



LIFE
EXTENSION®

The Science of a Healthier Life®

March/April 2026

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Rusty

VERIFIED CUSTOMER
REVIEW

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

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For WHOLE-BODY HEALTH



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FOUR

PHAGES

TWO

PROBIOTICS

ONE

POSTBIOTIC



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30 liquid vegetarian capsules

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REPORTS



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ON THE
COVER

A Bee Product That Reduces Sick Days

An anti-microbial substance made by bees can enhance **immune** defense against the common cold.

In **human** trials, **propolis** capsules *reduced sick days* by **34%**, while a **propolis** throat spray *resolved upper respiratory symptoms* two days *earlier* than placebo.

DEPARTMENTS

10 IN THE NEWS

Vitamin D deficiency linked to cataracts; cruciferous vegetables may reduce colon cancer risk; magnesium lowered blood pressure in trial; vitamin B12 deficiency associated with atrophy in memory area of brain.

16 QUERCETIN AND YOUR HEART

Research shows that the flavonoid **quercetin** supports **heart health** in multiple ways.

24 ACTIVATE AMPK

Activated **AMPK** may *delay* certain **aging** processes. In separate **clinical trials**, two AMPK-activating plant extracts trimmed **belly fat**, lowered blood glucose, and improved blood vessel activity.

40 WHAT TO LOOK FOR IN A MULTIVITAMIN

Millions of Americans take a **multivitamin**. Many commercial multivitamin formulas, however, contain **low potencies** and fail to utilize *enzymatically active* nutrients.

50 REPLENISH TESTOSTERONE LEVELS

A blend of **cacao seed** extracts and **pomegranate** *increased free testosterone* by **48%** in a human study. A separate clinical trial showed a bioavailable form of **luteolin** *boosted free testosterone* by **22%**.

58 SAY GOODBYE TO BRAIN FOG

In separate clinical trials, two plant nutrients *improved brain fog* symptoms by *reducing mental fatigue*, *boosting attention* levels, and *improving* aspects of **working memory**.

66 IMPROVED LUTEOLIN BIOAVAILABILITY

The plant flavonoid **luteolin** can help *defend* against disorders of **aging**. A new **luteolin** formulation *boosted absorption* by up to **14 times** in a human study.

73 VITAMIN K2 REDUCES NOCTURNAL LEG CRAMPS

In addition to its cardiovascular effects, a clinical study found that **vitamin K2** *reduced* the frequency, duration, and severity of **nocturnal leg cramps**, starting after just *one week*.

78 RADIANT SKIN FROM THE INSIDE OUT

Orally ingested **ceramides** *enhance skin barrier* function and **hydration** while specific **herbal extracts** *reduce wrinkling*.

88 PROBIOTICS TAILORED FOR WOMEN

Specific **oral probiotics** provide support for female concerns. In clinical trials, one probiotic *reduced* vaginal **yeast infections**, while another *promoted* **gut** and **immune health**.

Un-Bee-lievable Immune Support

Our Bee Immune Propolis helps with frequency & duration of respiratory immune challenges and supports a healthy immune response in the respiratory system by delivering a clinically studied bee propolis standardized to compounds known to support immune health.

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Item #02546

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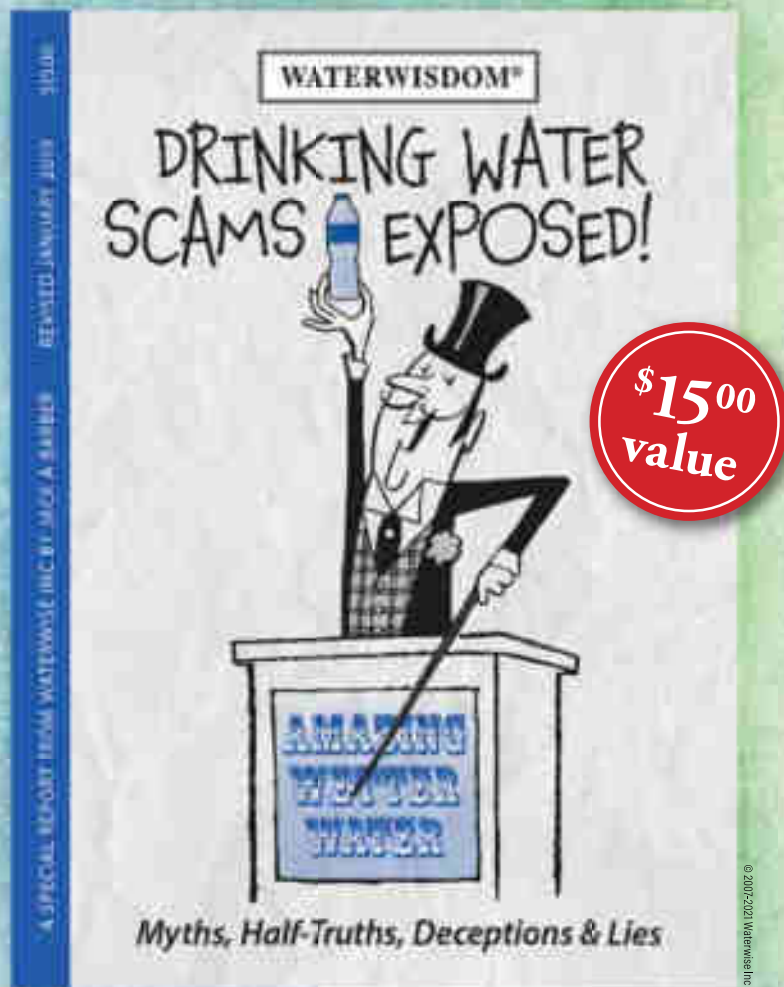
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In the News

Vitamin D Deficiency Associated with Increased Cataract Risk

A study published in the *British Journal of Ophthalmology* found that severe vitamin D deficiency is linked with an *increased* risk of **cataracts**, particularly in adults under age 50.*

The researchers included a cross-sectional study on 442,255 participants, which found that low vitamin D levels were associated with cataracts.

They then conducted a longitudinal analysis, a type of research design that involves repeated observations of the same variable over extended periods.

After about 11 years, participants with severe baseline vitamin D deficiency (**<10 ng/mL**) had an **11%** higher risk of developing cataracts compared to those with insufficiency (**20-30 ng/mL**).

The association was even stronger in adults under age 50. Those with severe baseline vitamin D deficiency had a **27% higher** risk of cataract compared to those with insufficiency.

Note that minimum vitamin D levels to be considered “sufficient” are **30 ng/mL** with optimal ranges between **50-80 ng/mL**.

Editor’s Note: “These findings suggest a potential critical period in early adulthood when vitamin D supplementation may be most effective for cataract prevention, warranting further investigation into age-specific intervention strategies,” the researchers concluded.

* *Br J Ophthalmol.* 2025 Aug 18;bjo-2024-326716.



Eating Cruciferous Veggies May Reduce the Odds of Getting Colon Cancer

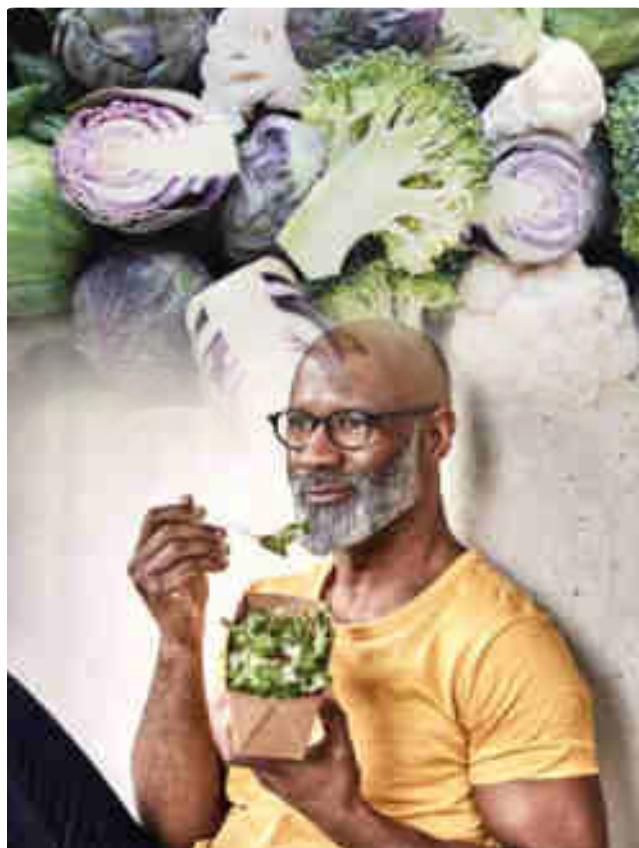
A meta-analysis combining data from 7 cohort and 10 case-control studies with a total of nearly 100,000 participants found that higher intake of **cruciferous** vegetables is associated with **20%** reduced odds for colon cancer.*

This protective effect was attributed to bioactive compounds such as glucosinolates and isothiocyanates, which promote carcinogen detoxification, apoptosis, and cell cycle arrest. (Glucosinolates convert into **sulforaphane** in the body.)

Cruciferous vegetables include broccoli, Brussels sprouts, cabbage, cauliflower, and others. Making dietary changes is a key modifiable risk factor in the development of **colon cancer**.

Editor's note: Colon cancer is the third most diagnosed cancer and the second leading cause of cancer mortality globally.

* *BMC Gastroenterol.* 2025 Aug 11;25(1):575.



Magnesium Linked with Reduced High Blood Pressure

Findings from a systematic review and meta-analysis affirmed a reduction in blood pressure in association with the addition of magnesium to the diet.*

Researchers analyzed 38 randomized controlled trials that compared the blood pressure benefit of additional magnesium with a placebo among a total of 2,709 participants with and without hypertension. Magnesium doses ranged from **82-637 mg** administered for a 12-week median period.

The participants who received magnesium experienced average reductions of about **3 mmHg** systolic blood pressure and **2 mmHg** diastolic blood pressure compared with the placebo groups.

Editor's Note: Greater reductions in blood pressure from magnesium supplementation compared with the placebo groups were found in those also taking **hypertensive medication**, who had systolic and diastolic reductions of about **8 mmHg** and **3 mmHg**, respectively. Those with **low magnesium levels** had systolic and diastolic reductions of about **6 mmHg** and **5 mmHg**, respectively.

* *Hypertension.* 2025 Nov;82(11):1844-1856.

Vitamin B12 Deficiency Linked with Wasting of Brain Area Involved in Memory

A study revealed an association between vitamin B12 **deficiency** and atrophy (wasting) of the hippocampus, an area of the brain involved in memory and learning.*

The study included 567 participants who visited a dementia clinic and subsequently underwent a brain MRI.

A Mini Mental State Examination was used to assess cognitive function and blood samples were analyzed for vitamin B12 and other factors.

Magnetic resonance imaging of the brain's hippocampus revealed atrophy among **43%** of the group. Individuals with hippocampal atrophy were significantly older than those whose hippocampus was normal.

Vitamin B12 deficiency was associated with greater hippocampal atrophy (brain shrinkage).

Those with hippocampal atrophy were more likely to have low Mini Mental State Examination scores.

Editor's Note: B vitamins, which are part of the metabolic network, are involved in nutrient signaling and biosynthesis, oxidation–reduction homeostasis, and epigenetics.

* *J Prev Alzheimers Dis.* 2025 Sep;12(8):100265.



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VERIFIED CUSTOMER
REVIEW



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This formula provides **50 mg** of
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capsule.

Item #01813

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deficiency.

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

This includes the *pyridoxal 5'-phosphate* form of vitamin B6 shown to protect lipids and proteins against **glycation** and the most biologically active *form* of **folate** called *5-methyltetrahydrofolate (5-MTHF)*.*

* Br J Pharmacol. 2004 Mar;141(5):825-30.

Item #01945

60 vegetarian capsules

This product is available at fine health food stores everywhere.



Caution: Temporary flushing, itching, rash, or gastric disturbances may occur.

