S. Willow species and aspirin: different mechanism of actions. *Phytother Res*. 2011 Jul;25(7):1102-4.
- Srivastava S, Karvir S, Girandola RN. Effect of E-PR-01 on non-specific low back pain in the adult population: A randomized, double-blind, placebo-controlled, parallel-group trial. *J Back Musculoskelet Rehabil*. 2024;37(2):487-502.
- Chrubasik S, Eisenberg E, Balan E, et al. Treatment of low back pain exacerbations with willow bark extract: a randomized double-blind study. *Am J Med*. 2000 Jul;109(1):9-14.
- Available at: <https://www.who.int/news-room/fact-sheets/detail/low-back-pain>. Accessed January 12, 2026.
- Available at: <https://www.nccih.nih.gov/research/research-results/us-national-survey-identifies-associations-between-chronic-severe-back-pain-and-disability>. Accessed January 12, 2026.
- Davis A, Robson J. The dangers of NSAIDs: look both ways. *Br J Gen Pract*. 2016 Apr;66(645):172-3.
- Tai FWD, McAlindon ME. Non-steroidal anti-inflammatory drugs and the gastrointestinal tract. *Clin Med (Lond)*. 2021 Mar;21(2):131-4.
- Wehling M. Non-steroidal anti-inflammatory drug use in chronic pain conditions with special emphasis on the elderly and patients with relevant comorbidities: management and mitigation of risks and adverse effects. *Eur J Clin Pharmacol*. 2014 Oct;70(10):1159-72.
- Cooper C, Chapurlat R, Al-Daghri N, et al. Safety of Oral Non-Selective Non-Steroidal Anti-Inflammatory Drugs in Osteoarthritis: What Does the Literature Say? *Drugs Aging*. 2019 Apr;36(Suppl 1):15-24.
- Loganathan K, Arthanari S, Priya PH, et al. A review on *Vitex negundo*-lamiaceae family. *J Pharmacogn Nat Prod*. 2024;10(4):311.
- Zhang C, Rao A, Chen C, et al. Pharmacological activity and clinical application analysis of traditional Chinese medicine ginger from the perspective of one source and multiple substances. *Chin Med*. 2024 Jul 12;19(1):97.
- Rondanelli M, Fossari F, Vecchio V, et al. Clinical trials on pain lowering effect of ginger: A narrative review. *Phytother Res*. 2020 Nov;34(11):2843-56.
- Shara M, Stohs SJ. Efficacy and Safety of White Willow Bark (*Salix alba*) Extracts. *Phytother Res*. 2015 Aug;29(8):1112-6.
- Jadhav RN, Shinde GS, Bansode HB, et al. A review: analgesic & antiinflammatory activity of *Vitex negundo*. *IJIRT*. 2024;11(3):141-5.
- Rudrapal M, Eltayeb WA, Rakshit G, et al. Dual synergistic inhibition of COX and LOX by potential chemicals from Indian daily spices investigated through detailed computational studies. *Sci Rep*. 2023 May 27;13(1):8656.
- Singh A, Bharadvaja N. The therapeutic potential of *Vitex negundo*: a phytochemical exploration. *Vegetos*. 2025 01/20.
- Nyamweya B, Rukshala D, Fernando N, et al. Cardioprotective Effects of *Vitex negundo*: A Review of Bioactive Extracts and Compounds. *J Evid Based Integr Med*. 2023 Jan-Dec;28:2515690X231176622.
- Umamaheswari M, AsokKumar K, Somasundaram A, et al. Xanthine oxidase inhibitory activity of some Indian medical plants. *J Ethnopharmacol*. 2007 Feb 12;109(3):547-51.
- Khayyal MT, El-Ghazaly MA, Abdallah DM, et al. Mechanisms involved in the anti-inflammatory effect of a standardized willow bark extract. *Arzneimittelforschung*. 2005;55(11):677-87.
- Schmid B, Kotter I, Heide L. Pharmacokinetics of salicin after oral administration of a standardised willow bark extract. *Eur J Clin Pharmacol*. 2001 Aug;57(5):387-91.
- Cheshier BC, Jacobson BH, Diehl C. Effect of white willow bark on delayed onset muscle soreness following resistance training: a pilot study. *Asian J Kinesiol*. 2021;23(4):40-9.



"Great product,
works well."

Lloyd

VERIFIED CUSTOMER
REVIEW



Share a Long, Healthy Life

Selenium promotes the body's production of **glutathione**, a powerful cellular antioxidant. It also encourages healthy cell division, thyroid health, and immune function.

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



Item #01778

100 vegetarian capsules

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

This product is available at
fine health food stores everywhere.

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.

Un-Bee-lievable Immune Support

Meet the bee's knees of respiratory immune defense. Our Bee Immune Propolis:

- Is available in both fast-acting spray and capsules for year-round support
- Supports upper respiratory tract health and a healthy immune response
- Delivers a clinically studied bee propolis standardized to compounds known to support immune health

**“Bee” your
healthiest self
year-round with
Bee Immune
Propolis.**



**GLUTEN
FREE**

**NON
GMO
LE CERTIFIED**



Item #02550

0.5 fl. oz. (15 mL)



Item #02546

60 vegetarian capsules

These products are available at
fine health food stores everywhere.

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.

Pomegranate

The Fruit of Life



Pomegranate Complete
combines extracts from the
whole fruit, flower, and seed oil.

Pomegranate plant compounds
support **heart** health.

Item #01953
30 softgels

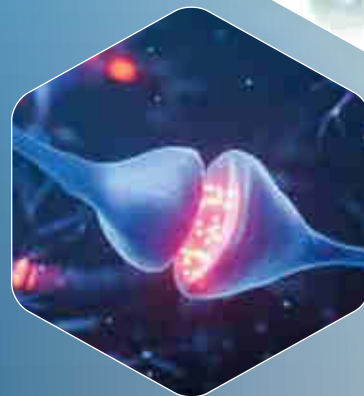


This product is available at fine health food stores everywhere.

Pomella® is a registered trademark of Verdure Sciences, Inc. Patent Pending.

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

Mg



BY CHARLES LUDLOW

MAGNESIUM L-THREONATE

Reduces Estimated Brain Age

Roughly **65%** of adults consume *insufficient* **magnesium** in their diets.

That number rises to more than **80%** in adults over 70 years of age.¹

Low status of this mineral has been tied to *impaired cognitive function* and *increased* risk for **dementia**.²⁻⁴

A form of magnesium called **magnesium L-threonate** has been shown in animal studies to increase magnesium concentrations in the brain.⁵⁻⁸

A **2026** clinical trial found that adults who took **2,000 mg** of **magnesium L-threonate** daily for six weeks, compared to placebo, experienced a **7.5 year improvement** in function-based estimates of cognitive age.⁹ This included improvements in:

- Overall cognition,
- Memory, and
- Reaction time.

Based on favorable data emanating from a major university, **magnesium L-threonate** has become enormously popular. Many readers of this magazine have been supplementing with it daily.

Magnesium's Effects in the Brain

Hundreds of enzymes in every cell rely on **magnesium** to function.²

Observational studies have linked inadequate magnesium intake or low body levels with *accelerated* biological aging.¹⁰ This includes accelerated development of age-associated conditions, including **neurodegenerative disorders**.^{2,11,12}

Brain cells require magnesium to reason, process complex information, plan and make decisions, and learn and form memories.¹³

Preclinical studies have shown that magnesium plays an especially critical role in **synaptic transmission**, the communication between brain cells that is central to complex cognitive functions such as learning and memory formation.¹³⁻¹⁵

Magnesium has also been shown to influence **synaptic plasticity**, the ability of synapses to adapt in response to experience.

In animal studies, magnesium intake:

- Improves synaptic **plasticity**.^{5,7,16}
- Increases the formation of **new synapses**.^{5,17}
- Stimulates **new** cell growth in areas of the brain important for learning and memory,¹⁷ and
- Protects **cognitive function** in models of brain aging,^{17,18} cognitive decline,¹² neurodegenerative disease,^{8,19,20} brain injury,²⁰⁻²³ and mood.^{11,23}



A Better Magnesium for the Brain

Not all forms of magnesium deliver equal benefits for **brain health**.

That's because absorption of magnesium can differ for different forms, and the **blood-brain barrier** may impede magnesium from reaching brain cells.^{6,7,24}

The solution to these problems came from neuroscientists at a major university, who developed **magnesium L-threonate**.

Preclinical studies indicate that this formulation more effectively raises **brain magnesium levels** compared with other common forms of magnesium.⁶⁻⁸

Improved Cognitive Function

Preclinical studies have found that magnesium L-threonate is associated with improved **brain function**.^{6,8,17,20,21}

In animal models, this form of magnesium has enhanced cognitive function.^{5,7,25} Models of **brain disease** reveal that **magnesium L-threonate** is capable of protecting brain cell viability.^{22,25,26}

In a study published in **2024**, magnesium L-threonate improved cognition, including learning and memory, in a mouse model of **Alzheimer's disease**. It also improved the makeup of the gut microbiome, which the study authors believe may benefit the brain through the **gut-brain axis**.²⁵

In another study, giving aged rats magnesium L-threonate increased the density of synapses and led to improvements in **learning, working memory**, and **short- and long-term memory**.⁷

When scientists studied magnesium L-threonate in humans, they found impressive benefits for cognition and memory.

In one controlled clinical trial, older adults with signs of cognitive decline took either **1,500-2,000 mg** of **magnesium L-threonate** or a **placebo** daily for 12 weeks. Those receiving the magnesium had improvements in cognitive function, including **memory, executive function** (the ability to plan, adapt, focus, and make decisions), and cognitive **processing speed**.²⁷

In an open-label trial in subjects with mild to moderate **dementia**, 12 weeks of magnesium L-threonate consumption resulted in considerable improvements in regional metabolism in the brain, as well as better overall cognitive functioning.²⁸

In a recent **2026** published randomized, double-blind, placebo-controlled trial, 100 adults received **2000 mg** daily of magnesium L-threonate or placebo for six weeks. Compared to placebo, the **magnesium L-threonate** group had greater improvement in overall cognitive performance as measured by the National Institutes of Health (NIH) Total Cognition Composite Score. There were even greater benefits for both working and episodic **memory**.⁹

Using a separate metric known as *NIH Toolbox Total Cognition Composite Change Sensitive Score*, researchers calculated a “cognitive age.” This is a measure of age-related decline in cognitive functions such as memory, processing speed, and executive functions compared to average scores for one’s similar-aged peers.

Six weeks of **magnesium L-threonate** consumption resulted in a **7.5-year improvement** in this cognitive function-based estimate of “**cognitive age**.”⁹

This form of magnesium has shown benefits for other aspects of brain health. For example, in one study in 15 adult patients with moderate severity **attention deficit hyperactivity disorder (ADHD)**, magnesium L-threonate resulted in improved clinical status in nearly half the participants.²⁹

Another human study published in **2024** enrolled adults with sleep problems and randomized them to receive **1,000 mg** daily of magnesium L-threonate or a placebo. Those receiving the magnesium maintained better sleep quality and were more productive, more alert, and less grouchy during the day.³⁰

Additional benefits are still being explored, but magnesium L-threonate has already shown a clear ability to help support optimal **brain health**.

Summary

Magnesium is critical for brain function, and poor magnesium status is associated with cognitive decline and risk for dementia.

Magnesium L-threonate is a form of magnesium which boasts excellent bioavailability as well as an ability to boost brain levels of magnesium.

