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January 2024

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Dementia Death Risk**

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See page 44 for more Super Sale Savings
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REPORTS



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**Deliver More
Quercetin to Your Cells**

Quercetin improves metabolic and cardiovascular health, but it is poorly absorbed.

A **clinical trial** found that an advanced formulation *increases* quercetin **bioavailability** by **62%** and also boosts **bioactive free quercetin** in circulation.

24 PROTECT LUNG FUNCTION

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Super Sale
Celebrate the Savings

EVERY Life Extension® supplement is on sale, and that's just the beginning.
Get ready to be surprised and delighted all season long with Super Sale SPECIALS.
See page 54 for more details.

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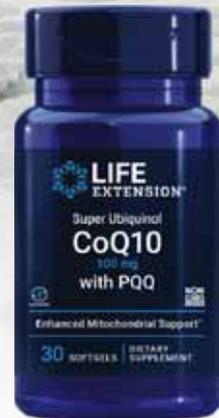
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Exponential Knowledge Growth



WILLIAM FALOON

People who ingest more **plant foods** live longer and suffer fewer illnesses.¹⁻⁸

Despite near unanimous agreement today, this concept was not always accepted.

Those who promoted **healthy eating** faced media persecution and government prosecution. This was done at the behest of corporations that did not want sales of their processed, sugary, and fat-laden toxic foods to be impeded.⁹

Evidence about healthier diets has been widely disseminated. Yet most Americans do not ingest enough **vegetables** and **fruits**.^{10,11}

This has led scientists to study what **components** of **plants** are responsible for their **protective** effects.

A plant compound that has been extensively studied is **quercetin**. The chart on this page shows that **32** studies about **quercetin** were published by year **1980**.

Move forward to **2022** and a staggering **2,692** new studies were published that mention **quercetin**. And in recent years, more reports emanate from **randomized controlled trials**, which are considered the gold standard of scientific research.

Year **1980** is when we first published. I've had the privilege of interacting (over the past **43 years**) with pioneers who educated us about the benefits of incorporating more **plant foods** in our diet.

We are fortunate to live in this era of **exponential knowledge** growth!

It is refreshing to see biologic discoveries rapidly transform into **practical approaches** to combat **age-related** challenges.

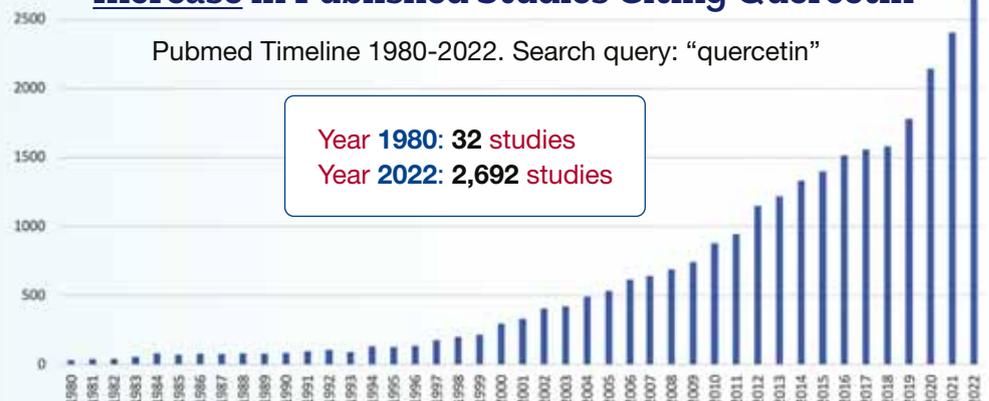


This graph is published by the National Library of Medicine (www.pubmed.gov) and appears when the search term "quercetin" is entered. It shows that in **1980**, there were 32 studies published that mentioned quercetin. Beginning in **1995**, the number began to increase and surged to **2,692** new studies published in 2022.¹²

<https://doi.org/10.1371/journal.pmed.1003889>

National Library of Medicine **84-Fold** Increase in Published Studies Citing Quercetin

Pubmed Timeline 1980-2022. Search query: "quercetin"



Flavonoids are compounds present in **fruits** and **vegetables**.

When consumed as part of a human diet, **flavonoids** are thought to help protect against various **age-associated** disorders.¹³⁻¹⁵

Quercetin is a widely occurring flavonoid found in different plants.

An analysis published in **April 2022** looked at previous research and described quercetin's multiple properties. This included quercetin's potential ability to help shield against **neurodegeneration**.¹¹

The authors of this analysis state that the evidence shows that **"quercetin plays a crucial role in the prevention of age-related disorders."**¹⁶

Quercetin does this, they say, by protecting against **inflammation, oxidation, insulin resistance**, and other degenerative processes.

They conclude by suggesting that more **bioavailable** forms of **quercetin** might yield greater benefits.

Frailty syndrome

Frailty can be defined as "age-related deficits in normal function that involve several body systems."

This definition manifests outwardly as loss of muscle mass, reduced stamina-endurance, declines in strength-cognition, and worsening general fitness.