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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



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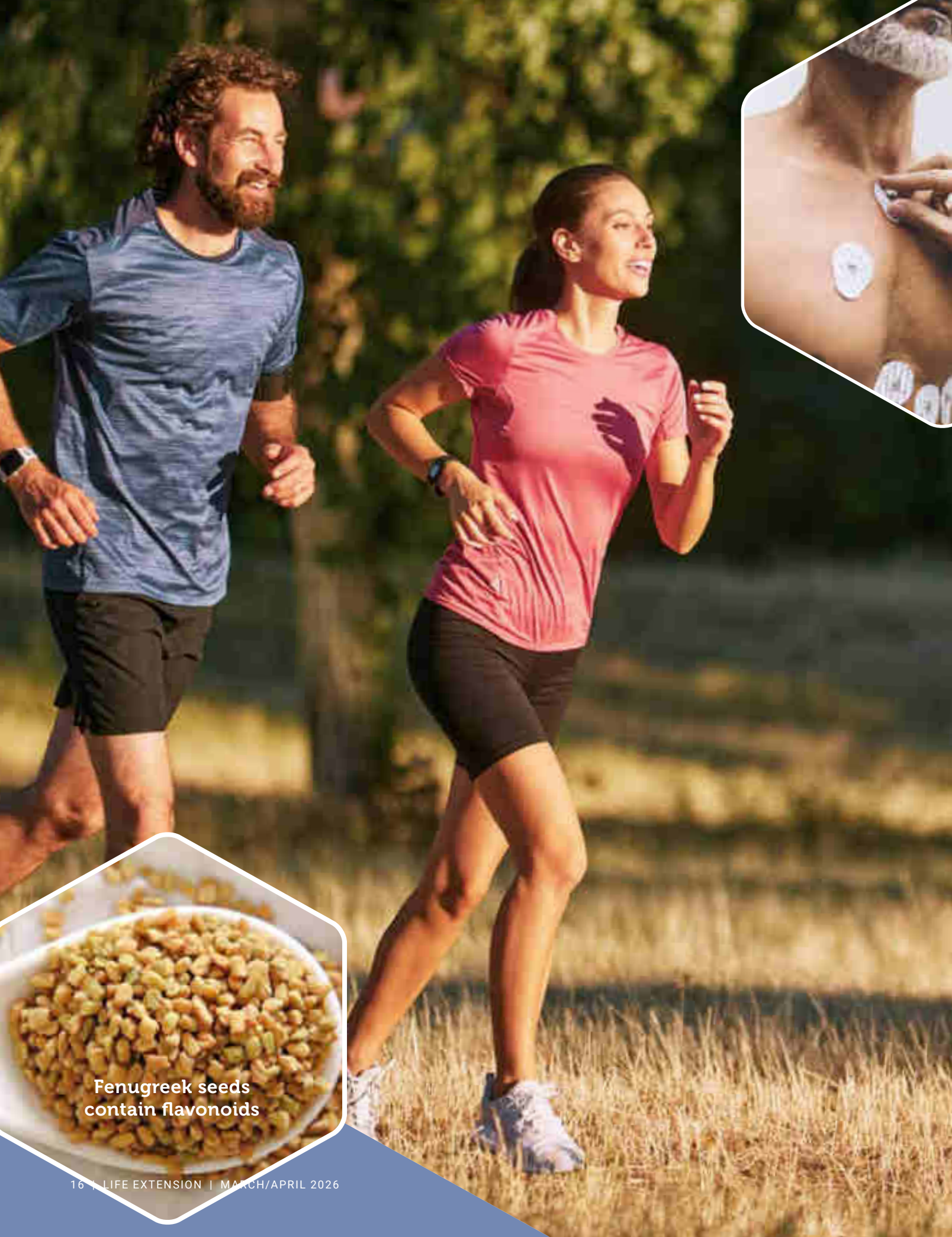
Ayesha

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REVIEW

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.

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Fenugreek seeds
contain flavonoids



How QUERCETIN Boosts Heart Health

BY RYAN MCCORMICK

Cardiovascular disease is the *leading cause of death* worldwide.¹

Scientists have long known that a diet rich in **plant-derived** compounds called **flavonoids** correlates with a reduced risk of **cardiovascular diseases**.²

Quercetin is one of the most common flavonoids.³

Research shows that it supports **heart health** in multiple ways, reducing mechanistic factors for cardiovascular disorders and displaying cardio-protective properties.^{3,4}

In **human** studies, quercetin:

- Lowered **blood pressure**,⁵⁻⁷
- Reduced **total cholesterol**⁸ and oxidized **LDL cholesterol**,⁹
- Lowered markers of **chronic inflammation** tied to cardiovascular disease,^{8,10,11}
- And more.

These actions can help improve **heart health** and reduce risk for heart disease.





Cardiovascular Risk Factors

Risk factors for **cardiovascular disease** include obesity, poor diet, smoking, high blood pressure, high blood glucose, elevated triglycerides, high apolipoprotein B that indicates greater numbers of circulating atherogenic particles such as small dense LDL, and *low* **HDL** (“good”) cholesterol.¹²

Any one of the above factors can cause occlusion of arteries feeding the heart, brain and other tissues.

Identifying and managing these risk factors can significantly lower the chance of developing cardiovascular disease *and* reduce the risk of complications such as fatal **heart attacks** and **strokes** in those who already have it.¹²

Quercetin Protects the Heart

Flavonoids are compounds found in plant foods like fruits, vegetables, and whole grains. They have properties that are known to help protect the heart.²

Quercetin is one of the most potent flavonoids. It is found in onions, apples, tea, citrus fruits, and red wine.¹³

It has a long list of benefits, including anti-cancer activity, blood glucose control, and many different actions that support **heart** health.^{3,14}

Chronic inflammation and **oxidative stress** are drivers of most chronic illnesses, including **cardiovascular disease**. They contribute to the development and progression of **atherosclerosis** (the buildup of plaque in blood vessels) and to degenerative changes in the heart.¹⁵

As an **antioxidant/anti-inflammatory**, quercetin protects against this damage.^{3,4}

Quercetin has been shown to improve other cardiovascular risk factors in preclinical and clinical studies:

- Reducing blood pressure,^{5,6}
- Activating key metabolic pathways, such as **AMPK**, which enhance metabolism and help reverse insulin resistance,¹⁶⁻¹⁸
- Supporting endothelial function,¹⁹
- Improving blood glucose control,²⁰
- Reducing plaque-promoting adhesion molecules, protecting blood vessel function, and helping to prevent clot formation,^{21,22}
- Blocking the formation of **oxidized LDL**, a major driver of vascular damage in blood vessels and plaque formation and growth,²⁰
- Reducing **inflammation and oxidative stress**,²³ and
- Decreasing **liver fat accumulation**.²⁴

What Human Studies Show

A meta-analysis of 39 population studies found that higher **flavonoid** intake is associated with lower **cardiovascular** risk.²

When researchers looked at specific flavonoids, they found that **quercetin** intake was associated with reduced risk of **coronary heart disease**,² which occurs when the arteries do not deliver enough oxygen-rich blood to the heart. This is the most common type of heart disease.²⁵

Clinical studies have shown the benefits of quercetin. For example, quercetin intake (ranging from **150 mg** to **1,000 mg** daily) has been shown to lower **blood pressure**.^{5-7,26}

Human studies have also shown that quercetin intake improves **abnormal lipid** levels.^{8,9,27}

In a randomized, placebo-controlled crossover trial of overweight adults with metabolic risk factors, **150 mg** of quercetin daily raised blood levels of the compound and led to small but significant reductions in systolic blood pressure and oxidized LDL, an atherogenic marker. These benefits occurred without adverse effects.⁹

One meta-analysis of human trials found that quercetin supplementation reduced both systolic and diastolic blood pressure. In individuals who took quercetin for more than eight weeks, it also lowered triglycerides and raised HDL (“good”) cholesterol.⁵

Other trials have shown that quercetin intake can lower markers of systemic **chronic inflammation** tied to cardiovascular disease.^{8,10,11} Some of this effect is a result of quercetin’s ability to *inhibit* activity of **NF-kB (nuclear factor-kappa B)**, a protein complex that produces pro-inflammatory compounds.¹⁰

A systematic review and meta-analysis of **human** studies found that quercetin reduced total cholesterol, LDL (“bad”) cholesterol, and C-reactive protein (a marker of systemic inflammation) among patients with metabolic disease.⁸

Quercetin doesn’t just reduce risk factors for cardiovascular disease. It also **improves heart function** itself.

In a 12-month controlled trial in patients being treated for **gout** and **high blood pressure** (which are both associated with increased risk of heart disease), the addition of **quercetin** to standard therapy improved heart function and normalized blood pressure.²⁸

In another study, quercetin intake improved the heart function of patients with a history of **coronary artery disease**.²⁹ Electrocardiogram monitoring in these individuals found fewer episodes of **cardiac ischemia** (reduction of blood flow to the heart) and of **abnormal heartbeats**.

These and other studies show that **quercetin** can reduce risk factors for heart disease and improve heart function.

Summary

Increased intake of **flavonoids**, compounds found in many plant foods, is associated with lower risk of **cardiovascular disease**.

Quercetin, one of the most potent flavonoids, supports heart health by multiple mechanisms, including lowering blood pressure, improving lipid levels (reducing LDL, increasing HDL), reducing markers of chronic inflammation, protecting blood vessels, and improving heart function.

Human studies show that quercetin intake can reduce cardiovascular risk factors and improve heart function in people with or at risk for heart disease. ■

Quercetin’s Cardiovascular Benefits

- **Cardiovascular disease** is the leading cause of death worldwide.
- **Risk factors** for heart disease include high blood pressure, abnormal cholesterol levels, elevated blood glucose, obesity, poor diet, and smoking.
- **Quercetin** is a flavonoid found in fruits, vegetables, and herbs. It supports heart health by multiple mechanisms.
- In human studies, quercetin reduced high blood pressure, lowered LDL cholesterol, raised HDL cholesterol, and reduced markers of chronic inflammation, all of which help lower the risk of developing cardiovascular disease, and of cardiovascular incidents.
- **Quercetin** also improved heart function in people with a history of heart disease or metabolic risk factors.

What You
Need
To Know

Flavonoids



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Fenugreek Seed Fibers Help Boost Quercetin Bioavailability

Flavonoids like quercetin suffer from poor bioavailability, but scientists have found that when combined with fenugreek seed fibers, bioavailability **improves** tremendously.

In one clinical study, researchers compared a fenugreek-quercetin formulation to unformulated quercetin. They found that formulated quercetin delivered up to **62 times greater** bioavailability compared to unformulated quercetin.³⁰

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BREATHE EASY

Lung health is adversely impacted by aging and environmental exposures.

Healthy Lungs contains plant-derived compounds to support **optimal lung** function:¹

- ***Boswellia serrata***^{1,2}
- **Bael fruit**^{1,2}
- **Saffron**^{3,4}

Studies have shown these nutrients can:

- Encourage easy, open airways.^{1,2,4}
- Assist healthy adults sensitive to environmental exposure.¹
- Promote lung function.²⁻⁴

This product is available at fine health food stores everywhere.

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Item #02512

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Say “goodbye” to belly fat and
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Activate AMPK For Optimal Metabolic Health





BY ROBERT FRIEDMAN

AMPK is an *enzyme* found in nearly every cell.¹

In youth, AMPK is more active than in older age.

Activated **AMPK** promotes vital processes such as:

- Healthy metabolism of lipids (fats) and glucose (sugars),^{2,3}
- Cellular housekeeping (autophagy),²⁻⁴
- Insulin sensitivity (glucose control),³ and
- Mitochondrial function.^{2,3}

The age-related decline in **AMPK activity**^{5,6} can increase risks of metabolic disorders, cardiovascular disease, and other chronic illnesses.^{4,7}

Two nutrients have each been shown in separate **human** trials to activate **AMPK**.

What is AMPK?

The enzyme AMPK (AMP-activated protein kinase) acts as a master controller of cellular metabolism.⁸ It regulates over 100 critical proteins that affect nearly all aspects of cell function.⁹

AMPK activity declines significantly with age, leading to impaired cellular function and a higher risk of degenerative illnesses

Preclinical studies have shown that when activated, AMPK helps:

- Maintain cellular energy balance,⁹⁻¹¹
- Regulate lipid metabolism, including fat oxidation,^{3,9,12}
- Improve insulin sensitivity and glucose uptake by cells, lowering blood sugar,¹³
- Process and extract energy from carbohydrates,⁹
- Promote autophagy, or “cellular housekeeping,”^{2,3}
- Promote the replacement of old mitochondria with new ones, the energy-generating “powerhouses” of the cell,³
- Activate sirtuins, signaling proteins that play critical roles in regulating metabolism,¹⁴ and
- Reduce harmful inflammation.¹⁵

AMPK activation in animals has been shown to contribute to longer lifespans.⁴ Scientists believe that AMPK activation is capable of **delaying the aging process**.⁶

The Problem with Low AMPK Activity

For many modern humans, periods of nutrient scarcity (calorie reduction) that boost **AMPK** activity are rare.

Instead, constant access to calories causes AMPK activity to remain chronically low.

Impaired AMPK activity is associated with disrupted cellular metabolism, obesity, and inflammation¹⁶ Preclinical evidence suggests it also plays a role in the development of **type 2 diabetes**,^{5,16} **cardiovascular disease**,^{5,16} and **osteoarthritis**.⁵

Fortunately, there are ways to increase AMPK activity.

Boosting AMPK

Caloric restriction or **intermittent fasting** are effective AMPK activators. In animal models, restricting calories extends lifespan.¹⁷ However, these types of restrictive diets are difficult for people to maintain.

Exercise is another AMPK activator known to prolong healthy life.¹⁸

Scientists have discovered that some plant-derived compounds act as caloric restriction or exercise **mimetics**, mimicking their biological effects, including by activating AMPK. These include:

- Hesperidin, and
- *Gynostemma pentaphyllum* extract.

Hesperidin Helps Blood Vessels

Hesperidin is a flavonoid found in citrus fruits.¹⁹

In mice fed a high-fat diet, hesperidin intake for 16 weeks led to improvements in **metabolic health**, including reduced body weight and fat, improved blood glucose and lipid levels, lower insulin levels, and enhanced insulin sensitivity.²⁰

The effectiveness of hesperidin has also been validated in human trials.^{19,21}

In one clinical study, 24 adults with **metabolic syndrome** took **500 mg of hesperidin** or a placebo daily for three weeks. Those receiving hesperidin had improved **blood vessel reactivity** (the ability of vessels to constrict or relax when needed) and reduced systemic inflammation.¹⁹



Support Healthy Metabolism

- **AMPK** is a master regulator of cellular metabolism. It is activated when nutrient availability is scarce and inhibited when calories are abundant.
- Modern diets and advancing age tend to keep AMPK activity low, contributing to poor **metabolic health** and increased risk of disease.
- In separate human trials, the plant compounds **hesperidin** and an extract of the herb ***Gynostemma pentaphyllum*** have been shown to boost AMPK activity, leading to improvements in metabolic and overall health.