In human trials, taking magnesium L-threonate has improved **cognitive function**. A trial published in **2026** showed that just six weeks of consumption improved function-based estimates of **cognitive age** by more than **seven years**. ■



Improve Cognitive Functioning with Magnesium L-Threonate

- **Magnesium** plays critical roles in brain health. Inadequate magnesium status is common in the elderly and is associated with increased risk for dementia.
- **Magnesium L-threonate** is a form of magnesium that is well absorbed and is able to deliver magnesium to the brain.
- Animal and human studies show that magnesium L-threonate is capable of boosting **brain function**, even in cases of neurological disease such as cognitive impairment and Alzheimer's.
- A recently published clinical trial showed that magnesium L-threonate consumption resulted in improved cognitive function and reduced “cognitive age.”

References

- Kostov K, Halacheva L. Role of Magnesium Deficiency in Promoting Atherosclerosis, Endothelial Dysfunction, and Arterial Stiffening as Risk Factors for Hypertension. *Int J Mol Sci*. 2018 Jun 11;19(6).
- Barbagallo M, Veronese N, Dominguez LJ. Magnesium in Aging, Health and Diseases. *Nutrients*. 2021 Jan 30;13(2).
- Chen F, Wang J, Cheng Y, et al. Magnesium and Cognitive Health in Adults: A Systematic Review and Meta-Analysis. *Adv Nutr*. 2024 Aug;15(8):100272.
- Li G, Zhou N, Wang H, et al. Association of magnesium depletion score with cognitive function in older adults: An analysis of US National Health and Nutrition Examination Survey (NHANES) 2011 to 2014. *Medicine (Baltimore)*. 2025 Oct 17;104(42):e45231.
- Sun Q, Weinger JG, Mao F, et al. Regulation of structural and functional synapse density by L-threonate through modulation of intraneuronal magnesium concentration. *Neuropharmacology*. 2016 Sep;108:426-39.
- Sadir S, Tabassum S, Emad S, et al. Neurobehavioral and biochemical effects of magnesium chloride (MgCl₂), magnesium sulphate (MgSO₄) and magnesium-L-threonate (MgT) supplementation in rats: A dose dependent comparative study. *Pak J Pharm Sci*. 2019 Jan;32(1(Supplementary)):277-83.
- Slutsky I, Abumaria N, Wu LJ, et al. Enhancement of learning and memory by elevating brain magnesium. *Neuron*. 2010 Jan 28;65(2):165-77.
- Shen Y, Dai L, Tian H, et al. Treatment Of Magnesium-L-Threonate Elevates The Magnesium Level In The Cerebrospinal Fluid And Attenuates Motor Deficits And Dopamine Neuron Loss In A Mouse Model Of Parkinson's disease. *Neuropsychiatr Dis Treat*. 2019;15:3143-53.
- Lopresti AL, Smith SJ. The effects of magnesium L-threonate (Magtein®) on cognitive performance and sleep quality in adults: a randomised, double-blind, placebo-controlled trial. *Frontiers in Nutrition*. 2026 2026-January-12;Volume 12 - 2025.
- Dominguez LJ, Veronese N, Barbagallo M. Magnesium and the Hallmarks of Aging. *Nutrients*. 2024 Feb 9;16(4).
- Xu P, Cui D, Jin M, et al. Magnesium ions and dementia. *Journal of Neurorestoratology*. 2024;12(1):1000094.
- Scibior A, Llopis J, Dobrakowski PP, et al. Magnesium (Mg) and Neurodegeneration: A Comprehensive Overview of Studies on Mg Levels in Biological Specimens in Humans Affected Some Neurodegenerative Disorders with an Update on Therapy and Clinical Trials Supplemented with Selected Animal Studies. *Int J Mol Sci*. 2024 Nov 23;25(23).
- Hou H, Wang L, Fu T, et al. Magnesium Acts as a Second Messenger in the Regulation of NMDA Receptor-Mediated CREB Signaling in Neurons. *Mol Neurobiol*. 2020 Jun;57(6):2539-50.
- Billard JM. Brain free magnesium homeostasis as a target for reducing cognitive aging. In: Vink R, Nechifor M, editors. *Magnesium in the Central Nervous System*. Adelaide (AU)2011.
- Collingridge GL. Long-term potentiation in the hippocampus: From magnesium to memory. *Neuroscience*. 2025 Jul 10;578:126-31.
- Zhou H, Bi GQ, Liu G. Intracellular magnesium optimizes transmission efficiency and plasticity of hippocampal synapses by reconfiguring their connectivity. *Nat Commun*. 2024 Apr 22;15(1):3406.
- Jia S, Liu Y, Shi Y, et al. Elevation of Brain Magnesium Potentiates Neural Stem Cell Proliferation in the Hippocampus of Young and Aged Mice. *J Cell Physiol*. 2016 Sep;231(9):1903-12.
- Varga P. The Role of Magnesium in Depression, Migraine, Alzheimer's Disease, and Cognitive Health: A Comprehensive Review. *Nutrients*. 2025 Jul 4;17(13).
- Maier JAM, Locatelli L, Fedele G, et al. Magnesium and the Brain: A Focus on Neuroinflammation and Neurodegeneration. *Int J Mol Sci*. 2022 Dec 23;24(1).
- Huang Y, Huang X, Zhang L, et al. Magnesium boosts the memory restorative effect of environmental enrichment in Alzheimer's disease mice. *CNS Neurosci Ther*. 2018 Jan;24(1):70-9.
- Liu C, Cheng Y, Guo Y, et al. Magnesium-L-threonate alleviate colonic inflammation and memory impairment in chronic-plus-binge alcohol feeding mice. *Brain Res Bull*. 2021 Sep;174:184-93.
- Xiong Y, Ruan YT, Zhao J, et al. Magnesium-L-threonate exhibited a neuroprotective effect against oxidative stress damage in HT22 cells and Alzheimer's disease mouse model. *World J Psychiatry*. 2022 Mar 19;12(3):410-24.
- Varga P, Lehocski A, Fekete M, et al. The Role of Magnesium in Depression, Migraine, Alzheimer's Disease, and Cognitive Health: A Comprehensive Review. *Nutrients*. 2025 Jul 4;17(13).
- Uysal N, Kizildag S, Yuce Z, et al. Timeline (Bioavailability) of Magnesium Compounds in Hours: Which Magnesium Compound Works Best? *Biol Trace Elem Res*. 2019 Jan;187(1):128-36.
- Liao W, Wei J, Liu C, et al. Magnesium-L-threonate treats Alzheimer's disease by modulating the microbiota-gut-brain axis. *Neural Regen Res*. 2024 Oct 1;19(10):2281-9.
- Li W, Yu J, Liu Y, et al. Elevation of brain magnesium prevents synaptic loss and reverses cognitive deficits in Alzheimer's disease mouse model. *Mol Brain*. 2014 Sep 13;7:65.
- Liu G, Weinger JG, Lu ZL, et al. Efficacy and Safety of MMFS-01, a Synapse Density Enhancer, for Treating Cognitive Impairment in Older Adults: A Randomized, Double-Blind, Placebo-Controlled Trial. *J Alzheimers Dis*. 2016;49(4):971-90.
- Woolie TE, Watson K, Chen K, et al. Open Label Trial of Magnesium L-Threonate in Patients with Dementia. *Innov Aging*. 2017 Jul Jun 30;1(Suppl 1):170. doi: 10.1093/geroni/igx004.661. eCollection 2017 Jul.
- Surman C, Vaudreuil C, Boland H, et al. L-Threonic Acid Magnesium Salt Supplementation in ADHD: An Open-Label Pilot Study. *J Diet Suppl*. 2021;18(2):119-31.
- Hausenblas HA, Lynch T, Hooper S, et al. Magnesium-L-threonate improves sleep quality and daytime functioning in adults with self-reported sleep problems: A randomized controlled trial. *Sleep Med X*. 2024 Dec 15;8:100121.



Keep *The Drive* Alive

Experience the sexual satisfaction you long for with Sexual Health for Her, a clinically studied formula that encourages healthy female libido and sex drive.

This plant-based formula helps turn up the heat in the bedroom with clinically studied fenugreek seed and saffron, extracts that enhance arousal and lubrication.

Feel the excitement with Sexual Health for Her!

This product is available at fine health food stores everywhere.



Item #02536

60 vegetarian capsules

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

Back in Action

Improved



Item #02529

60 vegetarian capsules

Occasional back discomfort benching you?

Help relieve occasional lower back discomfort and stiffness with clinically studied chaste tree and ginger extracts. We added white willow bark extract for additional lower back relief benefits. Start feeling relief in as little as 7 days.

Embrace your back's flexibility and range of motion
with Lower Back Relief!

This product is available at fine health food stores everywhere.

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.

Hair so Nice, They'll Look Twice!

Hair Growth for Men is a **plant-derived** formula that *supports* the normal growth cycle for **healthy hair**.

In a clinical trial, a proprietary blend of **black rice seed** and **prickly pear** flower extracts helped to:¹

- Support hair health
- Promote hair fullness and density

This formula also features a standardized **saw palmetto** oil that in a 4-month clinical trial demonstrated support for:²

- Fuller hair with more density
- Reduced hair shedding
- Healthy hair appearance

Just one **Hair Growth for Men** softgel daily can help maintain healthy hair.

This product is available at fine
health food stores everywhere.



Item #02538

30 softgels

References: 1. J Cosmo Tricho. 2023;9(3):207. 2. Clin Cosmet Investig Dermatol. 2023 Nov 11;16:3251-3266.
Actrisave® is a registered trademark of Bionap S.r.l. VI-SPO® is a trademark of Vidya Herbs Inc. and used with permission.

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.

Female - Support

PROBIOTIC

FLORASSIST® PROBIOTIC Women's Health contains two probiotic strains.

One promotes microbial flora for **vaginal** health.

The other supports **digestive** and **immune functions**.

Several clinical trials have shown that:

- ***L. plantarum* ROSELL®A** oral intake helps restore and maintain a microbiome to support proper **vaginal** health.^{1,2}
- ***L. helveticus* LAFTI® L10** promotes **digestive** health³ and encourages a healthy **immune** response.⁴

Just one capsule daily provides the broad **probiotic** support a woman needs.

Item #02505

30 vegetarian capsules



Contains soybeans.

L. plantarum ROSELLA is *L. plantarum* P17630 (Proge P17630®), licensed from PROGE FARM®, Italy.

References

1. Nutrafoods. 2013;12:35-42.
2. Eur Rev Med Pharmacol Sci. 2018 Jan;22(1):262-7.
3. Nutrafoods. 2005;4:2-3.
4. J Strength & Conditioning Res. 2017;31(1):62-70.



**Vaginal,
Digestive,
and Immune
Support**

Healthy
Vaginal
Flora

"I've noticed a big difference since taking these."

Christy

VERIFIED CUSTOMER
REVIEW

This product is available at fine health food stores everywhere.

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.

COMPREHENSIVE EYE HEALTH FORMULA

MACUGUARD® OCULAR SUPPORT PROVIDES:

- **Lutein, zeaxanthin, and meso-zeaxanthin** to help maintain structural integrity of the **macula** and **retina**.¹⁻⁵
- **Saffron** to help support **vision** as demonstrated by doctors' eye exams.¹
- **Alpha-carotene** to further help support **macular density**.¹



MacuGuard® Ocular Support
with Saffron
Item #01992
60 softgels



MacuGuard® Ocular Support
with Saffron & Astaxanthin
Item #01993
60 softgels

References

1. JAMA Ophthalmol. 2015;133(12):1415-24.
2. Nutrients. 2013 April;5(4):1169-85.
3. Nutrition. 2011 Sep;27(9):960-6.
4. Free Radic Biol Med. 2012;53(6):1298-307.
5. J Ophthalmol. 2015;2015:523027.



Each bottle lasts for two months.

MacuGuard® Ocular Support is available with or without astaxanthin.

These products are available at
fine health food stores everywhere.

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.