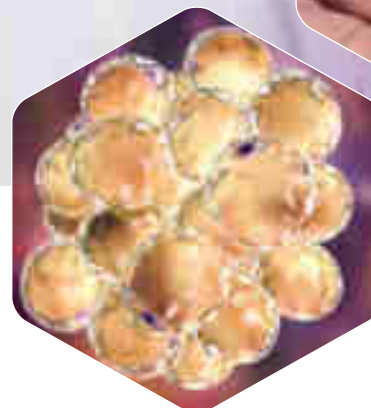
Gynostemma Targets Fat

Gynostemma pentaphyllum is a plant native to Asia²² that is sometimes referred to as the “immortality herb” in local cultures. It contains beneficial compounds called **saponins**.²³

Animal and cell studies show that **Gynostemma extract** can activate **AMPK** and lead to weight loss and improved cholesterol levels.^{22,24-27}

Human studies confirm these findings. One study randomized obese adults to receive **450 mg** of **Gynostemma** extract or a placebo daily for 12 weeks, with *no changes to diet or exercise*. Compared to placebo, those taking Gynostemma had declines in:^{22,28}

- Body mass index (BMI),
- Body weight,
- Body fat mass,
- Percent body fat, and
- Total abdominal fat area.



Abdominal fat is considered particularly dangerous and is associated with chronic inflammation and poor metabolic health. In this study, Gynostemma led to a remarkable **11%** reduction in **abdominal fat** deposits.

Those receiving Gynostemma also lost an average of **one inch** off their waistline, equal to roughly one belt notch.

In another clinical trial, 16 healthy young untrained men took **450 mg** of Gynostemma extract or a placebo daily for four weeks and were tested during exercise. Results indicated that the extract improved exercise performance, activated **muscle AMPK** (after 60-minute exercise), slowed the fat-associated hormone **leptin**, and improved blood glucose levels.²⁹

These two nutrients can be taken as part of a balanced diet and regular exercise routine to achieve optimal results.

Summary

AMPK is a master regulator of cellular metabolism. Aging is associated with reduced AMPK activity, driving metabolic disease, and risk for age-related disorders.

The polyphenol **hesperidin** and an extract of the herb **Gynostemma pentaphyllum** have each been found to boost **AMPK activity**, improving metabolic health markers. ■

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more QUERCETIN

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* Studied against powder Sophora japonica extract standardized to 98% quercetin.

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- ▶ **HDL**
- ▶ **Triglycerides**
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[†] For those already within normal range.

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

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Folate (5-MTHF)	680 mcg DFE [°]
Vitamin B12 (methylcobalamin)	300 mcg
Biotin	300 mcg
Vitamin C (ascorbic acid, calcium and niacinamide ascorbates)	470 mg
Vitamin D3 (cholecalciferol) (2,000 IU)	50 mcg
Vitamin E (D-alpha tocopheryl succinate, D-alpha tocopherol)	67 mg
Vitamin E (gamma, delta, alpha, beta tocopherols)	20 mg
Iodine (potassium iodide)	150 mcg
Magnesium (magnesium oxide)	100 mg
Zinc (zinc citrate, L-OptiZinc® zinc mono-L-methionine sulfate)	25 mg
Manganese (manganese citrate, gluconate)	2 mg
Chromium [Crominex® 3+ chromium stabilized with Capros® amla extract (fruit), PrimaVie® Shilajit]	200 mcg
Molybdenum (amino acid chelate)	100 mcg
Inositol	50 mg
Alpha lipoic acid	25 mg
Bio-Quercetin® Proprietary Blend providing 35% quercetin (5 mg) [from Japanese sophora concentrate (flower bud)], 30% galactomannans (4 mg) [from fenugreek (seed)]	14 mg
Marigold extract [std. to 5 mg <i>trans</i> -lutein, 155 mcg <i>trans</i> -zeaxanthin]	11.12 mg
Apigenin	5 mg
Boron (boron amino acid chelate)	3 mg
Lycopene [LycoBeads® natural tomato extract (fruit)]	1 mg
Selenium [as sodium selenite, SelenoExcell® high selenium yeast, Se-methyl L-selenocysteine]	200 mcg

[^] RAE (retinol activity equivalents). [°] DFE (dietary folate equivalents). •NE (niacin equivalents).

For complete list of ingredients and dosages, visit www.LifeExtension.com

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How BEE PROPOLIS

Supports a Strong Immune Defense

BY MARSHA MCCULLOCH, MS, RD

Cough and cold season is frequently accompanied by sudden upper respiratory tract infections.

Supporting a resilient **immune system** helps the body stay prepared.

Bee propolis is one of the oldest-known therapies to support immune health.¹

A substance bees make and use to protect their hives, propolis has **anti-viral**, anti-bacterial, and other immune benefits.²

Propolis extract can be taken daily to help protect against **upper respiratory infections**.

In addition, a propolis **spray** can provide immediate, short-term relief for someone who's already sick.

In placebo-controlled trials, standardized **propolis** extract:

- Reduced risk of upper respiratory infection by **31%** when taken daily during cough and cold season,³ and
- Led to recovery from sore throats **two days faster** when used as a spray.⁴

These propolis formulas deliver a one-two punch for immune support *and* faster upper respiratory symptom relief.

What Is Propolis?

Propolis is a substance bees make out of beeswax and materials extracted from plants.¹

It is sometimes called “bee glue” because it is sticky. Bees use it to seal gaps in the hive and create a healthy, **anti-microbial environment**.¹

People have safely used **bee propolis** medicinally for centuries.⁵

Preclinical research shows that propolis has broad-spectrum **immune system** effects.⁵⁻⁷

The benefits of propolis are largely attributed to its unique mixture of plant-based **polyphenols**.⁶

Fighting Respiratory Infections

An **upper respiratory tract infection** often starts with a sore, inflamed throat.⁸ It can rapidly turn into a full-blown illness.

Viruses most commonly cause these infections, though **bacteria** can also be the culprit.⁹

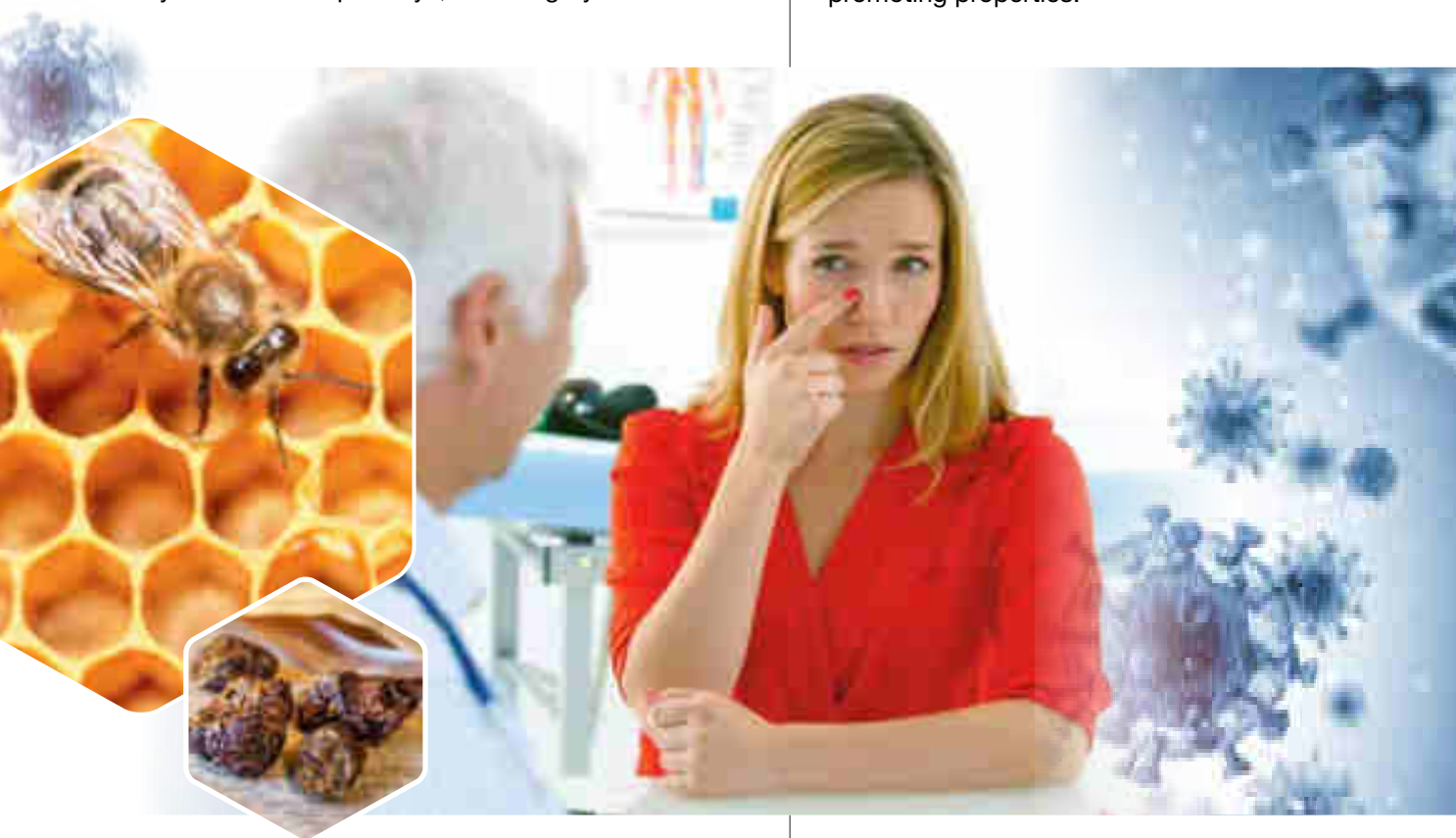
Preclinical studies found that **propolis** and propolis-derived compounds help fight various microbes, such as those that cause the **common cold** and **influenza**. They do so in multiple ways, including by:

- Preventing harmful microbes from **invading** cells,⁷
- Inhibiting key enzymes needed for a virus to **replicate**,⁷
- Making cell membranes of unhealthy bacteria more **permeable** and vulnerable to attack,¹⁰
- Disrupting **energy metabolism** of the pathogen,^{7,10} and
- Helping maintain the body’s **antioxidant defenses** during the infection.^{6,7}

Clinical research has confirmed the ability of standardized propolis to fight upper respiratory tract infections in humans.⁴

Standardized Propolis Extract

Like honey, not all **propolis** is the same. Its precise content varies based on its geographic origin and the extraction process, which can influence its health-promoting properties.^{5,11}



Bee-Based Immune Support

- Bees make a substance called **propolis** to protect their hives from pathogens. Research shows it can help protect people from viruses and bacteria that cause **upper respiratory infections**.
- Not all propolis is the same. Propolis that has been **standardized** to contain an ample mix of polyphenols can provide consistent immune system benefits.
- **Throat spray** made with standardized propolis extract has been clinically shown to help people get over sore throats **two days faster** than a placebo.
- In a clinical study, daily oral intake of **propolis capsules** cut the risk of getting upper respiratory tract infections by nearly **one-third**.

To enable consistent immune functions, scientists developed a specialized extraction process that results in propolis standardized to a **12% polyphenol content**.¹²

This extract is rich in six distinct polyphenols with strong antimicrobial and antioxidant activity, including **galangin**, **quercetin**, **pinocembrin**, **pinobanksin**, **apigenin**, and **chrysin**.¹²

Spray Away Sore Throats

In a clinical trial, 122 healthy adults (ages 18 to 77) were given a standardized **propolis oral spray** or placebo spray on the first day of mild upper respiratory tract infection symptoms.⁴

Symptoms included a **sore, red, swollen, or hoarse throat**. The majority of cases were caused by viruses.

The subjects used two to four sprays three times daily for five days. In the treatment group, this provided **12 mg to 24 mg** of **propolis polyphenols** per day.



After three days, **83%** of people using the **propolis** spray had relief from all their throat symptoms, compared with only **28%** of those in the **placebo** group.

After five days, subjects in both groups had largely recovered from their throat discomfort, which is typical of mild upper respiratory tract infections.^{4,13}

This means the **propolis** group resolved their sore throat symptoms **two days faster** than the placebo group.⁴

Preventive Immune Support

Daily use of **propolis** extract can help *prevent* upper respiratory infections in the first place.

In a clinical trial, 295 adults (ages 25 to 69) were given capsules containing **200 mg** of standardized **propolis extract** or a placebo twice daily for three months.³

The study took place during the colder months, a common time for upper respiratory tract infections.¹⁴

Compared with the placebo group, those in the propolis group had:³

- **34%** fewer sick days,
- **26%** fewer subjects who experienced **upper respiratory discomfort**, and a
- **31%** lower risk of getting an upper respiratory infection at any time during the treatment.

The propolis was well-tolerated without side effects.

Proven Bioavailability

Before conducting this clinical trial, scientists evaluated how **bioavailable** the **polyphenols** in the **propolis extract** were.

Bioavailability of polyphenols is often low, ranging from **0.3% to 43%**.^{15,16} Specialized **extraction** methods can improve **bioavailability**.

After giving healthy adults a single dose of a **standardized propolis** capsule or a placebo, scientists collected blood and urine samples over 24 to 48 hours, respectively.¹⁷

Blood biomarker and urinary excretion data showed that polyphenols in the propolis extract were over **70% bioavailable**.¹⁷

That means the active compounds in the propolis were able to effectively spread throughout the body, helping to support immune health, which may help to support fighting off colds and flu.

Summary

Propolis, a byproduct from bees, is a powerful immune system supporter.

Daily use of standardized propolis extract has been shown to reduce the risk of **upper respiratory infections** by **31%**.

Propolis throat spray helps resolve upper respiratory infection symptoms, including **sore throats**, two days faster than a placebo in a clinical study. ■



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What to Look for in a **MULTI- VITAMIN**

BY HEATHER L. MAKAR

Reports from 2017–2018 show that nearly **40%** of U.S. adults aged 60 and older took a daily multivitamin.¹

Many commercial formulas, however, fall short of the benefits possible from obtaining *higher* potencies and **bioactive** forms of certain vitamins.^{2,3}

Most consumers don't know the difference.