Your Bone Health...Now **BOOSTED**



Bone Restore Calcium Supplement with Vitamin K2 combines skeletal-strengthening nutrients in one formula.

This product is available at fine health food stores everywhere.

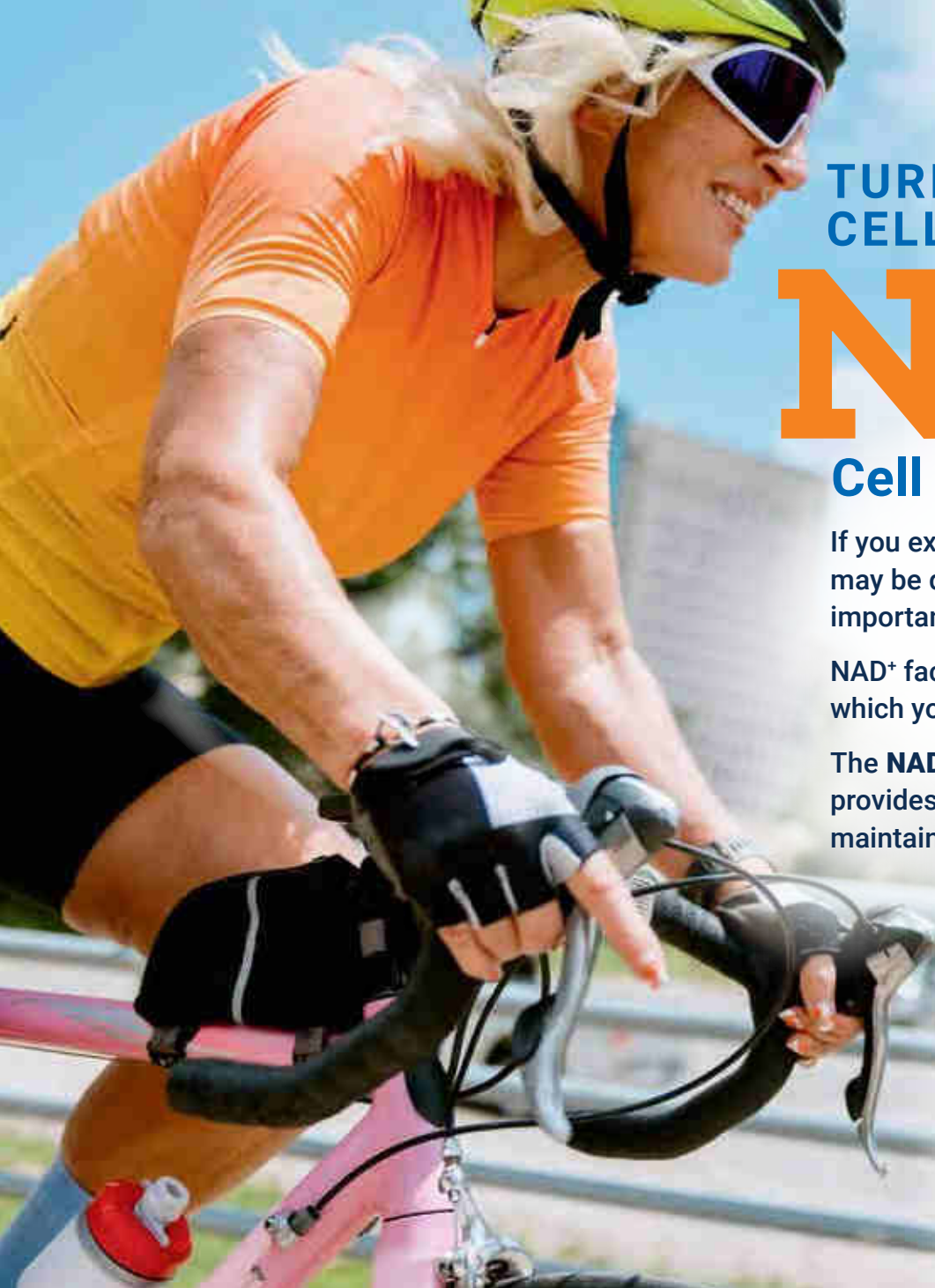
Item #01727

120 capsules

Caution: Those taking a vitamin K antagonist (e.g. warfarin) should use Bone Restore without vitamin K2. Fruitex B® and OsteoBoron® are registered trademarks of VDF Futureceuticals, Inc. Pat. Fcpatent.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.



TURN ON YOUR
CELLULAR ENERGY

NAD⁺

Cell Regenerator™

If you experience general fatigue, it may be due to the decline of NAD⁺, an important coenzyme found in every cell.

NAD⁺ facilitates the production of ATP, which your body uses for fuel.

The **NAD⁺ Cell Regenerator™** formula provides nicotinamide riboside to help maintain healthy levels of NAD⁺.



NIAGEN® is a registered trademark of ChromaDex, Inc., Patents see: www.ChromaDexPatents.com

NAD⁺ Cell Regenerator™ has met ConsumerLab.com standards for ingredient and product quality for Nicotinamide Riboside in independent testing. More information at www.consumerlab.com.

These products are available at fine health food stores everywhere.

NAD⁺ Cell Regenerator™ and Resveratrol Elite™

Nicotinamide riboside (300 mg), bioavailable resveratrol and other cell-energizing nutrients in one capsule.

Item #02348 • 30 veg. caps.

NAD⁺ Cell Regenerator™

300 mg of nicotinamide riboside per capsule.

Item #02344 • 30 veg. caps.



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.



POMEGRANATE

The Powerhouse of Nutrients

Pomegranate contains diverse compounds that have demonstrated a range of biological activities in preclinical and clinical studies.¹⁻³

In other words, pomegranate is a fruit with body-wide health benefits.

Across preclinical studies, pomegranate extracts have been shown to support processes involved in mitochondrial function,⁴ vascular and cardiovascular health,^{5,6} inflammatory balance,⁷ and glucose metabolism.⁸

Collectively, these findings have led to investigations of pomegranate and its extracts for their potential role in promoting healthy aging.^{9,10}

Clinical studies indicate that pomegranate consumption may improve blood flow in healthy adults,^{11,12} and help lower blood pressure.¹³⁻¹⁶

Pomegranate as a Source of Diverse Nutrients

All parts of the pomegranate—bark, flowers, and leaves—have traditional therapeutic uses. They have been studied in relation to digestive, metabolic, cardiovascular, and antimicrobial functions, as well as hair and skin structure.²

But why is pomegranate so packed with benefits?

Every component of the plant contains a potent assortment of **polyphenols**. These include an abundance of anthocyanins and flavonoids, many of which have demonstrated antioxidant and anti-inflammatory activity in experimental studies.^{6,17}

Pomegranate also contains special polyphenols like **ellagic acid**, **ellagitannins**, and **punicalagin**.^{17,18} These compounds have been studied for their potential health-promoting properties.¹⁸

One of the most potent nutrients derived from pomegranate is **urolithin A** which has been studied for its role in supporting cellular health.¹⁹

Urolithin A: A Mitochondrial Booster

While pomegranate and its extracts contain a wide array of nutrients, they do *not* contain **urolithin A**—it needs to be made in the body from nutrients contained in pomegranate.

Pomegranate provides raw materials from which some people can make **urolithin A** for themselves.

In the body, urolithin A is created from the polyphenol called **punicalagin** which can be present in relatively high amounts in pomegranate products²⁰—some pomegranate supplements are even standardized to contain a specific punicalagin content.²¹

When we consume punicalagin, our healthy gut bacteria metabolizes it and converts it into **urolithin A**, which can then be absorbed and distributed throughout the body.²²

Urolithin A has various bioactive properties including anti-inflammatory activity. The primary area of research is its role in **mitochondrial health**.



Pomegranate: A Nutrient Powerhouse

- Pomegranate is a nutrient-dense source of bioactive compounds.
- Multiple parts of the pomegranate plant contain notable concentrations of various bioactive compounds including various polyphenols and ellagitannins.
- Punicalagin—the most abundant ellagitannin found in pomegranate—can, in some people, be converted in the body to urolithin A—a metabolite that has been studied for its role in mitochondrial function.
- Both preclinical and human studies have examined associations between pomegranate consumption and diverse health-related outcomes.

Mitochondria are present in abundance in most cells in the body. Some exceptions include red blood cells and bacteria. For all other cells, the mitochondria are the primary source of cellular energy they use to grow, repair themselves, and function.

In various preclinical studies urolithin A improves mitochondrial function and helps rejuvenate mitochondria.²³ It activates cellular quality-control processes that remove damaged mitochondria and support mitochondrial turnover.^{23,24}

In multiple cell and animal studies, supplementation with **urolithin A** has been associated with improvements in markers related to healthy functions.

In various animal models it improves healthspan and lifespan with protection against an array of age-related disorders such as cardiovascular, metabolic, neurologic, joint, and inflammatory bowel disease.²³

Human studies of urolithin A are still in their early stages. But results so far support its potential to influence markers of **mitochondrial** health.²⁵



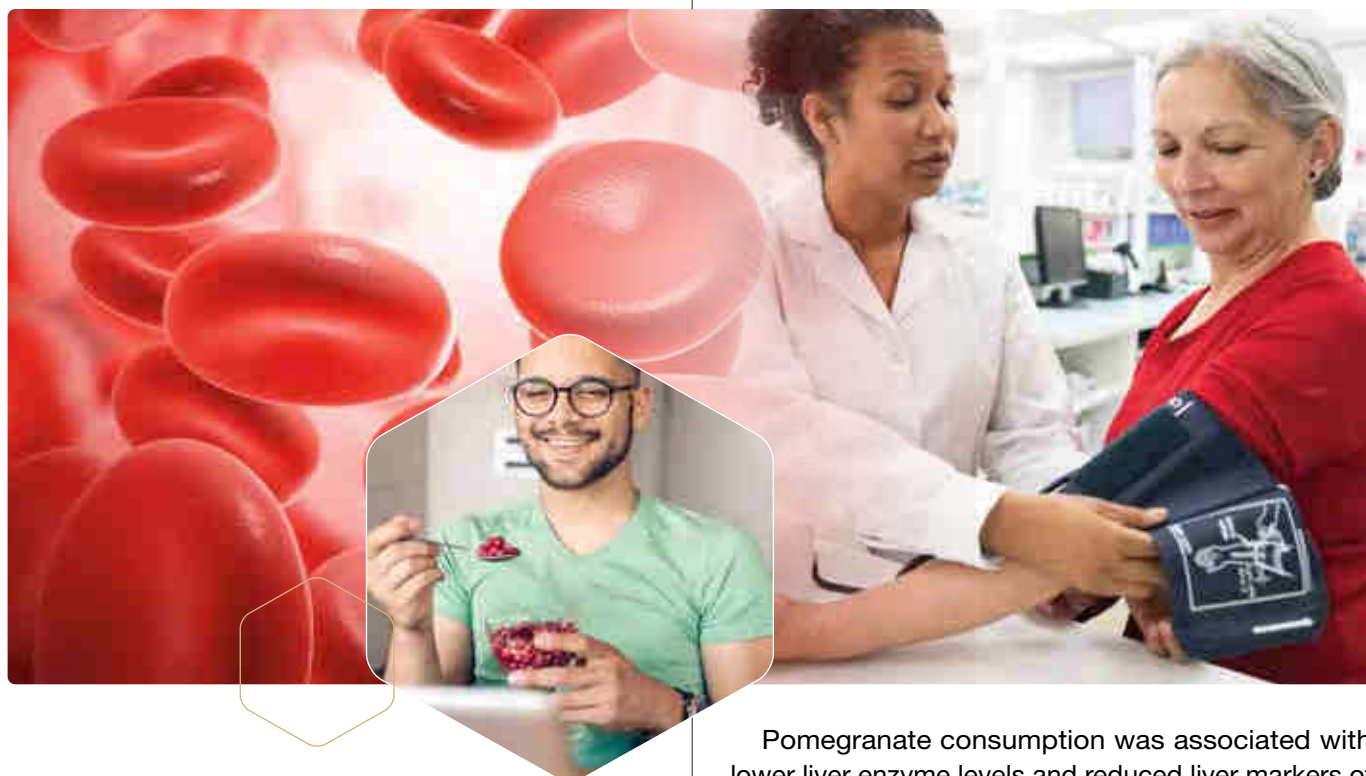
Furthermore, trials report improvements in certain measures of muscle function, including strength and endurance—in both young athletes²⁶ as well as middle-aged²⁶ and older adults.²⁷ In one study, muscle strength increased by approximately **12%** while also increasing aerobic endurance and physical performance in middle-aged adults.²⁶

Benefits of Pomegranate Consumption

Pomegranate has been investigated for its potential effects against common threats to health in older adulthood.

CARDIOVASCULAR

Cardiovascular disease is the most prevalent chronic disease of older age.²⁸ Pomegranate has been reported to beneficially influence numerous cardiometabolic risk factors in both preclinical and clinical studies.



In preclinical studies it has been shown to:

- Support blood vessel function,^{5,6,29,30}
- Reduce markers associated with atherosclerotic plaque development,^{13,31-34} and
- Influence pathways involved in blood clot formation.^{31,35-37}

Whereas in clinical studies:

- It lowers blood pressure,^{16,38,39} and
- Improves blood lipid abnormalities and prevents lipid oxidation.⁴⁰

OBESITY & METABOLIC HEALTH

Obesity, metabolic syndrome, and type 2 diabetes share overlapping signs like high blood pressure and abnormal lipid levels.

In two clinical trials involving adults with type 2 diabetes or poor glucose control, consumption of pomegranate juice was associated with improvements in insulin sensitivity and glycemic indices.^{41,42}

A **2024** systematic review and meta-analysis of **28 human trials** found that pomegranate consumption in adults was associated with modest reductions in body weight (about 4.41 lbs.) and **BMI** compared with controls.⁴³

Pomegranate consumption was associated with lower liver enzyme levels and reduced liver markers of **fatty liver disease**—even in individuals already suffering from this disorder.^{38,44}

In another study, data from 32 different randomized controlled trials of pomegranate consumption were pooled. Overall, the researchers reported that pomegranate consumption was associated with lowered.⁴⁵

- Fasting blood glucose,
- Fasting insulin,
- Hemoglobin A1c—a marker of long-term glucose control, and
- HOMA-IR—an index indicating level of insulin resistance.

CANCER

Pomegranate has been studied for mechanisms that may help reduce both cancer risk and progression.^{46,47}

In experimental models involving carcinogenic exposures, pomegranate has shown it may reduce cancer incidence.⁴⁸⁻⁵⁰

Multiple mechanisms of pomegranate have been identified that may influence tumor progression, making it potentially relevant for more than just prevention. These include effects on cancer cell proliferation and survival, and pathways involved in metastasis such as angiogenesis.^{51,52}

In studies on people with prostate cancer, researchers evaluated the effects of pomegranate consumption on **PSA** levels.⁵³⁻⁵⁵ PSA is an important blood marker of prostate disease. It is commonly used to monitor prostate cancer progression, as levels tend to increase with tumor growth. In these studies, pomegranate consumption was associated with a slower rise in PSA levels following cancer treatment, suggesting a potential role as an adjunct to standard therapy.

Summary

Pomegranate is a nutrient-dense fruit that contains a wide range of health-relevant compounds.

Some of the important nutrients associated with pomegranate—punicalagin and polyphenols, anthocyanins, and flavonoids,—have demonstrated biological activity in experimental and clinical studies. Research suggests that the combined activity of all these nutrients may be relevant to healthy aging.

Owing to multiple mechanisms of action, pomegranate has been studied for effects across an array of physiological systems.

Animal and human studies have reported associations with several outcomes that impact cardiovascular and metabolic health. ■

References

- Basu A, Penugonda K. Pomegranate juice: a heart-healthy fruit juice. *Nutr Rev*. 2009 Jan;67(1):49-56.
- Maphetu N, Unuofin JO, Masuku NP, et al. Medicinal uses, pharmacological activities, phytochemistry, and the molecular mechanisms of *Punica granatum* L. (pomegranate) plant extracts: A review. *Biomed Pharmacother*. 2022 Sep;153:113256.
- Liu C, Wang N, Zhang YY, et al. Pomegranate: historical origins, nutritional composition, health functions and processing development research. *Crit Rev Food Sci Nutr*. 2025;65(33):8447-69.
- Verdu D, Valls A, Serna-Garcia M, et al. Pomegranate Extract Modulates Oxidative Stress by Reducing Basal ROS Levels and Protecting White Blood Cells from Induced Oxidative Damage in Aging Mice. *Int J Mol Sci*. 2025 Jun 20;26(13).
- Delgado NTB, Rouver WN, Dos Santos RL. Protective Effects of Pomegranate in Endothelial Dysfunction. *Curr Pharm Des*. 2020;26(30):3684-99.
- Wang D, Ozen C, Abu-Reidah IM, et al. Vasculoprotective Effects of Pomegranate (*Punica granatum* L.). *Front Pharmacol*. 2018;9:544.
- Moradnia M, Mohammadkhani N, Azizi B, et al. The power of *Punica granatum*: A natural remedy for oxidative stress and inflammation; a narrative review. *J Ethnopharmacol*. 2024 Aug 10;330:118243.
- Olvera-Sandoval C, Fabela-Illescas HE, Fernandez-Martinez E, et al. Potential Mechanisms of the Improvement of Glucose Homeostasis in Type 2 Diabetes by Pomegranate Juice. *Antioxidants (Basel)*. 2022 Mar 15;11(3).
- Cordiano R, Gammeri L, Di Salvo E, et al. Pomegranate (*Punica granatum* L.) Extract Effects on Inflammaging. *Molecules*. 2024 Sep 3;29(17).
- Farhat G, Malla J, Hanson L, et al. Effects of Pomegranate Extract on IGF-1 Levels and Telomere Length in Older Adults (55-70 Years): Findings from a Randomised Double-Blinded Controlled Trial. *Nutrients*. 2025 Sep 16;17(18).
- Roelofs EJ, Smith-Ryan AE, Trexler ET, et al. Effects of pomegranate extract on blood flow and vessel diameter after high-intensity exercise in young, healthy adults. *Eur J Sport Sci*. 2017 Apr;17(3):317-25.
- Asgary S, Keshvari M, Sahebkar A, et al. Clinical investigation of the acute effects of pomegranate juice on blood pressure and endothelial function in hypertensive individuals. *ARYA Atheroscler*. 2013 Nov;9(6):326-31.
- Aviram M, Rosenblat M, Gaitini D, et al. Pomegranate juice consumption for 3 years by patients with carotid artery stenosis reduces common carotid intima-media thickness, blood pressure and LDL oxidation. *Clin Nutr*. 2004 Jun;23(3):423-33.
- Ghaemi F, Emadzadeh M, Atkin SL, et al. Impact of pomegranate juice on blood pressure: A systematic review and meta-analysis. *Phytother Res*. 2023 Oct;37(10):4429-41.
- Asgary S, Sahebkar A, Afshani MR, et al. Clinical evaluation of blood pressure lowering, endothelial function improving, hypolipidemic and anti-inflammatory effects of pomegranate juice in hypertensive subjects. *Phytother Res*. 2014 Feb;28(2):193-9.
- Bahari H, Omidian K, Goudarzi K, et al. The effects of pomegranate consumption on blood pressure in adults: A systematic review and meta-analysis. *Phytother Res*. 2024 May;38(5):2234-48.
- Russo M, Fanali C, Tripodo G, et al. Analysis of phenolic compounds in different parts of pomegranate (*Punica granatum*) fruit by HPLC-PDA-ESI/MS and evaluation of their antioxidant activity: application to different Italian varieties. *Anal Bioanal Chem*. 2018 Jun;410(15):3507-20.
- Shaygannia E, Bahmani M, Zamanzad B, et al. A Review Study on *Punica granatum* L. *J Evid Based Complementary Altern Med*. 2016 Jul;21(3):221-7.
- Zhao H, Song G, Zhu H, et al. Pharmacological Effects of Urolithin A and Its Role in Muscle Health and Performance: Current Knowledge and Prospects. *Nutrients*. 2023 Oct 19;15(20).