When selecting a multivitamin, both dosage and bioavailability are crucial factors, particularly as nutrient absorption and utilization become less efficient with **age**.⁴



Deficiency is Widespread

Many adults do not get enough of key vitamins, minerals, and other nutrients. For example:

- According to the National Health and Nutrition Examination Survey (NHANES), about **50%** of Americans have **insufficient** levels of **vitamin D**.⁵ Low levels of vitamin D are linked to chronic diseases such as bone, heart, and metabolic disorders, as well as mental and autoimmune conditions.⁶
- **Human** studies show that even many people in developed countries are deficient or insufficient in one or more forms of **B vitamins**, which can negatively affect brain health.⁷

Vitamins and essential minerals are critical to health. The body and mind can't function properly without them, and when they aren't supplied in adequate amounts, health suffers – sometimes seriously.

These and other vital nutrients enable essential functions like DNA repair, supporting immune function, reducing oxidative damage, maintaining cardiovascular health, and much more. When levels are **low**, many different symptoms can occur, notably **fatigue**, slow healing, and **poor cognition**.⁸

In short, a lack of essential vitamins and minerals increases the risk of many different ailments, including premature aging.⁹ Taking a science-based multivitamin can help cover many essential nutritional bases.

Nutrients in the Right Form

Not every multivitamin provides optimal potencies. Some contain **forms** of nutrients that may be difficult to use.

For example, vitamin B9 (known as folate in its natural form) is needed to detoxify **homocysteine**, a risk factor for vascular disease. But first, it has to be converted into its active form, **5-MTHF**.¹⁰ Similarly, the methylated form of B12 may be more easily utilized, since it is already biologically active.¹¹ An optimal multivitamin provides these two B-vitamins in their activated form.

Vitamin B12 deficiency is more common in vegans, the elderly, and people with certain specific gastrointestinal disorders,¹¹ while people with some types of malabsorption and alcoholics can develop folate insufficiency.¹⁰

Other vitamins can also be delivered in advanced forms. For instance, vitamin E, when delivered as a combination of the four tocopherol forms alpha, beta, delta, and gamma,¹² may provide superior **antioxidant protection**, helping protect your cells from oxidative damage and inflammation.

Cutting-edge multivitamin formulas often also include certain **plant** and other **nutrient compounds** beyond basic vitamins/minerals, including:

- **LYCOPENE**, a carotenoid that supports prostate and cardiovascular health and protects against UV-induced skin damage,¹³
- **APIGENIN**, a flavone that provides cellular protection,¹⁴



- **ALPHA-LIPOIC ACID**, a powerful antioxidant that helps regenerate *other* antioxidants and supports healthy glucose metabolism,¹⁵ and
- **LUTEIN AND ZEAXANTHIN**, carotenoids that concentrate in the eyes and brain, supporting visual health and cognitive function while protecting against blue-light damage.¹⁶

Valuable Vitamins

Multivitamins need to cover the basics:

- **VITAMIN B1: (THIAMINE)**, supports energy production, carbohydrate and protein metabolism, and proper nervous system function. Its deficiency disrupts mitochondrial activity and can cause severe neurological and cardiovascular disorders such as Wernicke's encephalopathy and heart failure.¹⁷
- **VITAMIN B3: (NIACIN/NIACINAMIDE)**, can be converted into NAD+, a molecule crucial for cellular energy and longevity. It also supports healthy energy and metabolism, as well as skin health and DNA repair.¹⁸
- **VITAMIN B6:** helps break down homocysteine, supports brain health, reduces inflammation, protects blood vessels and reduces glycation; deficiency can raise cardiovascular and neurological risks.¹⁹ Pyridoxine is the most common form of vitamin B6. Pyridoxal-5-phosphate is an active form that all forms of **vitamin B6** break down to, assuming there is sufficient *enzymatic* support to convert them to the biologically active (pyridoxal-5-phosphate) form.²⁰ By including pre-active B6 (pyridoxal-5-phosphate), a multivitamin can help ensure optimal benefits without relying on enzymatic conversion in our aging bodies.
- **VITAMIN C:** promotes immunity and is essential for collagen synthesis, supporting the strength of arteries, skin, bones, and teeth. It also aids in hormone production, iron absorption, and antioxidant defense, helping maintain overall health.²¹



Choose a Better Multivitamin

- Many **commercial multivitamins** are missing critical nutrients and provide others in low doses and poorly absorbed forms.
- An **optimal formula** should provide ample doses of crucial vitamins and minerals, often with additional plant extracts, in bioavailable forms.
- Taking a comprehensive multivitamin can support cardiovascular, metabolic, neurological, and immune health to promote overall **healthy aging**.

- **VITAMIN D3:** supports immune function and bone health. Its deficiency has been associated with an increased risk of various chronic conditions, including cardiovascular and metabolic diseases.⁶

Minerals for Maximum Absorption

In addition to the dose, the form of **minerals** can be important. Superior formulas use **bioavailable** forms of the following:

- **ZINC:** **zinc citrate** and **zinc mono-L-methionine sulfate** are recognized as well-absorbed forms of zinc.²² A combination of **zinc citrate** and **zinc mono-L-methionine sulfate** may support immune function, and over **300** enzymatic reactions.²³

- **SELENIUM:** Methylated seleno-cysteine as well as sodium selenite and high-selenium yeast provides broad-spectrum support. These three different forms of selenium have their own unique benefits.²⁴
- **CHROMIUM:** A stabilized form of this mineral using the compound **shilajit** improves bio-availability.²⁵ Chromium is a micronutrient that supports healthy glucose metabolism, insulin sensitivity, blood sugar, and lipid profile.²⁶
- **MOLYBDENUM:** This mineral is required for several enzyme activities, including those that detoxify alcohol and metabolize sulfur-containing amino acids.²⁷
- **MANGANESE:** Manganese is an essential mineral needed for immune function, energy production, blood sugar regulation, reproduction, digestion, bone growth, blood clotting, and protection against oxidative stress.²⁸ Using two bioavailable forms ensures adequate absorption of this mineral crucial for bone formation and antioxidant defense.
- **IODINE:** Potassium iodide provides consistent, contamination-free iodine for thyroid function and metabolic health.²⁹

- **BORON:** In an amino acid chelate form, boron supports bone health, cognitive function, and helps the body use other minerals more effectively.³⁰

Many of these vitamins, minerals, and other nutrients work together to support optimal health.

Summary

A superior **multivitamin** formula provides a broad range of pre-activated, **bioavailable** forms of vitamins, minerals, and plant extracts to help support cardiovascular, metabolic, neurological, and immune health. ■

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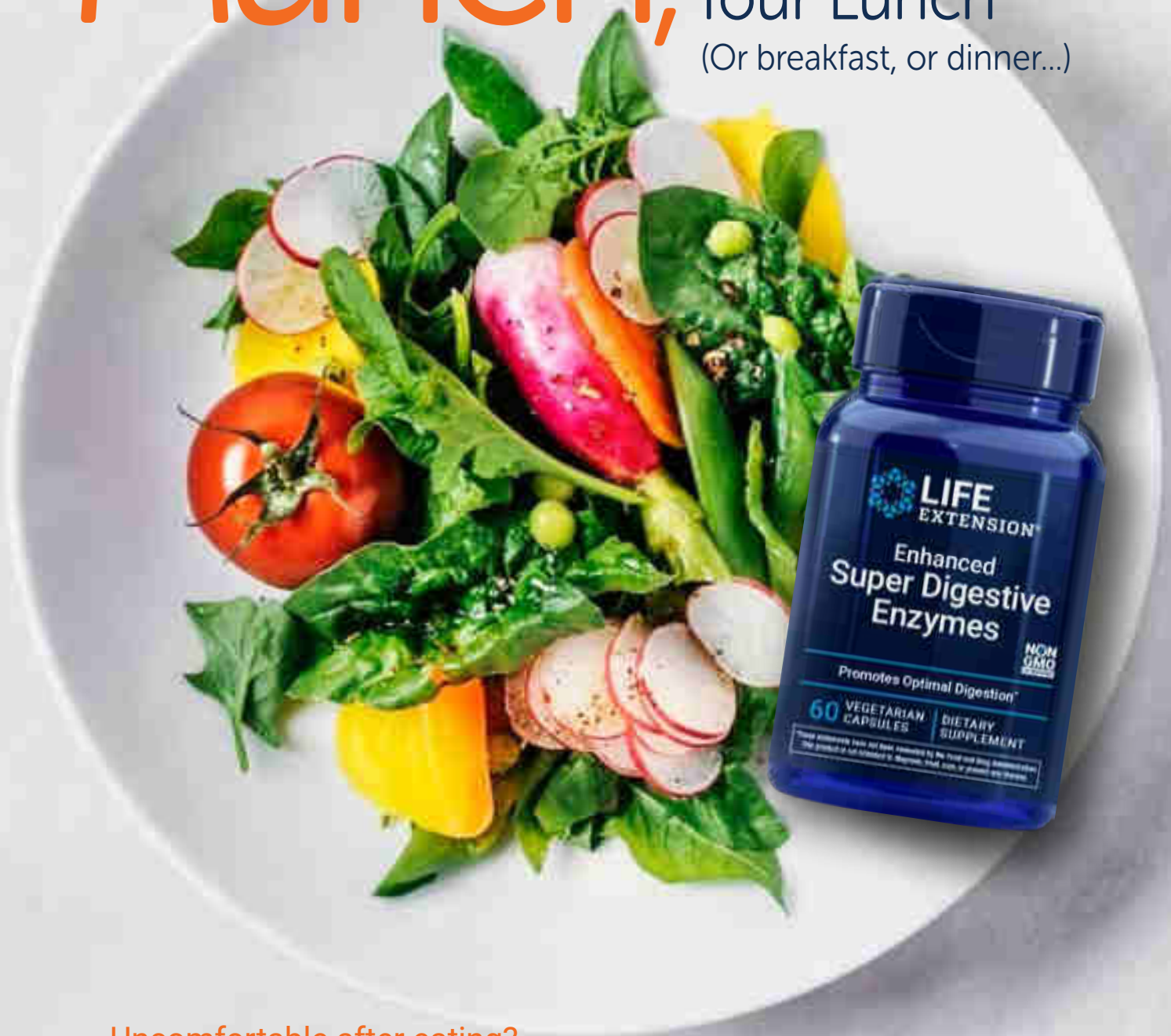
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Replenish Falling Testosterone Levels





BY MICHAEL DOWNEY

Men today have **less testosterone** than their fathers did at the same age.^{1,2}

After **age 30**, they lose *even more*—around **1% each year**.³

That can lead to diminished **libido**, fatigue, and reduced **muscle mass**.^{4,5}

More serious risks of low testosterone include cardiovascular disease,⁶⁻⁸ metabolic disorders, and even **death from any cause**.^{6,7}

Scientists have identified three **plant-derived** nutrients that increase testosterone levels.

In one clinical study, a blend of **pomegranate** and **cacao seed** extracts boosted **free testosterone** in aging men by **48%**.⁹

Another clinical trial showed that a highly bio-available form of the flavonoid **luteolin** increased **free testosterone** by **22%**.¹⁰

Together, these ingredients can support testosterone production to promote youthful vigor and better health.

Free Testosterone Declines

Testosterone is a hormone primarily produced by the testes that is crucial for development of the male reproductive system.⁵

It is also required for the optimal function of tissues **throughout the body**.⁵

Most testosterone circulating in the blood is bound to proteins, especially **sex hormone binding globulin (SHBG)**. In this form, it cannot attach to testosterone receptors on body cells to perform its vital roles.⁵

Only about **4%** of circulating testosterone is **free testosterone**, which is unbound and **biologically active**.¹¹

Free testosterone falls about **2-3% per year** after **age 50**.⁹

This is in *addition* to the decline in **average testosterone** levels that occurs in men as they age past **age 30**.¹

Risks of Low Testosterone

As testosterone drops, men may experience fatigue, and reduced **muscle mass** and strength.^{4,5}

Testosterone deficiency in men has also been linked to *higher* risks of:

- Cardiovascular disease and mortality,^{7,12}
- Stroke,¹³
- Chronic inflammation,^{5,14,15}
- Osteoporosis and fractures,^{5,16}
- Obesity,^{2,17}
- Type 2 diabetes,⁸
- Anemia,⁴
- Cognitive decline,^{5,18}
- Depression,^{19,20} and
- Death from **any cause**.⁷

Aging men often seek to *reverse* this decline.

Scientists have identified three **plant-derived** ingredients that provide a non-prescription way to boost testosterone: **pomegranate extract**, **cacao seed extract**, and **luteolin**.



Pomegranate and Cacao Seed

Scientists took note of an early study showing that drinking **pomegranate juice** for just two weeks raised salivary **testosterone** levels by up to **27%**.²¹

After screening hundreds of plant extracts, researchers found that both **pomegranate** and **cacao seed** (from the beans used to make cocoa) enhanced **testosterone production** in mouse testes cells.²²

These extracts showed a greater effect when combined. In a rat study, a **pomegranate-cacao seed combination** increased testosterone levels by over **72%** in just six weeks.²³

Testosterone-Boosting Blend

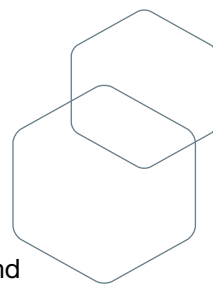
In a **human** study, men aged 36 to 55 took a placebo or **400 mg** of a **pomegranate-cacao seed** extract blend daily.

After eight weeks, the treatment group had:⁹

- **48%** higher **free testosterone** levels,
- **26%** lower measures of **stress**,
- Improved **well-being**, and
- **25%** greater hand-grip **strength**.