20. Yin Y, Martinez R, Zhang W, et al. Crosstalk between dietary pomegranate and gut microbiota: evidence of health benefits. *Crit Rev Food Sci Nutr*. 2024;64(27):10009-35.
21. Johanningsmeier SD, Harris GK. Pomegranate as a functional food and nutraceutical source. *Annu Rev Food Sci Technol*. 2011;2:181-201.
22. D'Amico D, Andreux PA, Valdés P, et al. Impact of the Natural Compound Urolithin A on Health, Disease, and Aging. *Trends in Molecular Medicine*. 2021;27(7):687-99.
23. D'Amico D, Andreux PA, Valdés P, et al. Impact of the Natural Compound Urolithin A on Health, Disease, and Aging. *Trends Mol Med*. 2021 Jul;27(7):687-99.
24. Garcia-Villalba R, Gimenez-Bastida JA, Cortes-Martin A, et al. Urolithins: a Comprehensive Update on their Metabolism, Bioactivity, and Associated Gut Microbiota. *Mol Nutr Food Res*. 2022 Nov;66(21):e2101019.
25. Andreux PA, Blanco-Bose W, Ryu D, et al. The mitophagy activator urolithin A is safe and induces a molecular signature of improved mitochondrial and cellular health in humans. *Nat Metab*. 2019 Jun;1(6):595-603.
26. Singh A, D'Amico D, Andreux PA, et al. Urolithin A improves muscle strength, exercise performance, and biomarkers of mitochondrial health in a randomized trial in middle-aged adults. *Cell Rep Med*. 2022 May 17;3(5):100633.
27. Liu S, D'Amico D, Shankland E, et al. Effect of Urolithin A Supplementation on Muscle Endurance and Mitochondrial Health in Older Adults: A Randomized Clinical Trial. *JAMA Netw Open*. 2022 Jan 4;5(1):e2144279.
28. Available at: <https://www.who.int/news/item/09-12-2020-who-reveals-leading-causes-of-death-and-disability-worldwide-2000-2019#:~:text=Heart%20disease%20has%20remained%20the,nearly%209%20million%20in%202019>. Accessed April 15, 2021.
29. Liu X, Cao K, Lv W, et al. Punicalagin attenuates endothelial dysfunction by activating FoxO1, a pivotal regulating switch of mitochondrial biogenesis. *Free Radic Biol Med*. 2019 May 1;135:251-60.
30. Vilahur G, Padro T, Casani L, et al. Polyphenol-enriched diet prevents coronary endothelial dysfunction by activating the Akt/eNOS pathway. *Rev Esp Cardiol (Engl Ed)*. 2015 Mar;68(3):216-25.
31. Aviram M, Dornfeld L, Rosenblat M, et al. Pomegranate juice consumption reduces oxidative stress, atherogenic modifications to LDL, and platelet aggregation: studies in humans and in atherosclerotic apolipoprotein E-deficient mice. *Am J Clin Nutr*. 2000 May;71(5):1062-76.
32. de Nigris F, Williams-Ignarro S, Lerman LO, et al. Beneficial effects of pomegranate juice on oxidation-sensitive genes and endothelial nitric oxide synthase activity at sites of perturbed shear stress. *Proc Natl Acad Sci U S A*. 2005 Mar 29;102(13):4896-901.
33. de Nigris F, Williams-Ignarro S, Sica V, et al. Effects of a pomegranate fruit extract rich in punicalagin on oxidation-sensitive genes and eNOS activity at sites of perturbed shear stress and atherogenesis. *Cardiovasc Res*. 2007 Jan 15;73(2):414-23.
34. Salama AA, Ismael NM, Bedewy M. The Anti-inflammatory and Antiatherogenic In Vivo Effects of Pomegranate Peel Powder: From Waste to Medicinal Food. *J Med Food*. 2021 Feb;24(2):145-50.
35. Mattiello T, Trifiro E, Jotti GS, et al. Effects of pomegranate juice and extract polyphenols on platelet function. *J Med Food*. 2009 Apr;12(2):334-9.
36. Lafdil FZ, Legssyer A, Ziyat A, et al. Antithrombotic activity of Punica granatum, L (Pomegranate): Experimental investigation and exploration of its mechanism of action on primary and secondary hemostasis in vitro and ex vivo. *Journal of Molecular Structure*. 2025 02/05;1321:140195.
37. Riaz A, Khan RA. Anticoagulant, antiplatelet and antianemic effects of Punica granatum (pomegranate) juice in rabbits. *Blood Coagul Fibrinolysis*. 2016 Apr;27(3):287-93.
38. Barghchi H, Milkarizi N, Belyani S, et al. Pomegranate (Punica granatum L.) peel extract ameliorates metabolic syndrome risk factors in patients with non-alcoholic fatty liver disease: a randomized double-blind clinical trial. *Nutr J*. 2023 Aug 22;22(1):40.
39. Farhat G, Malla J, Vadher J, et al. Effects of Pomegranate Extract on Inflammatory Markers and Cardiometabolic Risk Factors in Adults Aged 55-70 Years: A Randomised Controlled Parallel Trial. *Nutrients*. 2025 Apr 1;17(7).
40. Barghchi H, Milkarizi N, Belyani S, et al. Pomegranate (Punica granatum L.) peel extract ameliorates metabolic syndrome risk factors in patients with non-alcoholic fatty liver disease: a randomized double-blind clinical trial. *Nutr J*. 2023 Aug 22;22(1):40.
41. Banihani SA, Fashtaky RA, Makahleh SM, et al. Effect of fresh pomegranate juice on the level of melatonin, insulin, and fasting serum glucose in healthy individuals and people with impaired fasting glucose. *Food Sci Nutr*. 2020 Jan;8(1):567-74.
42. Banihani SA, Makahleh SM, El-Akawi Z, et al. Fresh pomegranate juice ameliorates insulin resistance, enhances beta-cell function, and decreases fasting serum glucose in type 2 diabetic patients. *Nutr Res*. 2014 Oct;34(10):862-7.
43. Bahari H, Pourreza S, Goudarzi K, et al. The effects of pomegranate consumption on obesity indices in adults: A systematic review and meta-analysis. *Food Sci Nutr*. 2024 Feb;12(2):641-60.
44. Bahari H, Rafiei H, Goudarzi K, et al. The effects of pomegranate consumption on liver function enzymes in adults: A systematic review and meta-analysis. *Complement Ther Med*. 2024 Mar;80:103008.
45. Bahari H, Ashtary-Larky D, Goudarzi K, et al. The effects of pomegranate consumption on glycemic indices in adults: A systematic review and meta-analysis. *Diabetes Metab Syndr*. 2024 Jan;18(1):102940.
46. Cheng X, Yao X, Xu S, et al. Punicalagin induces senescent growth arrest in human papillary thyroid carcinoma BCPAP cells via NF-kappaB signaling pathway. *Biomed Pharmacother*. 2018 Jul;103:490-8.
47. Mandal A, Bhatia D, Bishayee A. Anti-Inflammatory Mechanism Involved in Pomegranate-Mediated Prevention of Breast Cancer: the Role of NF-kappaB and Nrf2 Signaling Pathways. *Nutrients*. 2017 Apr 28;9(5).
48. Husrani A, Hashem Y, Zaatari G, et al. Pomegranate Juice Prevents the Formation of Lung Nodules Secondary to Chronic Cigarette Smoke Exposure in an Animal Model. *Oxid Med Cell Longev*. 2017;2017:6063201.
49. Kim ND, Mehta R, Yu W, et al. Chemopreventive and adjuvant therapeutic potential of pomegranate (Punica granatum) for human breast cancer. *Breast Cancer Res Treat*. 2002 Feb;71(3):203-17.
50. Mehta R, Lansky EP. Breast cancer chemopreventive properties of pomegranate (Punica granatum) fruit extracts in a mouse mammary organ culture. *Eur J Cancer Prev*. 2004 Aug;13(4):345-8.
51. Khwairakpam AD, Bordoloi D, Thakur KK, et al. Possible use of Punica granatum (Pomegranate) in cancer therapy. *Pharmacol Res*. 2018 Jul;133:53-64.
52. Turrini E, Ferruzzi L, Fimognari C. Potential Effects of Pomegranate Polyphenols in Cancer Prevention and Therapy. *Oxid Med Cell Longev*. 2015;2015:938475.
53. Paller CJ, Ye X, Wozniak PJ, et al. A randomized phase II study of pomegranate extract for men with rising PSA following initial therapy for localized prostate cancer. *Prostate Cancer Prostatic Dis*. 2013 Mar;16(1):50-5.
54. Pantuck AJ, Zomorodian N, Seeram N, et al. Long term follow up of pomegranate juice for men with prostate cancer and rising PSA shows durable improvement in PSA doubling time. Paper presented at: American Society of Clinical Oncology 2008 Genitourinary Cancers Symposium 2008; San Francisco.
55. Pantuck AJ, Leppert JT, Zomorodian N, et al. Phase II Study of Pomegranate Juice for Men with Rising Prostate-Specific Antigen following Surgery or Radiation for Prostate Cancer. *Clinical Cancer Research*. 2006;12(13):4018-26.

Munch

Crunch, Digest Your Lunch

(Or breakfast, or dinner...)



Uncomfortable after eating?

Digestive enzymes are specialized proteins that help you break down the foods you eat.*

Enhanced Super Digestive Enzymes combines 10 vegetarian-friendly enzymes to help you break down hard-to-digest foods and encourage a healthy gastrointestinal balance...so you can feel good after you eat!

* Curr Drug Metab. 2016;17(2):187-93.

Item #02021

60 vegetarian capsules



**This product is available at fine
health food stores everywhere.**

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.



AGING CAN WAIT

Stay ahead of Father Time. Healthy aging means maintaining a “with-it” brain, a healthy heart and an active lifestyle—no matter your age.

That’s why we’ve combined taurine for your heart and exercise performance, lithium for your mood and spermidine from wheat germ extract to help you stay ahead of the aging game into an unflavored, easy-mix powder.

Keep your drive alive with **Healthy Aging Powder!**



This product is available at fine health food stores everywhere.

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.

Choose the Melatonin That's Right For You

For occasional sleeplessness.

While many people find **melatonin** helps improve sleep, others take it nightly for its **immune** protection effects.

People often try a range of doses before bedtime to assess what works best for them.



Melatonin 10 mg
60 vegetarian capsules
10 mg of melatonin in each vegetarian capsule.
Item #00331



Melatonin 3 mg
60 vegetarian capsules
3 mg of melatonin in each vegetarian capsule.
Item #00330



Melatonin IR/XR
60 capsules
1.5 mg of combined immediate-release and extended-release melatonin in each capsule.
Item #02201



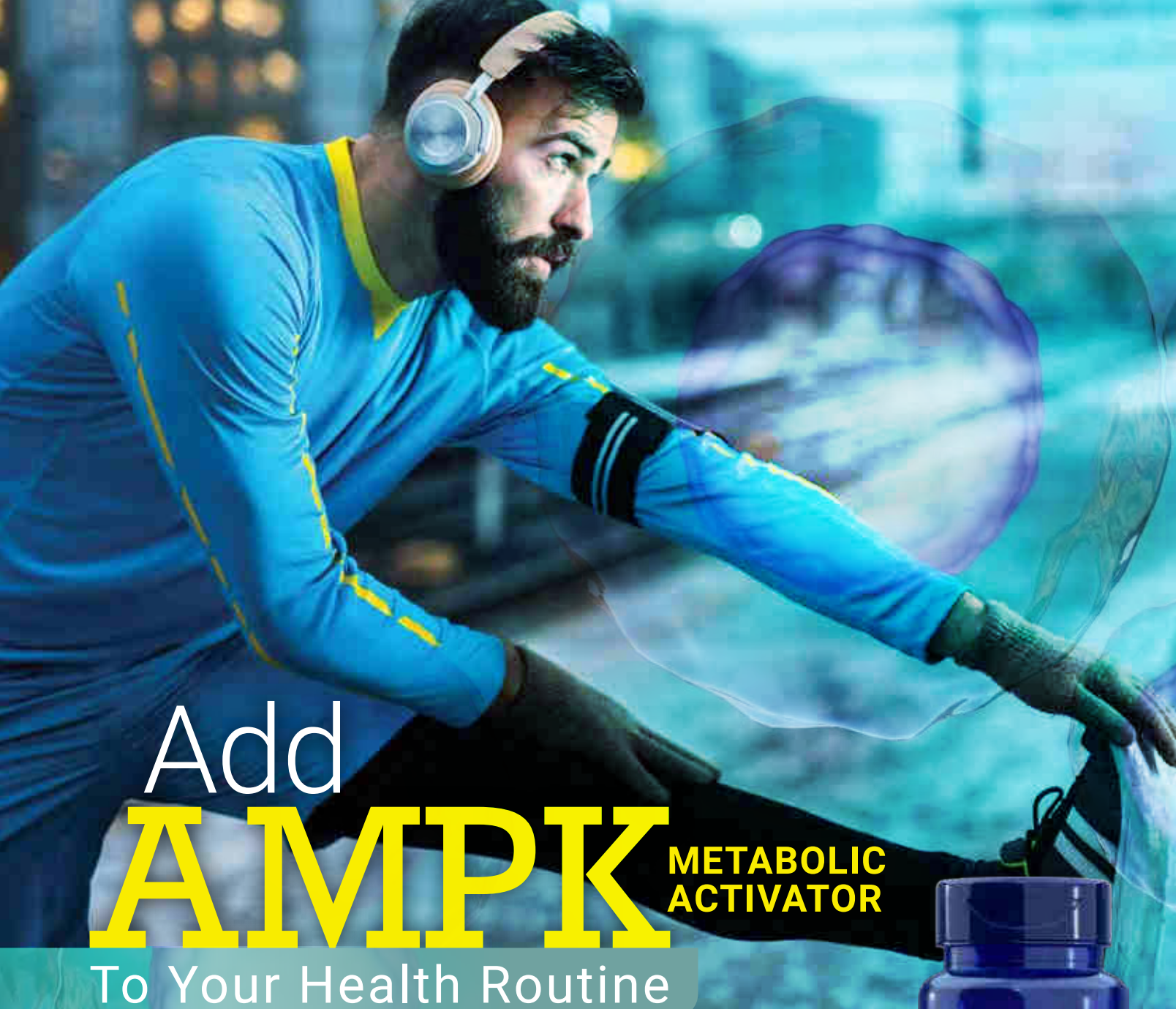
Fast-Acting Liquid Melatonin
(Citrus-Vanilla) • 2 fl. oz
3 mg of melatonin per 1 mL dropper (approximately 20 drops).
Item #02234

These products are available at fine health food stores everywhere.

CAUTION: Do not consume alcohol, drive or operate machinery after taking these products.



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.



Add **AMPK** METABOLIC ACTIVATOR To Your Health Routine

AMPK is an *enzyme* in the body that signals cells to burn **fat** for energy.