They also had a **19%** reduction on the **Aging Males' Symptoms scale**, which includes:

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



In a separate clinical study, daily supplementation with **400 mg** of this **pomegranate-cacao seed extract blend** *increased* **free testosterone** levels by **25%** in younger men aged 21-35. Participants also experienced improvements in grip strength and upper-arm circumference.²³

What You Need To Know

Restore Testosterone for Healthier Aging

- **Testosterone** levels in men begin to decline after age 30, leading to sexual issues, fatigue, reduced strength, and increased risk of chronic diseases and death.
- A blend of **pomegranate** and **cacao seed** extracts increased bioactive **free testosterone** by **48%** in a human study and improved measures of grip strength, stress, and well-being.
- A recently developed **bioavailable luteolin** boosted absorption **14 times** as much as standard luteolin and increased **free testosterone** by **22%** in a clinical trial.
- Combining these ingredients may help aging men maintain healthy vigor while reducing health risks of low testosterone.

Bioavailable Luteolin

Luteolin is a flavonoid found in many fruits and vegetables, including parsley, celery and green peppers.²⁴ In preclinical studies, **luteolin** was shown to:

- Increase levels of **StAR** (steroidogenic acute regulatory protein), an enzyme essential for testosterone production,²⁵ and
- Inhibit **aromatase**, an enzyme that converts testosterone into estradiol (a form of estrogen).^{26,27}



These effects support *higher testosterone* levels.

Luteolin typically suffers from low **bioavailability**, limiting its benefits. To get around this problem, scientists coated luteolin in a matrix of **galactomannans**, a type of fiber. This enhances luteolin's stability in the gut, promoting *better absorption and bioavailability*.

In a human study, this highly **bioavailable luteolin** increased blood levels of luteolin **14 times** more than standard luteolin.³⁰

Benefits of Bioavailable Luteolin

In a clinical study, men aged 35 to 55 with low testosterone were given **100 mg** of this highly **bioavailable luteolin** or a placebo daily.¹⁰

After 84 days, compared to baseline, taking bioavailable **luteolin** resulted in:¹⁰

- **13%** higher **total** testosterone, and
- **22%** higher **free** testosterone.

The luteolin group also had **11% lower** levels of **sex hormone binding globulin (SHBG)**, the protein that blocks testosterone from attaching to receptors.

A combination of **pomegranate-cacao** extracts and **bioavailable luteolin** can benefit men hoping to maintain vigor and reduce risks of low testosterone.

Summary

Testosterone levels in men begin to decline around age 30. Low testosterone may lead to sexual dysfunction, reduced strength and muscle mass, and fatigue.

It can also elevate risks of chronic diseases and **all-cause mortality**.

In a clinical trial, a blend of **pomegranate** and **cacao seed** extracts increased **free testosterone** by **48%** and improved measures of stress resilience and strength.

The compound **luteolin** also increases testosterone but has low bioavailability. A **new bioavailable** form raised luteolin levels **14 times higher** than standard luteolin and increased **free testosterone** by **22%** in a clinical study.

Together, these ingredients may help aging men replenish testosterone, maintaining youthful feeling and reducing long-term risks of low testosterone. ■

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What's Your Testosterone Level?

Checking testosterone levels requires only a simple **blood test**.

The optimal ranges for blood levels of **testosterone** in men are:

- **Free testosterone: 15-25 pg/mL**
- **Total testosterone: 600-900 ng/dL**

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Item #02501

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1. Akay Internal Study. Liposomal vitamin C (calcium ascorbate) pharmacokinetics. Data on file. 2021.
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Buffered **ascorbate** encased in two plant extracts (liposomes plus hydrogel fenu-greek) increases blood (plasma) exposure nearly **seven times** more compared to an equivalent dose of vitamin C as calcium ascorbate.¹

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- In a **clinical** study, a proprietary blend of **pomegranate** and **cacao** extracts in this product *promoted free testosterone* by up to **48%**.¹
- Formulated with an innovative **fenugreek** fiber coating, the highly bioavailable **luteolin** in this product demonstrated up to a **14-fold** increase in luteolin levels compared to unformulated luteolin.*²
- This advanced **luteolin** ingredient *supported free testosterone* by up to **22%** in a separate **human** trial.³

Don't let testosterone levels hold you back from feeling your best. The once-daily **Testosterone Elite™** product is the perfect complement to a testosterone-friendly lifestyle.



Item #02500

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†This product is intended to promote testosterone levels but does not contain testosterone.

*Regular luteolin defined as **98% pure powder luteolin**

Not for sale in India.

1. *Int J Med Sci.* 2022;19(8):1290-1299.

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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.



Say Goodbye to BRAIN FOG



BY MARSHA MCCULLOCH, MS, RD

Cloudy thinking, poor concentration, and mental fatigue are common signs of **brain fog**.¹

Certain biological factors may contribute to it, including inflammation, excess levels of the chemical histamine, and imbalances of nerve messengers.^{2,3}

By seeking compounds that address these underlying mechanisms, scientists identified a **fast-acting** duo to help *clear away brain fog*.

Clinical trials showed that **mango leaf extract** rapidly reduced fatigue and improved **focus, performance accuracy, and reaction time**.^{4,5}

In a separate clinical trial, **peppermint oil** counteracted **mental fatigue** while boosting **attention** and **working memory** soon after taking it.⁶

Together, these ingredients may help quickly increase mental sharpness.

Understanding Brain Fog

Brain fog refers to feelings of “fuzzy” thinking, difficulty concentrating, and mental fatigue. It tends to come and go and is *not* the same as progressive cognitive decline or dementia.⁷

Anyone can have brain fog. But it tends to be more common in people with allergies, food or chemical sensitivities, immune and inflammatory disorders, and some conditions like fibromyalgia and chronic fatigue syndrome.⁸⁻¹⁵

Scientists analyzed the biological changes associated with these conditions and identified several possible causes of brain fog, including:

- **Neuroinflammation.** Inflamed nerves make it harder for brain cells to communicate.^{16,17}
- **Excess histamine release.** Too much **histamine** (the chemical that causes allergy symptoms) can disrupt neuronal activity.^{2,18}
- **Neurotransmitter imbalances.** When nerve messengers, such as dopamine and norepinephrine, are out of balance, it can derail brain signaling and information processing.⁴

Scientists searched the plant kingdom to find **caffeine-free** options that could prevent or *reverse* these changes and potentially combat brain fog.

This led them to **mango tree leaves** and **peppermint**.

Mango Leaf's Benefits

Mango tree leaves have traditionally been used in Asia and Africa to support respiratory health, blood sugar control, and energy levels.^{4,19-21}

The leaves are especially rich in health-promoting polyphenols with **antioxidant** and **anti-inflammatory** properties.¹⁹

A top **polyphenol** in mango leaves is **mangiferin**.²⁰ The leaves contain far more of this beneficial compound than *any* other part of the plant, including the fruit.⁴

Preclinical research has shown that mangiferin can cross the **blood-brain barrier** in sufficient amounts to support cognitive activity.^{4,22}

Mangiferin can inhibit **COMT**, an enzyme that degrades the neurotransmitters **dopamine** and **norepinephrine**. This action could support optimal brain signaling and function.

Preclinical research suggests mango leaf extract supports healthy histamine levels.^{4,23,24}

Clinical Trial Results

In two small placebo-controlled trials with healthy adult participants, scientists tested a **mango leaf extract** standardized to contain **60% mangiferin**.

In the first trial, the mango extract reduced self-reported **fatigue** by **47%** within 90 minutes of taking it.⁴

In the second trial, mango leaf improved **reaction time** by about **5%** in just 60 minutes.⁴

Brain activity recordings showed that taking mango leaf extract increased **brain activity** in regions associated with **attention**, **complex cognitive processing**, and **memory**.⁴

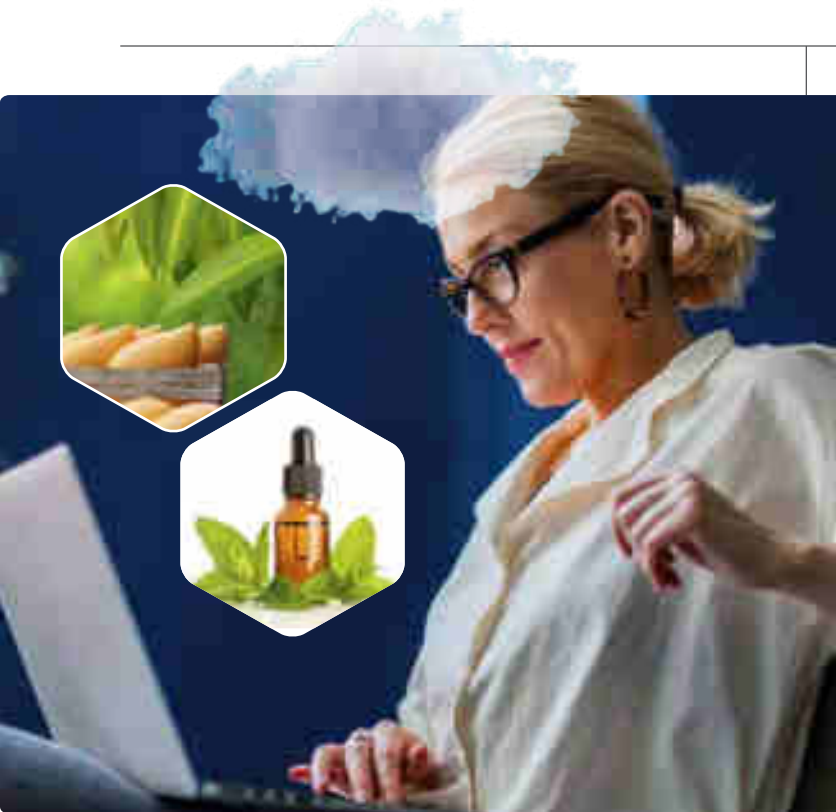
In another study, 70 healthy adults took **300 mg** of mango leaf extract or a placebo, then completed cognitive tests over five hours.

Taking the mango leaf resulted in significantly better **attention**, **working memory**, and **performance accuracy** on cognitively demanding tasks.⁵

The extract group also reported improved feelings of **calm** and **relaxation** throughout the testing day.

By contrast, **caffeine**, the go-to brain aid of many people, can sometimes cause jitters and **anxiety** in susceptible individuals.²⁵





Outsmart Brain Fog

- **Brain fog**, a feeling of “fuzzy” thinking, can make it hard to focus and stay mentally alert.
- Effective solutions address possible **underlying causes** of brain fog, including neuroinflammation, excess histamine release, and neurotransmitter imbalance.
- In clinical trials, **mango leaf extract** reduced fatigue by **47%** and improved reaction time, attention, working memory, and performance accuracy.
- **Peppermint oil** improved mental fatigue, attention, and working memory in a separate clinical trial.
- **Combining** mango leaf extract and peppermint oil may optimize their support for mental sharpness and overcoming brain fog.

Peppermint's Bio-Active Compounds

Peppermint contains compounds called **monoterpenes**, which have anti-inflammatory, antioxidant, and neuroprotective properties. These include **menthol** and **menthone**.²⁶

Preclinical research suggests that peppermint monoterpenes can help regulate **GABA** and **acetylcholine** in the brain.⁶ These neurotransmitters are important for cognition, mental alertness, and mood.^{27,28}

In a small study, university students who drank peppermint tea daily for a month had significant reductions in **anxiety** and **perceived stress** compared to those who didn't drink the tea.²⁹

The peppermint group also had significant improvements in **memory**, including the ability to recall **past events** and things they needed to do in the **future**.²⁹

Peppermint Oil and Cognition

Standardized **peppermint oil** may promote cognitive improvements.

In a clinical study, scientists gave 24 healthy young adults oral **peppermint oil** standardized to provide **60% monoterpenes** or a placebo.

Participants then took mentally demanding cognitive tests to assess brain function.

One to three hours after taking **peppermint oil**, the participants had significantly:⁶

- Less development of **mental fatigue**,
- Improved **accuracy** in a test of **attention**, and
- Better **working memory**.

After taking the **placebo**, participants had *more* fatigue, inattention, and forgetfulness as cognitive testing went on.

Combining **peppermint oil** with **mango leaf extract** may help improve alertness, focus, and attention while decreasing feelings of brain fog.

Summary

Brain fog symptoms like difficulty thinking, focusing, and staying alert are very common.

Soon after taking standardized **mango leaf extract** or **peppermint oil**, clinical trial participants saw a boost in brain function, including reduced fatigue and improved attention and memory.

Combining these two plant-derived compounds could maximize their benefits against **brain fog**. ■

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- Citicoline (CDP-Choline) is a precursor needed to make acetylcholine, a neurotransmitter that supports attention, learning, and memory.^{1,2}
- Citicoline (CDP-Choline) also helps maintain important brain chemicals and supports cellular membrane synthesis in the brain.¹
- In human studies, Citicoline (CDP-Choline) helped maintain various types of memory capacity,³ and helped reduce recall mistakes, while supporting attention.⁴



Each capsule provides 250 mg of CDP-Choline.

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1. *Aging Dis.* 2023 Aug 1;14(4):1184–1195.
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- Sharpened thinking
- Reduced mental fatigue
- Promoted focus and attention, and
- Promoted working memory

PEPPERMINT OIL:³

- Reduced mental fatigue
- Promoted attention and memory

One softgel provides **fast-acting** benefits within three hours.