Over time, AMPK levels decline and can cause accumulation of **abdominal fat**.

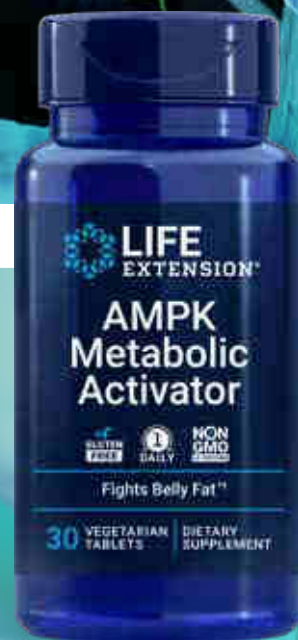
AMPK Metabolic Activator provides gynostemma and hesperidin extracts to:

- Revitalize youthful AMPK activity
- Encourage use of abdominal fat for energy
- Promote healthy cellular metabolism

Item #02207

30 vegetarian tablets

This product is available at fine
health food stores everywhere.



Actiponin® is a trademark of TG Biotech Co., Ltd.

This supplement should be taken in conjunction with a healthy diet and regular exercise program.
Individual results are not guaranteed, and results may vary.



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.

Don't Let **PMS** Cramp Your Style

Want to feel comfortable during that time of the month? This new everyday supplement helps significantly reduce **PMS-related discomforts**.

- In a clinical study, taking 200 mg of the **ginger extract** in this formula resulted in an average reduction of **84%** in menstrual cramp discomfort scores.
- The ginger extract also eased period-related nausea and significantly decreased fatigue and lower back discomfort.¹
- We included **magnesium glycinate** and **vitamin B6** for their benefits to mood and wellbeing.^{2,3}



Item #02537

60 vegetarian capsules

References

1. Open Acc J Comp & Alt Med. 2023;5(1):594-601.
2. Iran J Nurs Midwifery Res. 2010;15(Suppl 1):401-5.
3. J Womens Health Gen Based Med. 2000;9(2):131-9.

Ginfort® is a registered trademark of Olene Life Sciences Pvt. Ltd.

**This product is available at
fine health food stores everywhere.**

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.

ASTAXANTHIN

Supports Whole-Body Health

Astaxanthin is a powerful micro-algal carotenoid that supports a healthy oxidative status.

Life Extension **Astaxanthin 4 mg with Phospholipids** provides antioxidant properties to support healthy skin in the face of daily environmental exposure.^{1,2}

References

1. *Nutrition Res.* 2017;48:40-48.
2. *Nutrients.* 2018;10(7):817.

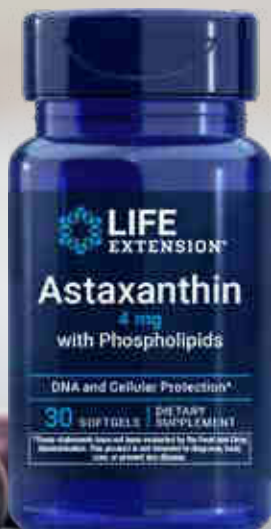
"I love this supplement for all benefits that it gives you."

Maria

VERIFIED CUSTOMER
REVIEW

Item #01923

30 softgels



This product is available at fine health food stores everywhere.

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

HELP SPEED **CELLULAR ENERGY** RECOVERY

"Great for energy."

Loni

VERIFIED CUSTOMER REVIEW

LifeExtension

D-RIBOSE

Promotes Healthy Energy Levels in Heart Muscle

D-Ribose can help recovery, increase energy reserves and maintain healthy energy levels in heart and muscle tissue.



Item #01473

100 vegetarian tablets



Item #00972

150 grams powder
(0.33 lb. or 5.29 oz)

These products are available at fine health food stores everywhere.



Bioenergy RIBOSE® is the property of Bioenergy Life Science, Inc. All rights reserved.

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.

Probiotics Improve Survival During Cancer Treatment

BY RYAN SULLIVAN



In recent years, doctors have made remarkable progress recruiting the body's own **immune system** to fight **cancer**.

A **2025** meta-analysis shows that adding **probiotics** during these treatments may be associated with **improved** patient outcomes.¹

The analysis showed that taking oral probiotics *significantly prolonged overall and progression-free survival* in patients taking **immune checkpoint inhibitor** drugs (like Keytruda®).

Those using probiotics were **42% less likely to die** during follow-up than those who did not receive probiotics.¹

Cancer patients are frequently susceptible to infection and are prescribed **antibiotics**, however this has been associated with a higher risk of adverse effects and reduced survival.²

The Promise of ICIs

Traditional **cancer** treatments use surgery, chemotherapy, and radiation to remove or kill cancer cells.³

Over the past few decades, doctors began using a new approach: harnessing our own **immune system** to better target and destroy cancer cells. This is known as **immunotherapy**.⁴

One example that has entered routine cancer care is the **immune checkpoint inhibitor (ICI)** class of drugs.⁵

These medications increase the power of cancer-fighting immune cells.⁵ Among them are cytotoxic T cells whose role is identifying and killing virus-infected cells, but they are also the preferred immune cells for targeting cancer.⁶

The ICI drugs work by removing immune system "**checkpoints**" in tumors that can shut off T cell activation. This allows those T cells to successfully attack and kill cancer cells.⁵

ICIs have improved outcomes for many cancers, particularly **melanoma** and **non-small-cell lung cancer**.^{1,5}

But roughly **10-27%** of patients experience resistance to ICI treatment,⁷ which means the cancer fails to respond to treatment. Additionally, **52-57%** develop secondary resistance. These patients initially respond to treatment, but the cancer rebounds.⁸

Gut Health Impacts Cancer Treatment

Scientists looking for ways to improve the response to ICI drugs focused on the **gut microbiome**.

That's because a healthy gut microbiome, the mix of microorganisms in our digestive tract, is crucial to the health of the **immune system**.⁹ An unhealthy microbiome can weaken immune function.

As the use of ICIs grew, doctors noted that cancer patients who responded well to these treatments had a more diverse mix of microorganisms and greater proportion of **healthy bacteria** than patients who failed to respond to therapy.¹⁰⁻¹⁴

Furthermore, antibiotics may damage the gut microbiome¹⁵ and are shown in observational studies to be associated with worsened outcomes and shortened survival in ICI treatment.¹⁶ Randomized controlled trials could help confirm if the association is causal; however it is unethical to blind patients susceptible to infection with a placebo.

Prospective observational studies and interventional studies are needed to better understand this association.¹⁷

Other interventions that improved gut health, such as fecal transplants and high fiber dietary interventions, are associated with better outcomes in small studies of patients receiving cancer immunotherapy.² This suggests that probiotics would be useful too.

Probiotics Improved Survival

Following these observations, researchers investigated whether improving the health of the gut microbiome would promote **immune health** and improve the response to ICIs.^{1,13,18,19}

In a meta-analysis published in **2025**, researchers compiled data from 12 studies including **3,142 cancer patients** on ICI therapy. They found that using probiotics was associated with **better overall**

survival and **progression-free survival**. Those using probiotics had a **42% lower** risk of death during follow-up than those who did not receive them.¹

This means that **probiotic supplements** may be associated with improved survival outcomes in people with cancer undergoing ICI treatment.

Not only that, but progression-free survival refers to a period during which cancer growth is not observed during these treatments. Probiotics extended the duration of that as well.

While ICI medications have improved the outcomes of therapy in many forms of cancer, a simple and inexpensive probiotic supplement may help optimize these therapies and minimize treatment resistance.

The type of probiotic varied from study to study. Several bacterial strains were used, including *Lactobacillus species*, *Bifidobacterium*, *Streptococcus faecalis*, and butyric acid bacteria.¹

The meta-analysis also found that use of probiotics could ameliorate the negative effects of **antibiotics** on ICI treatment.¹

In patients with non-small-cell **lung cancer** who took antibiotics during ICI therapy, use of a probiotic **reduced the chance of death by an astonishing 55%** during follow-up, compared to those not taking a probiotic.¹

While ICIs improve outcomes for many cancers, a probiotic may optimize these therapies and help prevent treatment resistance.



PROBIOTICS USED IN THE CHECKPOINT INHIBITOR STUDIES

The preliminary data from these multiple studies is extremely encouraging for cancer patients being experimentally treated with checkpoint inhibitors and probiotics. Clearly more studies are needed to assess how to best match specific probiotic strains with specific cancers and their treatments.

It is important to note that probiotics come in many different types of strains that have specific targets. In these studies, a variety of specific strains were used in each case. In other words, there is no one probiotic that is appropriate for each situation. Currently, there are no commercial products available that match the formulations used in the studies.

The type of probiotic varied from study to study. Several bacterial strains were used, including *Lactobacillus* species, *Bifidobacterium*, *Streptococcus faecalis*, and butyrate producing bacteria.⁹

These exciting findings of the benefits of specific probiotics being used with cancer treatments require further study. If you are undergoing cancer therapy, please discuss this article with your doctor before taking probiotics. Not every cancer patient would benefit from probiotics during treatment.

As always, **Life Extension** will keep you up to date regarding ongoing developments in this field.



Summary

Immune checkpoint inhibitors (ICIs) have improved outcomes for many people with **cancer**, but resistance to these medications is still common.^{9,20}

A meta-analysis of patients undergoing ICI treatment found that taking a **probiotic** prolonged overall survival and progression-free survival.

Antibiotic use can impair ICI effectiveness. This research found that taking probiotics may help counter this effect and support treatment response.

The addition of a **probiotic** to ICI drugs may support the effectiveness of these cancer treatments and be associated with longer survival. •

References

1. Zhao S, Lu Z, Zhao F, et al. Assessing the impact of probiotics on immunotherapy effectiveness and antibiotic-mediated resistance in cancer: a systematic review and meta-analysis. *Front Immunol*. 2025;16:1538969.
2. Fernandez E, Wargo JA, Helmink BA. The Microbiome and Cancer: A Translational Science Review. *JAMA*. 2025;333(24):2188-96.
3. Kaur R, Bhardwaj A, Gupta S. Cancer treatment therapies: traditional to modern approaches to combat cancers. *Mol Biol Rep*. 2023 Nov;50(11):9663-76.
4. Kumar AR, Devan AR, Nair B, et al. Harnessing the immune system against cancer: current immunotherapy approaches and therapeutic targets. *Mol Biol Rep*. 2021 Dec;48(12):8075-95.
5. Shiravand Y, Khodadadi F, Kashani SMA, et al. Immune Checkpoint Inhibitors in Cancer Therapy. *Curr Oncol*. 2022 Apr 24;29(5):3044-60.
6. Farhood B, Najafi M, Mortezaee K. CD8(+) cytotoxic T lymphocytes in cancer immunotherapy: A review. *J Cell Physiol*. 2019 Jun;234(6):8509-21.
7. Zhou S, Yang H. Immunotherapy resistance in non-small-cell lung cancer: From mechanism to clinical strategies. *Front Immunol*. 2023;14:1129465.
8. Schoenfeld AJ, Hellmann MD. Acquired Resistance to Immune Checkpoint Inhibitors. *Cancer Cell*. 2020 Apr 13;37(4):443-55.
9. Wang Q, Meng Q, Chen Y, et al. Interaction between gut microbiota and immunity in health and intestinal disease. *Front Immunol*. 2025;16:1673852.
10. Gopalakrishnan V, Spencer CN, Nezi L, et al. Gut microbiome modulates response to anti-PD-1 immunotherapy in melanoma patients. *Science*. 2018 Jan 5;359(6371):97-103.
11. Matson V, Fessler J, Bao R, et al. The commensal microbiome is associated with anti-PD-1 efficacy in metastatic melanoma patients. *Science*. 2018 Jan 5;359(6371):104-8.
12. Moiseenko F, Kechin A, Koryukov M, et al. Interconnection of Gut Microbiome and Efficacy of Immune Checkpoint Inhibitors in Inoperable Non-Small-Cell Lung Cancer. *Int J Mol Sci*. 2025 Aug 11;26(16).
13. Gazzaniga FS, Kasper DL. The gut microbiome and cancer response to immune checkpoint inhibitors. *J Clin Invest*. 2025 Feb 3;135(3).
14. Ajab SM, Zoughbor SH, Labania LA, et al. Microbiota composition effect on immunotherapy outcomes in colorectal cancer patients: A systematic review. *PLoS One*. 2024;19(7):e0307639.
15. Zimmermann P, Curtis N. The effect of antibiotics on the composition of the intestinal microbiota - a systematic review. *J Infect*. 2019 Dec;79(6):471-89.
16. Wu Q, Liu J, Wu S, et al. The impact of antibiotics on efficacy of immune checkpoint inhibitors in malignancies: A study based on 44 cohorts. *Int Immunopharmacol*. 2021 Mar;92:107303.
17. Crespin A, Le Bescop C, de Gunzburg J, et al. A systematic review and meta-analysis evaluating the impact of antibiotic use on the clinical outcomes of cancer patients treated with immune checkpoint inhibitors. *Front Oncol*. 2023;13:1075593.
18. Simpson RC, Shanahan ER, Scolyer RA, et al. Towards modulating the gut microbiota to enhance the efficacy of immune-checkpoint inhibitors. *Nat Rev Clin Oncol*. 2023 Oct;20(10):697-715.
19. Lee KA, Thomas AM, Bolte LA, et al. Cross-cohort gut microbiome associations with immune checkpoint inhibitor response in advanced melanoma. *Nat Med*. 2022 Mar;28(3):535-44.
20. Zhang C, Zhang C, Wang H. Immune-checkpoint inhibitor resistance in cancer treatment: Current progress and future directions. *Cancer Lett*. 2023 May 28;562:216182.

Liposomal-Hydrogel™

VITAMIN

SUSTAINED SUPPORT

24
HOURS
A DAY



Item #02501

60 vegetarian tablets



This product is available at
fine health food stores everywhere.

"I feel better about
my immune
system with it."

Mary

VERIFIED CUSTOMER
REVIEW

Buffered **ascorbate** encased in two **plant extracts** (liposomes plus hydrogel fenugreek) increases blood (plasma) exposure nearly **seven times** more compared to an equivalent dose of vitamin C as calcium ascorbate.¹

It also maintains vitamin C levels throughout the day.²

Just **one** vegetarian tablet daily provides **around-the-clock** vitamin C support.

References 1. Akay Internal Study. Liposomal vitamin C (calcium ascorbate) pharmacokinetics. Data on file. 2021.
2. Akay Internal Study. Liposomal hydrogel vitamin C pharmacokinetics. Data on file. 2021.

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.

STRESS RELIEF, WHEN YOU NEED IT MOST.

What do medical appointments, public speaking, or preparing for a trip have in common?

They can all make you feel worried or uneasy. GABA is an amino acid that has been clinically studied to help relieve occasional stress and promote a relaxed state of mind, balanced mood and better sleep.*

And unlike traditional stress support supplements, GABA can support a healthy stress response in as little as 30 minutes.

*For occasional sleeplessness



GLUTEN
FREE

NON
GMO
LE CERTIFIED

Item #02542

60 vegetarian capsules

These products are available at fine health food stores everywhere.

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.

Brains & BRAWN



Whether you're in the office, at the gym, or helping your kids with their math homework, you need energy. Fuel your mind and body with Creatine & Acetyl-L-Carnitine Energy Plus. This convenient powder helps fight physical and mental fatigue and promotes healthy energy production, cognitive function, exercise performance, and recovery. Power through your day—no athletic skills required.



Item #02532

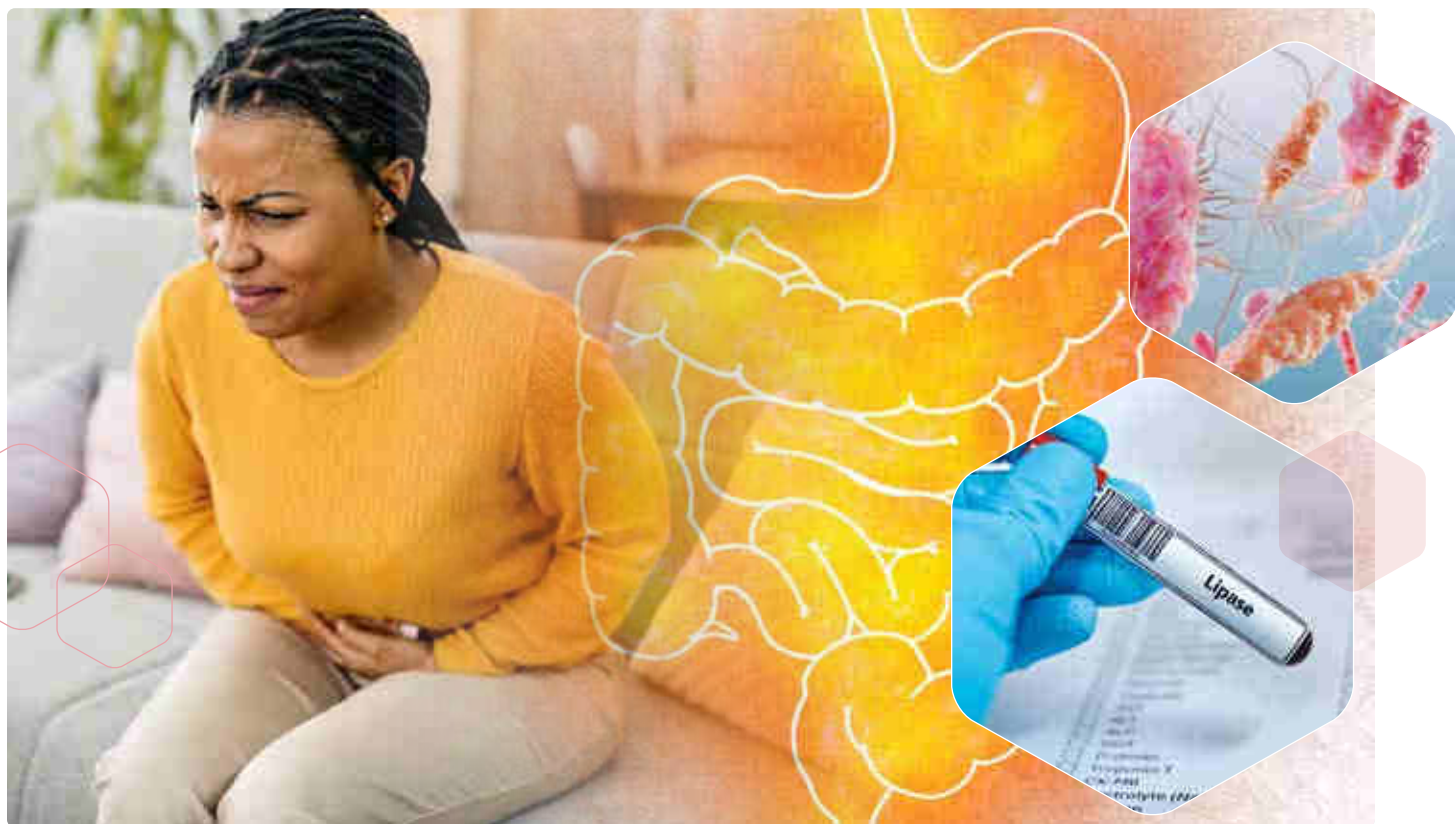
Net Wt. 233 g (0.51 lb)

This product is available at fine health food stores everywhere.

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.

Improve Digestion with Enzymes

BY LAURIE MATHENA



With age, our body produces fewer of the **enzymes** necessary to efficiently break down food.¹

Without sufficient enzymes, undigested food can pass into the colon, where it may cause bloating, gas, diarrhea, and cramping.²

Incomplete digestion limits the body's ability to extract all the nutrients needed for optimal health. This may result in nutrient deficiencies in older adults.^{1,3}

Supplemental **digestive enzymes**, when taken before a meal, may provide additional digestive support to break down food.

This can help relieve digestive concerns and improve nutrient absorption for better overall health.

The Importance of Digestive Enzymes

In people with recurring abdominal pain or discomfort, supplementing with various types of enzyme supplements has been associated with reduced symptoms of digestive discomfort, such as:

- Flatulence/belching,⁴
- Bloating,^{4,5}
- Feeling of fullness,^{4,5} and
- Abdominal pain.⁵

Each major food group—such as **protein, fat, milk, sugar, carbohydrates**, and more—has *specific enzymes* responsible for its breakdown.⁶ A deficiency in any *one* of these enzymes may lead to a wide range of common intestinal troubles.

Let's look at the enzymes one at a time.

PROTEASE

Proteases break down protein.⁷ Aging can impact how the body digests, absorbs, and utilizes protein. Low digestive enzyme activity may reduce protein breakdown, slow digestion, and may increase the risk of protein deficiency and muscle loss in older adults.¹

Aging individuals often benefit from boosting protein intake. Supplementing with protease enzymes may support protein digestion efficiency.

BROMELAIN PROTEASE

Bromelain is a protease enzyme extracted from pineapple stem that contains protein-digesting enzymes (proteases). By breaking down dietary proteins, bromelain may support protein digestion and nutrient absorption.⁸ This may be particularly relevant for individuals whose pancreas does not produce enough digestive enzymes (a condition called exocrine pancreatic insufficiency).

LACTASE

Lactase is an enzyme that breaks down milk sugar (lactose). Lactase activity naturally declines with age, and low lactase activity affects about **70%** of people worldwide. This may contribute to lactose malabsorption, leading to symptoms such as bloating, gas, and diarrhea in people with lactose intolerance.⁹



Avoiding dairy products may alleviate unpleasant symptoms, but it can also result in inadequate calcium intake, increasing the risk of osteoporosis and fractures.¹⁰

Fortunately, supplementation with lactase helps reduce the symptoms of abdominal discomfort in individuals with lactase insufficiency.¹¹

LIPASE

Lipase is an enzyme that breaks down fat. If undigested fats pass through the gastrointestinal tract, they may produce greasy, fatty stools, and cramping. Lack of lipase may also prevent the body from absorbing fat-soluble vitamins like D, K, E, and A.^{12,13}

In healthy adults, taking a lipase supplement before a high-fat meal significantly reduced feelings of stomach fullness 10 minutes after eating, compared with a placebo.¹⁴

CELLULOSE

Cellulose is the name for indigestible plant fiber. Humans cannot digest dietary plant fibers on our own, but intestinal bacteria (friendly flora, our intestinal microbiota) help break them down. However, high-fiber plant foods can cause excessive gas and bloating for many people.^{15,16}

Intestinal bacteria use the enzyme *cellulase* to help break down plant fibers (cellulose).¹⁷ Cellulase supplementation may support tolerance of high-fiber foods so people can reap the benefits of a plant-centric diet, without the unpleasant effects of high amounts of plant fibers.