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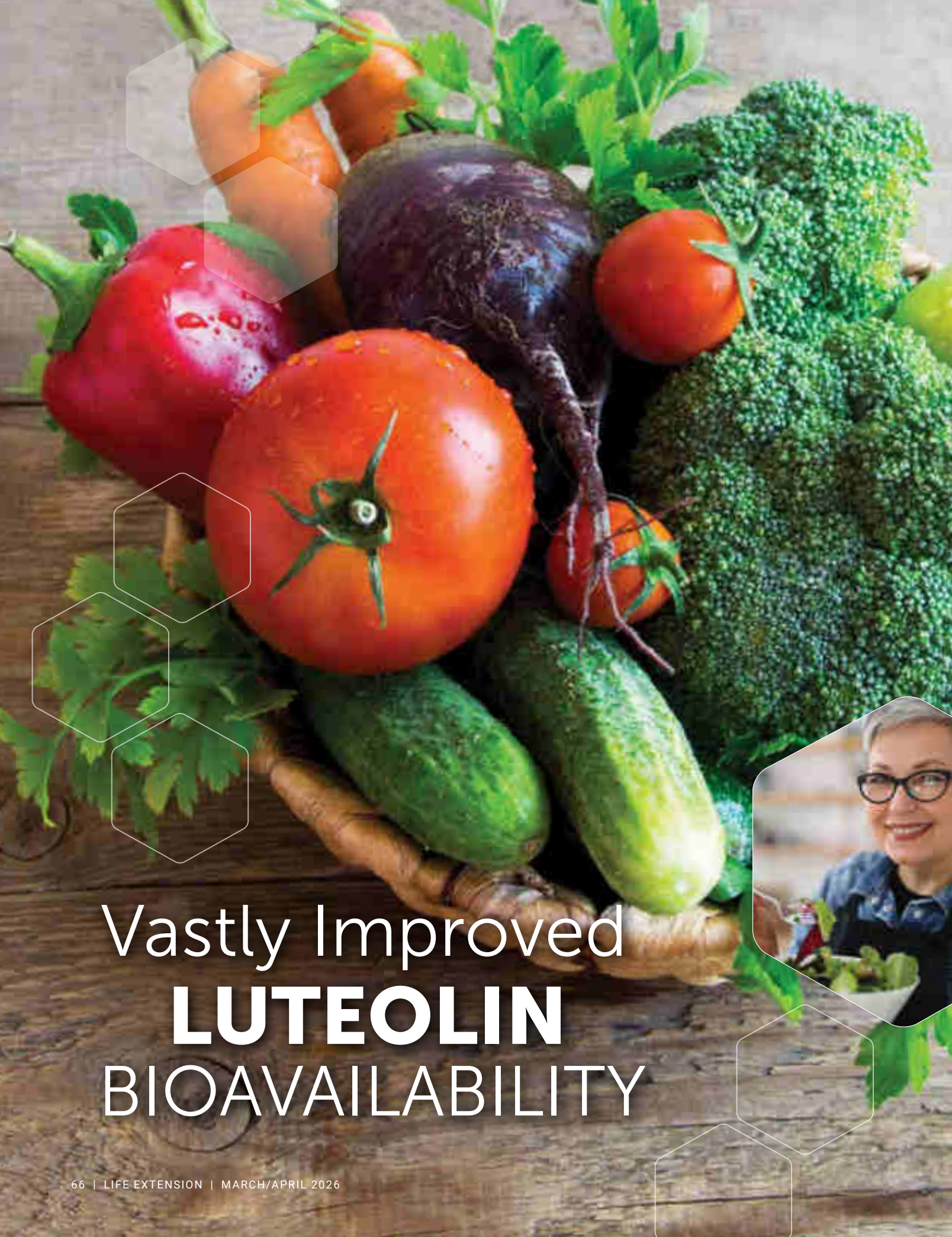
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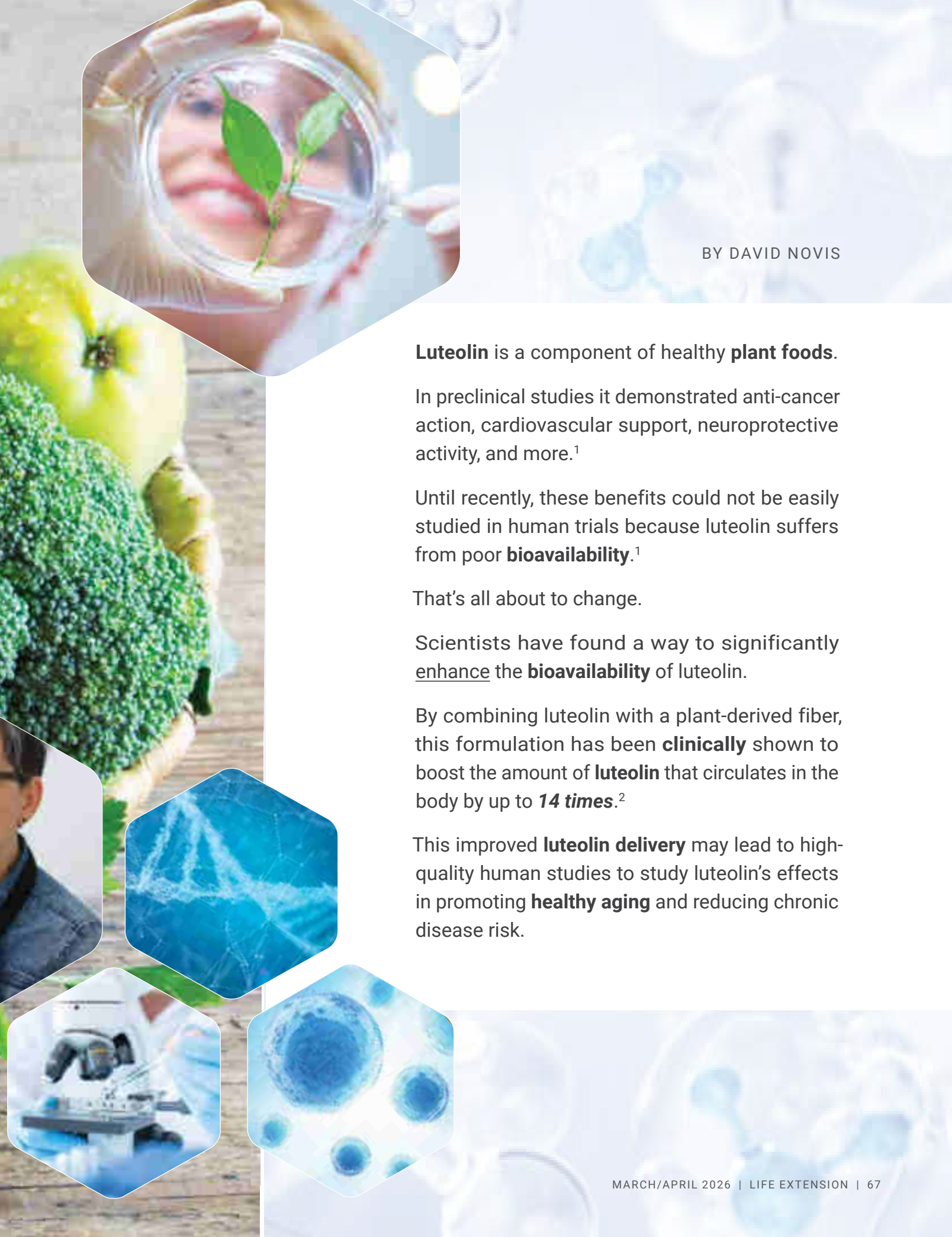
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Vastly Improved **LUTEOLIN** BIOAVAILABILITY



BY DAVID NOVIS

Luteolin is a component of healthy **plant foods**.

In preclinical studies it demonstrated anti-cancer action, cardiovascular support, neuroprotective activity, and more.¹

Until recently, these benefits could not be easily studied in human trials because luteolin suffers from poor **bioavailability**.¹

That's all about to change.

Scientists have found a way to significantly enhance the **bioavailability** of luteolin.

By combining luteolin with a plant-derived fiber, this formulation has been **clinically** shown to boost the amount of **luteolin** that circulates in the body by up to **14 times**.²

This improved **luteolin delivery** may lead to high-quality human studies to study luteolin's effects in promoting **healthy aging** and reducing chronic disease risk.

What Is Luteolin?

Luteolin is a flavonoid found in small amounts in onions, cabbage, carrots, apples, parsley, peppers, broccoli, and other plants.³

Flavonoids are health-promoting compounds found in many plants. Diets high in flavonoids are associated with reduced risk for some **chronic diseases**.⁴

In the plant kingdom, luteolin protects against cellular damage by the sun's **ultraviolet radiation**.^{5,6}

Luteolin can also protect against UV damage in animal and cell models.⁷ As a potent antioxidant, it shields against **oxidative stress**, making it critical to cellular health.⁸

Luteolin is also able to modulate cellular pathways and drive gene expression in ways that improve cellular function and defend against **chronic inflammation** and other threats.⁸⁻¹⁰

An Improved Luteolin

Only a small fraction of ingested **luteolin** is *absorbed* and reaches systemic circulation in its unmodified form. Although scientists have done extensive cell and animal studies, this **poor bioavailability** has made human studies difficult.

By combining luteolin with **galactomannans**, an indigestible fiber found in fenugreek seeds, it is more stabilized in the gut and readily absorbed into the bloodstream.

In a clinical study, healthy subjects took a single dose of standard luteolin or the new **bioavailability-enhancing** formulation. The difference was astonishing:

The amount of luteolin in the blood after taking the new formula was up to 14 times more than the standard luteolin.²



Luteolin's Mechanisms

Over time, cellular structures become damaged and dysfunctional, contributing to aging and risk for disease.

Luteolin has demonstrated protective effects, and a new bioavailable formula may allow greater benefits to be applied to humans by:

- **Supporting cellular housekeeping: Autophagy** is a process of cellular housekeeping that eliminates corroded cellular parts, rejuvenating the cell. With age, this process is diminished,¹¹ but in cell and animal studies, luteolin boosts autophagy significantly.¹²⁻¹⁴
- **Improving cellular signaling and gene expression:** Luteolin “switches on” **Nrf-2**, a cellular defense mechanism that promotes antioxidant defenses, detoxification, and more.^{15,16}
- **Enhancing metabolic health** by promoting activity of the *enzyme* **AMPK** that inhibits a critical regulatory protein called **mTOR**.^{17,18} When mTOR is *high* and AMPK *low*, metabolism is dysfunctional, contributing to obesity, metabolic disease like diabetes, and risk for cardiovascular disease and neurodegenerative disorder.¹⁹ Luteolin may help throw that metabolic switch back into the correct (more youthful) direction.
- **Reducing inflammation:** Chronic inflammation drives practically every age-related disease. Luteolin *reduces* the activity of **NF-kB (nuclear factor-kappa B)**,^{9,18} a promoter of chronic inflammation throughout the body.²⁰ It also lowers levels of several pro-inflammatory compounds and increases production of an *anti-inflammatory* signaling compound.^{9,18,21}

Disease-Fighting Capabilities

Through these actions, luteolin has the potential to improve overall health. Preclinical models show luteolin to be beneficial in combating specific disorders, including:

- **Cardiovascular.** In animal models, luteolin has demonstrated cardioprotective effects,²²⁻²⁴ helping shield heart tissue against damage and support healthy cardiac function.²⁴

Research suggests that luteolin may help reduce the development of **atherosclerotic plaque**,²⁵ which is one of the major contributors to cardiovascular disease.

- **Gastrointestinal disorders.** Luteolin has also been shown to encourage the growth of a healthy mix of microorganisms in the intestines²⁶ and to support **intestinal barrier function**, which helps prevent the spread of toxins and inflammation body-wide.^{26,27} In a mouse model of **ulcerative colitis**, an inflammatory bowel disease, luteolin reduced inflammation and colonic injury.²⁶
- **Cancer.** By inhibiting several processes involved in cancer progression and spread, luteolin may reduce risk for many cancers,^{10,13,18,28} including colon, prostate, lung, melanoma, breast, oral, and brain cancer.
- **Neurodegenerative disease.** Luteolin has shown to be neuroprotective, shielding brain cells from inflammation, oxidative stress, and metabolic derangements.²⁹⁻³³ In animal models of **Alzheimer's**, luteolin alleviates cognitive impairment^{29,31-33} and improves learning and memory.

Additional preclinical evidence shows that luteolin may help protect against autoimmune conditions, arthritis, liver disease, kidney disease, type 2 diabetes, and lung disease.¹⁸

Based on the wealth of preclinical data, this **high bioavailability luteolin** has the potential to promote better health in humans.

Future **clinical trials** could demonstrate the potential health benefits of luteolin.

Summary

Luteolin is a flavonoid that defends cellular health, supports healthy aging, and reduces risk of cardiovascular, cancer, and neurodegenerative diseases in preclinical studies.

Luteolin has traditionally suffered from poor bioavailability, but scientists have created a formulation that boosts bioavailability in humans up to **14 times**.

This **bioavailable luteolin** may finally allow its true potential to be realized. ■



A Better Luteolin

- In cell and animal models, the plant flavonoid **luteolin** defends against common diseases of aging, including cardiovascular disease, neurodegenerative disorders, metabolic disease, gastrointestinal disorders, and cancer.
- Human trials of luteolin have been limited due to its poor bioavailability. A new formulation boosts its bioavailability in humans by **14 times** compared to standard formulations.
- Clinical trials of this new **bioavailable luteolin** may demonstrate its potential benefits for reducing disease risk and supporting healthy aging.

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The First Human Study of Bioavailable Luteolin

In addition to the study that showed up to a **14-fold** improvement in luteolin bioavailability, another **human** study tested its effects on **testosterone** levels in men.^{2,34}

In this study, 51 men aged 35-55 years, with **low testosterone** levels, were randomized to receive two different doses of the bioavailable luteolin or a placebo.

After 12 weeks, those receiving **500 mg** of **bioavailable luteolin** had a significant improvement in **grip strength** compared to both baseline function and the placebo group. Compared to baseline, their strength improved by **8%**.

This encouraging study will hopefully spur further human trials of the novel luteolin formula.