AMYLASE

Amylase is an enzyme that breaks down carbohydrates and starches. If carbohydrates are not properly broken down and absorbed, they

can ferment in the colon, which may contribute to gas, bloating, abdominal pain, and diarrhea.¹⁸

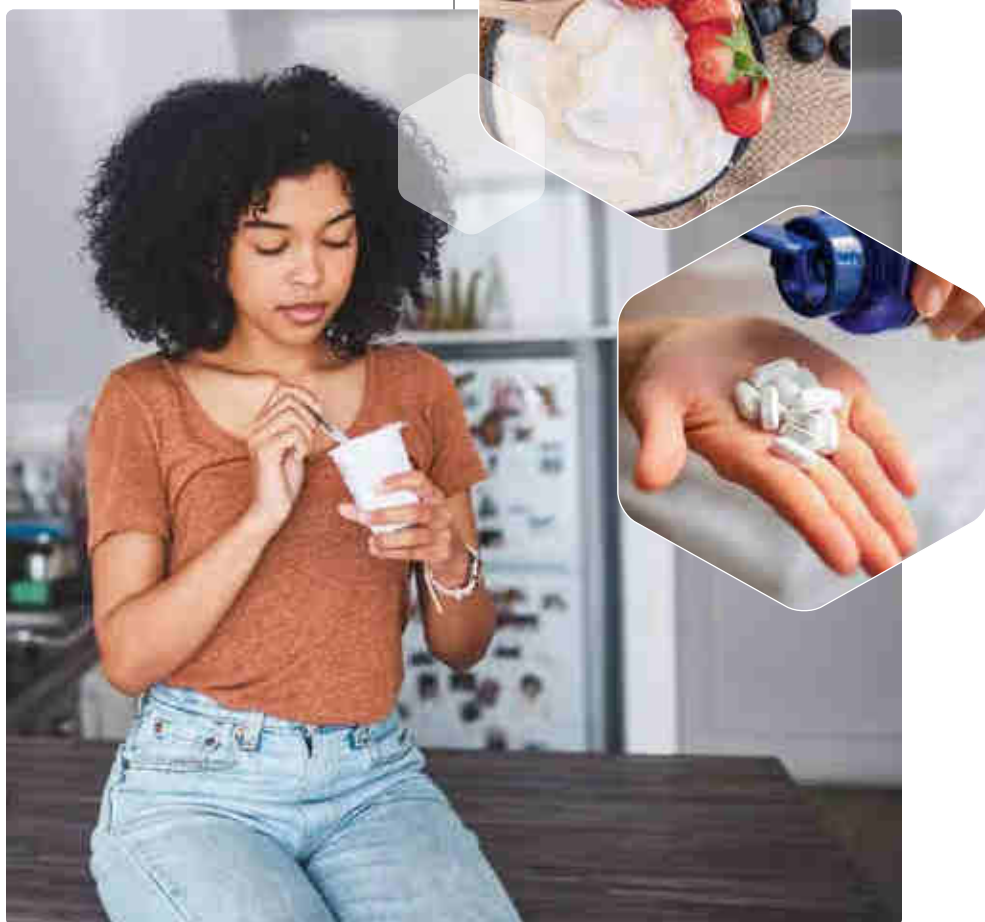
Summary

With age, reduced amounts of digestive enzymes may contribute to poor digestion. When food is not properly digested, it may cause bloating, gas, and general discomfort. It can also lead to nutrient deficiencies that can threaten overall health.

When taken orally before a meal, supplemental digestive enzymes may help reduce digestive discomfort, while supporting the body's ability to absorb the nutrients it needs for optimal health and wellness. •

References

1. Qiu L, Huang Q, Li W, et al. Aging influences protein digestion, absorption and amino acid metabolism. *Biogerontology*. 2025 Jul 19;26(4):146.
2. Laugier R, Bernard JP, Berthezene P, et al. Changes in pancreatic exocrine secretion with age: pancreatic exocrine secretion does decrease in the elderly. *Digestion*. 1991;50(3-4):202-11.
3. Rémond D, Shahar DR, Gille D, et al. Understanding the gastrointestinal tract of the elderly to develop dietary solutions that prevent malnutrition. *Oncotarget*. 2015 Jun 10;6(16):13858-98.
4. Suarez F, Levitt MD, Adshead J, et al. Pancreatic supplements reduce symptomatic response of healthy subjects to a high fat meal. *Dig Dis Sci*. 1999 Jul;44(7):1317-21.
5. Ullah H, Di Minno A, Piccinocchi R, et al. Efficacy of digestive enzyme supplementation in functional dyspepsia: A monocentric, randomized, double-blind, placebo-controlled, clinical trial. *Biomedicine & Pharmacotherapy*. 2023 2023/12/31;169:115858.
6. Available at: <https://www.hopkinsmedicine.org/health/wellness-and-prevention/digestive-enzymes-and-digestive-enzyme-supplements>. Accessed January 21, 2026.
7. Apoorva OS, Shukla K, Khurana A, et al. Proteases: Role in Various Human Diseases. *Curr Pharm Biotechnol*. 2024 Sep 23.
8. Kansakar U, Trimarco V, Manzi MV, et al. Exploring the Therapeutic Potential of Bromelain: Applications, Benefits, and Mechanisms. *Nutrients*. 2024 Jun 28;16(13).
9. Forsgard RA. Lactose digestion in humans: intestinal lactase appears to be constitutive whereas the colonic microbiome is adaptable. *Am J Clin Nutr*. 2019 Aug 1;110(2):273-9.
10. Rizzoli R. Dairy products and bone health. *Aging Clin Exp Res*. 2022 Jan;34(1):9-24.
11. Sanders SW, Tolman KG, Reitberg DP. Effect of a single dose of lactase on symptoms and expired hydrogen after lactose challenge in lactose-intolerant subjects. *Clin Pharm*. 1992 Jun;11(6):533-8.
12. Omer E, Chiodi C. Fat digestion and absorption: Normal physiology and pathophysiology of malabsorption, including diagnostic testing. *Nutr Clin Pract*. 2024 Apr;39 Suppl 1:S6-S16.
13. Loli H, Narwal SK, Saun NK, et al. Lipases in Medicine: An Overview. *Mini Rev Med Chem*. 2015;15(14):1209-16.
14. Levine ME, Koch SY, Koch KL. Lipase Supplementation before a High-Fat Meal Reduces Perceptions of Fullness in Healthy Subjects. *Gut Liver*. 2015 Jul;9(4):464-9.
15. Available at: <https://www.uclahealth.org/news/article/increasing-fiber-in-your-diet-may-increase-gas#:~:text=Soluble%20fiber%20dissolves%20in%20water,normal%20levels%20of%20gas%20production>. Accessed January 21, 2026.
16. Mutuyemungu E, Singh M, Liu S, et al. Intestinal gas production by the gut microbiota: A review. *Journal of Functional Foods*. 2023 2023/01/01;100:105367.
17. Fujimori S. Humans have intestinal bacteria that degrade the plant cell walls in herbivores. *World J Gastroenterol*. 2021 Dec 7;27(45):7784-91.
18. Fernandez-Banares F. Carbohydrate Mal-digestion and Intolerance. *Nutrients*. 2022 May 4;14(9).



ZINC UP YOUR IMMUNE HEALTH

"It gives my immune system an extra kick when needed."

Tina

VERIFIED CUSTOMER REVIEW



Item #01813

90 vegetarian capsules



OptiZinc® is a Lonza trademark, registered in the USA.

You know zinc is good for you—but are you getting enough?

Zinc promotes critical **immune** functions and healthy **bones**.

This formula provides **50 mg** of zinc in a convenient, vegetarian capsule.

This product is available at fine health food stores everywhere.

Caution: Supplemental zinc can inhibit the absorption and availability of copper. If more than 50 mg of supplemental zinc is to be taken daily for more than four weeks, 2 mg of supplemental copper should also be taken to prevent copper deficiency.

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.

Ciao, Belly!

Say “goodbye” to belly fat and
“hello” to a trimmer waist with
Gummy Science™ Mediterranean
Weight Management!

Inspired by the healthy weight benefits of the Mediterranean diet, these gummies promote both fat and weight loss when combined with diet and exercise. This formula targets not just belly fat but the visceral fat that surrounds your organs.

If your goal is a trimmer waistline that’s “molto bene,” Life Extension’s new and improved sugar-free* gummies may be just the ticket.

Item #02506C

60 gummies



*Not a
low-
calorie
food.



This product is available at fine health food stores everywhere.

This supplement should be taken in conjunction with a healthy diet and regular exercise program. Individual results are not guaranteed, and results may vary.

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.

Highway to Heart Health

Stay on the cardio health fast track with NitroVasc™ Boost!

This new and improved formula promotes healthy blood flow and circulation by supporting your body's production of nitric oxide. And our special L-arginine-silicate complex stays in the blood longer than regular arginine, so your heart can stay the course.

Get ready to live life at full speed with this easy-mix berry-flavored powder.



*Not a low-calorie food.

Item #02320

Net Wt. 78.6 g (0.173 lb.)



This product is available at fine health food stores everywhere.

Nitrosigine® is a registered trademark of Nutrition 21, LLC. Nitrosigine® is patent protected.

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.

For Oral Health Worth Smiling About

NEW & IMPROVED

FLORASSIST® Probiotic Oral Hygiene



Promote oral health and inhibit unwanted oral bacteria with **FLORASSIST® Probiotic Oral Hygiene**.

This mint-flavored lozenge contains a unique probiotic strain paired with a postbiotic to maintain healthy gum tissue, help manage dental plaque, inhibit inflammation to support oral health, promote a healthy oral pH and even inhibit the unwanted bacteria that live in your mouth.

Go beyond brushing with **FLORASSIST® Probiotic Oral Hygiene!**

Item #02120

30 vegetarian lozenges



BLIS™ and BLIS M18™ are trademarks of Blis Technologies Limited. Immuno-LP20® is a registered trademark of House Foods Group Inc.

This product is available at fine health food stores everywhere.

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.

NEW PRODUCTS

Back ⁱⁿ Action

Improved



Item #02529

60 vegetarian capsules



About 39% of adults experience lower back discomfort from exercise or daily activities, which can impact quality of life.

Get relief from occasional lower back discomfort and stiffness in as little as 7 days, thanks to a clinically studied blend of chaste tree and ginger extracts.

Plus, we added white willow bark extract, a world-famous ingredient for discomfort relief.

NCHS Data Brief. 2021;No. 415.

J Back Musculoskeletal Rehabil. 2024;37(2):487-502.

Confidence *Between the Sheets*



There are physical and emotional components to a man's sexual health.

Our science-based formula supports them all, including erectile health and sexual function, libido, mood, stamina and satisfaction with clinically researched ingredients.

Get your confidence back with our new science-based Advanced Male Sexual Support!

Item #02549

60 vegetarian capsules

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



The Science of a Healthier Life®

PO BOX 407198
FORT LAUDERDALE, FLORIDA 33340-7198



IN THIS EDITION OF LIFE EXTENSION MAGAZINE:



16 PROTECT THE HEART

A **fruit extract** clinically *reduced* **LDL** cholesterol by **22%**, *lowered* **CRP** by **54%**, and *boosted* the antioxidant **glutathione** by **53%**.



24 RESPIRATORY HEALTH

A **probiotic** clinically *reduced* **cold** and **flu** incidence by more than **half**, while a **postbiotic** *reduced* days with **nasal congestion** in seasonal allergy sufferers by **43%**.



32 LOWER EXCESS CORTISOL

Chronic stress can raise **cortisol levels** and is associated with **accelerated aging**.



40 BOOST MALE SEXUAL HEALTH

A blend of **cacao seed** and **pomegranate** *increased* **sexual function** scores by **80%**. A *bioavailable* form of **luteolin** *reduced* compounds linked to male sexual health problems.



50 LOW BACK PAIN RELIEF

Two **plant extracts** significantly *reduced* **lower back pain** for **79%** of patients in 30 days. In a separate trial, another plant extract eliminated chronic low back pain for **22%** of subjects after four weeks.



70 DIVERSE EFFECTS OF POMEGRANATE ON AGING

Densely packed with synergistic nutrients, **pomegranate** may help forestall common disorders related to **biological aging**.