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Maury

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

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Vitamin K2 Reduces Nocturnal Leg Cramps

BY LAURIE MATHENA



Fast, Impressive Improvements

Most adults experience leg cramps at some point in life, and the risk increases with age.

Though a definitive cure remains elusive, it can be managed better by stretching, massage, adequate hydration, and specific supplements.

Researchers have reported that vitamin K2 may safely reduce the frequency, duration, and severity of muscle cramps in patients undergoing hemodialysis.⁷

To test its effects on *nocturnal* leg cramps, researchers conducted a multicenter clinical trial in 199 people, averaging 72 years old, who experienced roughly 2.6 weekly episodes.⁵

The participants were split up about evenly into groups that received **180 mcg** of vitamin K2 (in the form of **menaquinone-7 (MK-7)**) or a placebo daily.

Vitamin K2 has been studied for its potential to slow the progression of arterial plaque buildup.¹⁻³

A population study showed that over 7-10 years, high **vitamin K2** intake was linked to a **57%** lower risk of coronary heart disease death and moderate intake to a **27%** lower risk, compared with low intake.⁴

New research shows that vitamin K2 benefits may extend to individuals suffering from **nocturnal leg cramps**,⁵ a painful condition that affects **one in three** adults over 50.⁶

These sudden muscle spasms often occur during sleep, causing intense pain ranging from seconds to minutes.⁶

There are no safe and effective prescription medications for this condition. A study published in 2024 found that **vitamin K2** can reduce the **frequency, duration, and severity** of these cramps, with significant improvements starting after just one week.⁵



Eight weeks later, those taking vitamin K2 had a marked reduction in the frequency of leg cramps, dropping down to less than one cramping episode per week. This represents an impressive **64% reduction** in leg cramp frequency. Meanwhile, the **placebo** group had an *increase* in the frequency of cramping episodes.

And it wasn't just how often the cramps occurred that responded to vitamin K2 supplementation. Both the severity of the cramps and the duration of the episodes improved dramatically in the vitamin K2 group.

In fact, compared to the placebo group, participants taking vitamin K2 experienced **more than double** the *reduction* in **cramp severity** and **nearly three-fold greater reduction** in **cramp duration**.

The drop in cramping severity was 2.5 points on a 1-10 scale.

In just one week into the study, the difference between the groups became significant, meaning vitamin K2 worked rapidly.

Summary

Nocturnal leg cramps cause discomfort, distress, and sleep disruptions.

There are no safe and effective prescription medications for this condition; however, **vitamin K2** (in the form of **MK-7**) has been shown to safely reduce the frequency, severity, and duration of nocturnal leg cramps in older adults.

Note: Anyone taking **warfarin** should talk to their doctor before taking vitamin K2. •

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

Christy

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REVIEW

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Radiant SKIN from the INSIDE Out

Ancient Greek physicians believed that beauty *came from within*, prescribing special diets and herbal tonics for **radiant skin**.¹

Modern skincare has largely abandoned this philosophy, focusing instead on **topical treatments** that have only minor, temporary effects.

We've since learned that our dermal structures start to weaken much earlier than most people think.²

To counteract these degenerative changes, placebo-controlled clinical studies have been showing that **plant-based** oral extracts can help:

- Restore natural barrier function,
- Reduce wrinkle depth,
- Retain moisture,
- Improve texture, and
- Defend against environmental damage.

Most of you take steps now, such as ensuring enough **vitamin C** intake to maintain healthy **collagen**.

Ceramides and other plant extracts provide further support for more *youthful* skin structure and function.

Skin's Natural Defense System

Skin contains natural moisturizing compounds called **ceramides** that play a major role in skin barrier function.³

Like **cellular mortar**, ceramides hold skin cells together while creating a water-impermeable **barrier** that locks in moisture and keeps irritants out.^{3,4}

Loss of our moisturizing lipid compounds leads to:⁴

- A weakened moisture barrier, allowing increased **water loss**,⁴
- Persistent dryness leading to itching and discomfort,^{4,5}
- **Thinner** skin that's more vulnerable to damage, wrinkles, and delayed wound healing,^{5,6}
- More penetration of irritants, leading to inflammation, **skin diseases**,⁶ and
- Visible skin aging, including **wrinkles**.⁷

Environmental factors, particularly ultraviolet (UV) radiation from sunlight, further accelerate skin aging by degrading structural proteins and promoting inflammation,⁸ also contributing to wrinkles and uneven pigmentation.⁹

Ceramide loss weakens the skin barrier and reduces moisture. Topical ceramides have become common skincare ingredients to help restore this loss. They don't dissolve and penetrate deeply into the skin and thus limit their effectiveness to temporary hydration.¹⁰

Daily **oral rice-derived ceramides** have been shown in **clinical trials** to strengthen the skin barrier and improve hydration, lowering water loss through the skin after about 8–12 weeks of use.^{11–13}

Oral Ceramides Transform Skin

Human and animal studies have shown that **plant-derived ceramides**—or phytoceramides—can be taken orally and absorbed through the digestive system.^{14,15} The most promising results have come from gluten-free, allergen-free ceramides extracted from non-genetically modified rice.¹⁶

Unlike topical applications, **oral ceramides** have been shown to boost the body's natural ceramide production in skin cells.

This approach restores the skin's moisture-retaining capabilities from within.





What You
Need
To Know

The Secret to Smooth, Youthful Skin

In a clinical study, 123 volunteers with **dry skin** consumed an oral rice extract rich in **ceramides** or a **placebo** daily for 12 weeks. Researchers measured how much water escaped through the skin barrier at multiple body sites, since less water loss indicates a stronger, healthier barrier.¹⁶

Compared to the **placebo**, those taking rice bran **ceramides** showed significant reductions in **water loss** in several areas of the body, including the face, arms, legs, and torso.

Improvements began in as little as **four weeks** and continued throughout the 12-week study period.¹⁶

Another clinical study examined patients with **mild atopic dermatitis**, or **eczema**. In this skin disease, the skin barrier is severely compromised and **ceramide-deficient**, resulting in patches of itchy, dry skin.¹⁷

After four weeks of taking a daily rice extract containing ceramides:

- Water loss decreased more than **30%**,
- Skin **redness** and **flaking** were reduced,
- Skin texture became **smoother**, and
- **Itching** and **discomfort** declined.

At the same time, the eczema symptoms of those in the **placebo** group worsened.

- **Ceramides** are essential lipids that maintain the skin's moisture barrier. Age-related decline leads to dryness, wrinkles, and accelerated skin aging.
- Rice-derived **oral ceramides** restore skin hydration from within by boosting natural ceramide production, which topical applications cannot do.
- Environmental pollution and UV radiation further accelerate skin aging and break down **collagen** and **elastin**.
- A **blend** of rosemary, olive leaf, lemon verbena, and Japanese pagoda tree extracts helps block pollution-induced damage, reduces wrinkles, and improves the skin's moisture and smoothness.
- **Vitamin C** facilitates collagen synthesis, neutralizes harmful free radicals, and helps decrease dark spots.
- Together, these oral ingredients help hydrate, protect, and restore **youthful-looking skin** from the inside out.

Four Protective Herbs

Environmental pollutants and UV radiation damage our skin, degrading **collagen** and **elastin** (the skin's main structural proteins) while generating harmful free radicals.^{8,18}

These environmental factors trigger a protein called the **aryl hydrocarbon receptor (Ahr)**, which sets off genes involved in immunosuppression, inflammation, oxidative stress, and more, all of which **accelerate skin aging**.¹⁸

Researchers identified **four herbal extracts** that, taken orally, protect against environmental skin damage:¹⁹

- **Rosemary** contains rosmarinic acid and other polyphenols that neutralize free radicals.
- **Olive leaf** provides oleuropein, a powerful antioxidant with anti-inflammatory properties.
- **Lemon verbena** leaf offers antioxidant protection and supports natural defense systems.
- **Japanese pagoda tree** (*Sophora japonica*) leaf contains compounds that preserve collagen and elastin.

A preclinical study showed that a **combination** of these extracts inhibits pollution-induced AhR activation, interrupting the process that initiates **skin-damaging** inflammation.²⁰

Herbal Extracts Reduce Wrinkles

In a clinical study, 100 women aged 35 to 65 took either **250 mg** of this **four-extract blend** or a placebo daily for 12 weeks.¹⁹

In **just 15 days**, the herbal blend smoothed and softened skin, reduced wrinkle depth, and improved skin elasticity and firmness.

After 12 weeks, compared to a placebo, those taking the plant extract blend had a:

- **10-fold** greater reduction in **wrinkle depth**,
- **3-fold** increase in skin **moisture**,
- **5-fold** improvement in **radiance** (skin brightness), and
- **18-fold** improvement in **smoothness**.

By the end of the study, **over 90%** of women showed significant improvement in all measures.



Vitamin C Supports Skin Health

Oral **vitamin C** provides additional support for skin structure and repair.²¹

Vitamin C supports *enzymes* that aid in **collagen** synthesis, helping maintain skin **firmness**.

Experimental and preclinical data have demonstrated that vitamin C:²²

- boosts type I collagen, and
- lowers oxidative stress.

Vitamin C also inhibits **tyrosinase**, the enzyme responsible for melanin production. This helps fade existing **dark spots** and prevent new ones.^{23,24}

Vitamin C is an antioxidant naturally present in the skin. In a study of 33 volunteers, taking oral vitamin C for four weeks significantly increased the skin's ability to neutralize free radicals. A daily dose of **100 mg** raised antioxidant activity by **22%**, while **180 mg** increased it by **37%**, with no changes observed in the **placebo** group. Some participants achieved maximum improvement in just two weeks.

These results show that oral vitamin C quickly enhances the skin's antioxidant defense, with greater effects at higher doses.

A combination of oral ceramides, herbal extracts, and vitamin C may help maintain the skin's **strength** and **radiance** far better than topical treatments.

Summary

Skin aging results from declining ceramide and collagen production, pollution, and UV radiation. This combination weakens the moisture barrier and accelerates structural breakdown.

Rice-derived oral ceramides improve the skin's barrier function and boost hydration.

A blend of **four herbal extracts** protects against environmental damage while reducing wrinkles and improving skin quality.

Vitamin C provides support for collagen production and protective antioxidant activity.

These oral compounds can help hydrate, protect, and rejuvenate skin. ■

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IK

FOR DAILY HEALTH

Strong bones and a healthy heart are two benefits of adding vitamin K to your routine.

This essential nutrient helps maintain the body's calcium balance and, in turn, supports everything from arterial health to bone density.

Getting enough is easy by supplementing with as much—or as little—vitamin K as you need.



1
DAILY



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

Super K*

Vitamin K1 (as phytanadione) 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.

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



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Women's Bladder & Urinary Support

Many women need a little help when it comes to bladder and urinary health.¹

Women's Bladder Support contains three herbal extracts shown to support women's bladder and urinary functions:

- Horsetail
- Lindera
- Three-leaf caper

This three-herb blend can help maintain bladder comfort and normal urinary frequency—with women reporting positive results in a recent clinical study.²

Item #02513

60 vegetarian capsules



This product is available at fine health food stores everywhere.

References

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Hair so Nice, They'll Look Twice!

Thinning hair is a fact of life for many men as they age.

This formula uses scientifically studied plant extracts to promote hair fullness and density, support hair health, help reduce shedding and maintain already-normal levels of DHT, a hormone which is linked to maintaining hair follicle health.

Results reported within an average of 3-4 months of use.

Try Hair Growth for Men today!

This product is available at fine
health food stores everywhere.



GLUTEN
FREE

1
DAILY

NON
GMO
LE CERTIFIED

Item #02538

30 softgels

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Fuller Hair, Stronger Strands

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.



Item #02541

30 softgels

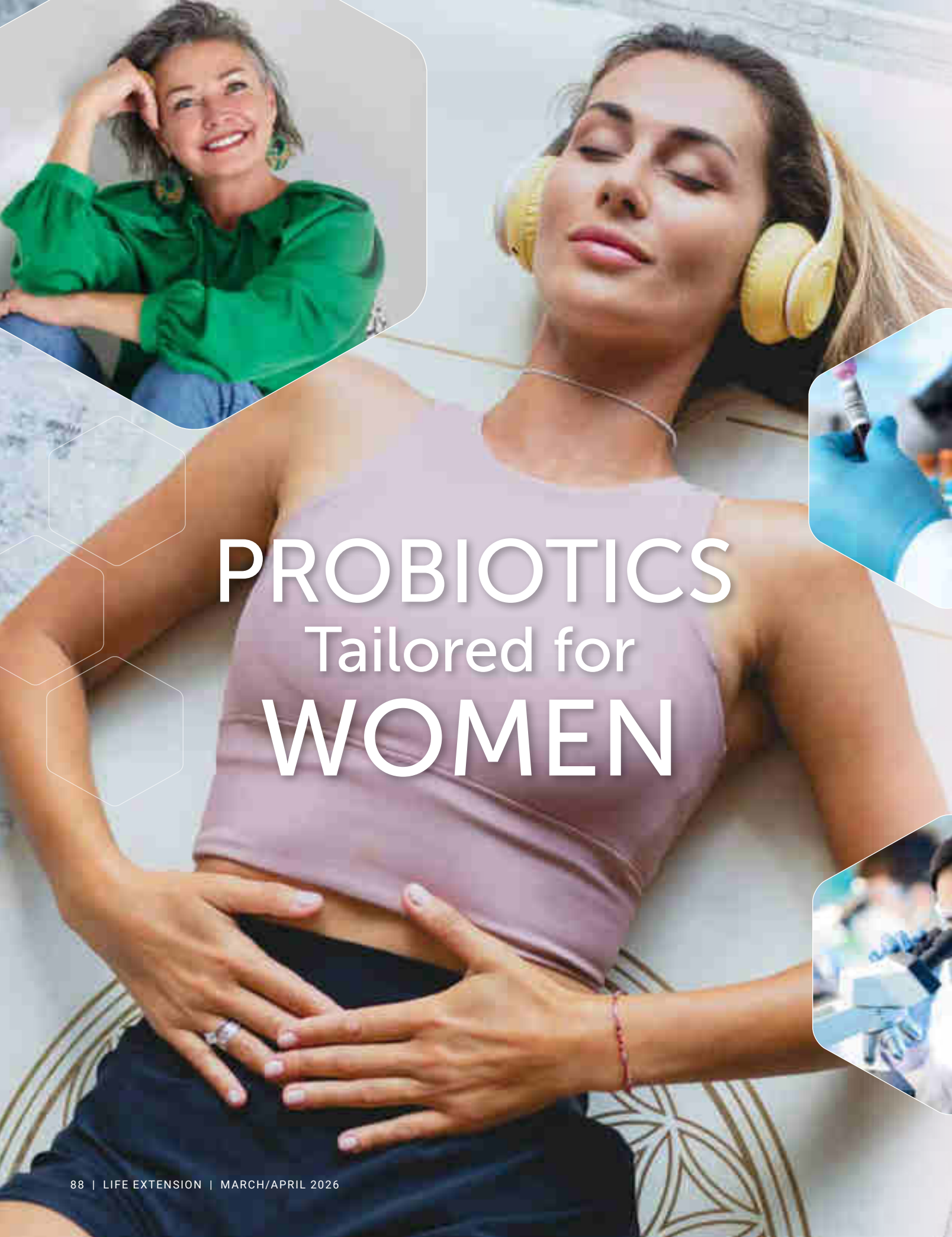
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This product is available at fine health food stores everywhere.

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.



PROBIOTICS

Tailored for

WOMEN



BY MARSHA MCCULLOCH, MS, RD



A common misconception is that all **probiotics** are essentially the same.¹

In reality, their effects vary dramatically from strain to strain.

For the greatest benefits, it is *essential* to use probiotic strains that have been clinically tested for **specific** health issues.^{2,3}

Two oral probiotics have been shown to address common health concerns of **women**. In clinical trials:

- 
- ***Lactobacillus plantarum* P17630** helped restore **healthy balance to the vaginal flora** (the vaginal microbiome) and reduced symptoms of **vaginal yeast infections** in women with a history of recurrent vulvo-vaginal yeast infection.⁴
 - ***Lactobacillus helveticus* L10** supported women's **immune defenses** against infections.^{5,6}



A combination of these probiotics provides tailored support for female health concerns.

Women's Intimate Health

Just like the gut microbiome, the **vaginal flora** can be healthy or unhealthy.

A healthy vaginal flora is typically high in ***Lactobacillus*** bacteria.⁷

Lactobacillus produces **lactic acid** to help maintain a slightly **acidic** (lower pH) environment that deters the growth of harmful bacteria.^{8,9}

When the vaginal floral balance is upset (known as dysbiosis), ***Candida yeast*** can overgrow and cause a **yeast infection**. ***Candida albicans*** is the most common yeast species involved.⁸

Yeast infections are extremely common. Symptoms include vaginal **itching**, **burning**, and **discharge**.^{8,10}

Standard antifungal treatments often fail in recurrent yeast infections because the *Candida* forms protective biofilms that make it harder for the drugs to work. Harmful microbes like this can become resistant to medications when they're used repeatedly.¹¹



Proven Vaginal Health Support

Probiotics are not only beneficial for gut health, they can also help support a balanced vaginal flora and improved gynecological wellness.

Scientists identified a bacterial strain, ***Lactobacillus plantarum* P17630**, that was present in women with healthy vaginal flora, supporting a more balanced vaginal environment.¹²

In a laboratory culture of human vaginal epithelial cells, ***Lactobacillus plantarum* P17630** was demonstrated to adhere to the cells and to competitively inhibit *Candida* adhesion.¹³

To explore its effectiveness as an **oral probiotic**, a pilot study was conducted with six healthy women (ages 18 to 45) with normal vaginal flora.¹⁴

For 60 days, the women took ***L. plantarum* P17630**. After 30 days, results showed colonization of *L. plantarum* P17630 in the vagina of **80%** of the women, leading to an improvement in the vaginal flora.¹⁴

These impressive results were maintained even after the women stopped taking the probiotic for 15 days.

In a larger **clinical trial**, scientists enrolled 93 women (ages 18 to 58) with a history of recurrent vaginal **yeast infections**.⁴

The women took **5 billion CFU of *L. plantarum* P17630** or a **placebo** daily. They completed three cycles of 15 days taking the probiotic, followed by a 15-day break in between.

Significant **improvement** was seen after about six weeks, by which time the participants had taken the probiotic for a total of **30 days**.

The percentage of women with **healthy vaginal microbiome** scores (high in *lactobacillus*) nearly doubled, while the percentage with less healthy or frankly unhealthy scores decreased markedly, as compared to the start of the study.

In the placebo group, women with the least healthy scores had far worse scores after 45 and 90 days.⁴

The **probiotic** group also had a significant decrease in **yeast infection** symptoms at the 45 and 90-day follow ups, including vaginal redness, swelling, and discharge, compared to the placebo group.⁴



Bolstering Immune Defenses for Vaginal Health

Lactobacillus helveticus is recognized as a probiotic strain that helps support gut and immune health by promoting a balanced intestinal microbiome and limiting the growth of harmful microbes.¹⁵ Constituents of *L. helveticus* strains have demonstrated beneficial immune effects in a preclinical setting.¹⁶

Preclinical research shows that ***L. helveticus*** can inhibit **pathogens** such as *Listeria*,¹⁷ *Candida*,¹⁸ and *E. coli*¹⁹ in both the gastrointestinal and vaginal environments.²⁰ Uncontrolled proliferation of these pathogens may lead to gastrointestinal problems and flu-like symptoms.

Clinical studies also show ***L. helveticus*** may help prevent gastrointestinal infections and influence immune activity.¹⁵

Ongoing **stress** can weaken a woman's **immune system**.²¹ Immune-supportive probiotics can boost defenses against infections throughout the body.²²

Researchers have also examined the ***Lactobacillus helveticus*** L10 strain specifically, finding that it can help support healthy immune function. In studies in elite athletes, **L10** improved immune markers, an important benefit for athletes, whose intense training can temporarily weaken immune defenses and increase susceptibility to respiratory infections.

In a clinical trial, elite athletes took **20 billion CFU** of ***Lactobacillus helveticus*** L10 or a placebo daily for 14 weeks during winter.⁵

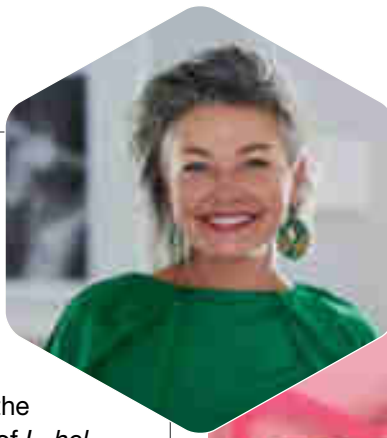
The probiotic group reported **29% fewer** upper respiratory infection **symptoms**, and infections lasted about **3.5 fewer** days compared to the placebo group, a sign of improved immunity.⁵

Further analysis showed that total salivary **IgA (immunoglobulin A)** levels were maintained in the probiotic group.⁶

IgA is an **antibody** that provides the first line of mucosal immune defense against respiratory tract infections. IgA also supports immune defense in the **vaginal tract**.²³

The **placebo** group had up to **35% reduction** in salivary IgA, suggesting weakened immunity.⁶

Together, oral intake of ***L. plantarum*** P17630 and ***L. helveticus*** L10 may help address top health concerns of women and promote better vaginal, immune, and gut health.



What You
Need
To Know

Probiotics Just for Her

- Scientists have identified **probiotic** strains and dosages for women that help reduce vaginal yeast infections, and support gut and immune health.
- In a clinical trial, women who took ***Lactobacillus plantarum*** P17630 every day experienced a marked improvement in their vaginal flora and significantly reduced symptoms of vaginal **yeast infections**.
- In a clinical trial in elite athletes, daily oral intake of ***Lactobacillus helveticus*** L10 supported the maintenance of **IgA**, an antibody that provides immune defense in the gastrointestinal, vaginal, and respiratory tract.
- A combination of ***L. plantarum*** P17630 and ***L. helveticus*** L10 delivers targeted support for a woman's vaginal health as well as her overall immunity.

Summary

Probiotics for women's health should be chosen based on clinically proven benefits, using specific strains and dosages.

Two clinical trials have demonstrated that daily oral intake of **5 billion CFU of *L. plantarum* P17630** can restore normal vaginal flora and reduce symptoms of **yeast infections**.

Additional **clinical research** suggests that taking **20 billion CFU of *L. helveticus* L10** daily can help bolster immune defenses.

Combining these two probiotics provides well-rounded support for common health concerns of women. ■

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Youthful SKIN Begins INSIDE

This product is available at fine
health food stores everywhere.



Oral intake of certain plant-derived **nutrients** has been shown to produce noticeable results in skin health and appearance.

Daily Skin Defense contains nutrients clinically demonstrated to help promote:

**3-fold improvement in skin moisturization and
10-fold reduction in the appearance of
wrinkle depth compared with placebo.¹**

Just one capsule of **Daily Skin Defense** provides:

- **Rice-derived ceramides** designed to help promote **skin moisture**.^{2,3}
- **Four herbal extracts** to support the skin's barrier function against environmental factors and reduce appearance of **wrinkle depth**.¹
- **Vitamin C** to support collagen production and the skin's natural protection against the oxidative effects of UV light.⁴⁻⁵

Item #02423

30 vegetarian capsules



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5. Nutrients. 2017 Aug 12;9(8):866.

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.

hormone harmony

Estrogen Balance Elite contains a proprietary seed extract of the herb **fenugreek** to promote healthy hormonal balance.

In clinical studies, fenugreek seed extract has been shown to provide relief for **menopause discomforts**, including:*

- ✓ Hot flashes ✓ Night sweats
- ✓ Mood ✓ Sleep disturbances
- ✓ Vaginal dryness
- ✓ Leg joint and muscle discomfort

This **plant-based** product also includes **Red Clover**, **Chaste Tree**, and **Black Cohosh** for women's health during menopause.



Item #02534

60 vegetarian tablets

This product is intended to promote estrogen but does not contain estrogen.

CAUTION: Consult with your healthcare practitioner if you have, or have a history of, estrogen-dependent tumors.

* PharmaNutrition 2020;14:100209.



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.

Sitting Too LONG?

"Excellent product."

Ingrid

VERIFIED CUSTOMER
REVIEW

Item #02102

30 vegetarian capsules



For those who find themselves sitting for long periods of time at the office, in daily commutes, or when traveling by plane, the proprietary blend of nutrients in **VenoFlow™** promotes healthy venous blood flow.

Just one capsule of **VenoFlow™** formula provides **nattokinase** (providing 2,000 fibrinolytic units) and **procyanidins** derived from French maritime pine bark (Pycnogenol®).

This product is available at fine health food stores everywhere.

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

Pycnogenol® is a registered trademark 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.



Super Omega-3

2,400 mg
of EPA + DHA
in four softgels

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 extract.**

"Been using this for years. Love it."

Gail
VERIFIED
CUSTOMER
REVIEW

Item #01982*

120 softgels



2,520 mg
of EPA + DHA plus
Krill & Astaxanthin
in four softgels



* The IFOS™ product certification is a registered trademark of SGS Nutrasource. This product has been tested to verify quality and purity per the IFOS™ standard.

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

Item #01988

120 softgels



These products are available at fine health food stores everywhere.

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**NEW
PRODUCTS**

Un-Bee-lievable Immune Support

Honeybees make propolis, or “bee glue,” with plant compounds to protect their hive. Propolis offers similar benefits for respiratory immune health; however, the polyphenol content in raw or traditional supplements may not always deliver consistent benefits.

That’s why our formulas use a clinically studied standardized bee propolis, delivering the same amount of active propolis compounds in every dose.

Year-Round Support: Bee Immune Propolis Capsules

For everyday immune support. Our Bee Immune Propolis Capsules promote a healthy respiratory immune response and help with the frequency and duration of respiratory immune challenges.

Fast-Acting Relief: Bee Immune Propolis Spray

Go-to oral spray for throat comfort. Our Bee Immune Propolis Spray helps with the duration of respiratory discomfort and promotes upper respiratory tract health, with results reported in as little as 3 days.



Item #02550

0.5 fl. oz. (15 mL)

Item #02546

60 vegetarian capsules

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The Science of a Healthier Life®

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IN THIS EDITION OF LIFE EXTENSION MAGAZINE®



16 QUERCETIN AND YOUR HEART

Research shows that **quercetin** supports **heart health** in multiple ways, including *improving inflammatory* markers.



24 AMPK

In separate **clinical trials**, two **AMPK-activating** plant extracts helped **trim belly fat**, lower blood glucose, and improve blood vessel activity.



32 BEE PROPOLIS SUPPORTS IMMUNE DEFENSES

A *standardized propolis extract* helped promote healthy immune response and respiratory health. In another study, a **propolis spray** provided short-term fast-acting relief.



40 WHAT TO LOOK FOR IN A MULTIVITAMIN

Many commercial multivitamin formulas fail to utilize *enzymatically* active nutrients.



50 TESTOSTERONE ON THE RISE

Testosterone use among middle-aged men increased by up to **58%** in recent years. Men can restore *youthful* sex hormone balance with or without prescription medications.



66 LUTEOLIN BIOAVAILABILITY

A new **luteolin** formulation *boosted absorption* by up to **14 times**.