Frailty predicts greater risk of hospitalization, falls, fractures, dementia, disability, and degenerative illnesses.¹⁷⁻²³ It increases vulnerability because of systemic declines in reserve/function. This includes compromised abilities to cope with every day or acute stressors.

The medical community is increasingly recognizing the importance of preventing and treating **"frailty syndrome."**²⁴

Quercetin and Frailty Onset

In **April 2023**, the *American Journal of Clinical Nutrition* published findings from a study that associated *higher* dietary intake of **quercetin** with *lower* odds of **frailty**.²⁵

The study participants had a mean age of **58.4 years** with **no frailty** at baseline. Dietary intake of different plant **flavonoids** was carefully evaluated over a **12-year** period.

Total dietary flavonoid ingestion did not affect frailty, but every **10 mg/day** of *higher quercetin* intake was associated with **35% lower** odds of **frailty** onset.²⁵

Higher **flavonol** intake in this study was associated with **20% lower** odds of **frailty** for each **10 mg/day**.²⁵

Quercetin is a **flavonol**. The other flavonoid subclasses showed no association in this correlation-based analysis.

Mechanisms that may explain these *declines* in **frailty** onset include **quercetin's** ability to reduce specific **inflammatory** factors (like interleukin-6) that cause or contribute to degenerative processes.²⁶

This was an "association" study and not one of the **randomized controlled trials** that evaluate the effects of quercetin compared to placebo.

Allergies

One of quercetin's initial effects was noted in **allergy** sufferers.

An allergy occurs when the body views a substance as harmful and overreacts to it with inappropriate immune/inflammatory responses.

A study published in **December 2022** looked at adults with symptomatic allergic reactions induced by **pollen**. This randomized, double blind, **placebo-controlled** trial used a bioavailable quercetin daily formula.

After four weeks, several of the allergy symptoms evaluated (eye itching, sneezing, nasal discharge, and sleep disorder) were significantly improved in those

taking the **quercetin supplement** compared with the **placebo** group.²⁷

The authors concluded, “**the results indicated that oral intake of quercetin-containing supplements might effectively reduce some allergy symptoms derived from pollinosis.**”²⁷

Autoimmune

Previous research indicates **quercetin** helps to neutralize **pro-inflammatory** factors seen in **auto-immune** disorders.^{28,29}

In various animal models of autoimmune diseases, like inflammatory bowel disease, multiple sclerosis, lupus, and others, **quercetin** exerted favorable effects.²⁹⁻³²

In one **randomized controlled** trial on rheumatoid arthritis, quercetin showed significant improvements in clinical symptoms.²⁸

Quercetin-Enriched Herbs and Memory

Age-associated **memory loss** is an epidemic problem. Studies that describe the potential of **quercetin** to cross the **blood-brain barrier** are fascinating researchers worldwide.^{33,34}

A randomized, double-blind, placebo-controlled trial was published in **September 2022**. Participants received either **placebo** or a **quercetin-enriched** herbal supplement daily over an eight-week period.³⁵

The study subjects who consumed the **quercetin-enriched** supplement at the higher dose showed improvements across a wide range of sensory, motor, cognitive, and behavioral functions.³⁵

Improvements in **working memory** may have been associated with suppression of **enzymes** in the brain that degrade **acetylcholine** and **dopamine**.

These kinds of **human** results are consistent with findings derived from both observational studies and randomized controlled trials.³⁶⁻³⁹

More Healthy Life Years!

Recent discoveries demonstrate a remarkable degree of **control** we can exert over the **quality** and **quantity** of our life years.

Clearly, people can live longer, with lower risk of many age-related diseases, by incorporating more **plant foods** in their diet.

As scientists uncover the biological effects of specific **components** of **plants**, aging people can more confidently select nutrients that may improve their healthy lifespans.

More published data than ever validate the effects of **plant compounds**. And more **bioavailable** forms are available from which consumers can select.

For longer life,



William Faloon, Co-Founder
Life Extension®

OPTIMIZED DIET = 8-year Lifespan Increase at Age 60

Switching to an **optimal diet** from **age 60** onward is modeled to **increase life expectancy** by:

8 years for women

8.8 years for men

Consuming more foods with the most **green** arrows (pointed up) and less of the **red** arrows (pointed down) conferred greater life expectancy.

↑↑↑ Legumes	↓↓↓ Red Meat
↑↑↑ Whole Grains	↓↓↓ Processed Meat
↑↑↑ Nuts	↓↓↓ Sweetened Drinks
↑ Fish	↓↓↓ Refined Grains
↑ Fruit	↓↓↓ Eggs
↑ Vegetables	

Published: February 8, 2022. <https://doi.org/10.1371/journal.pmed.1003889>

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Neuro-Mag[®] Magnesium L-Threonate is an absorbable form of magnesium, well-studied for its brain health benefits.

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* Gerontology. 1996;42(3):170-80.

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Super Omega-3 provides components found in **Mediterranean diets**, including **sesame lignans** to enhance the health benefits of fish oil.



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

SUPER SALE PRICE
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1 bottle **\$34.43**
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Sesame Lignans & Olive Extract
(2,400 mg of EPA + DHA in four softgels)

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4 bottles \$23.85 each

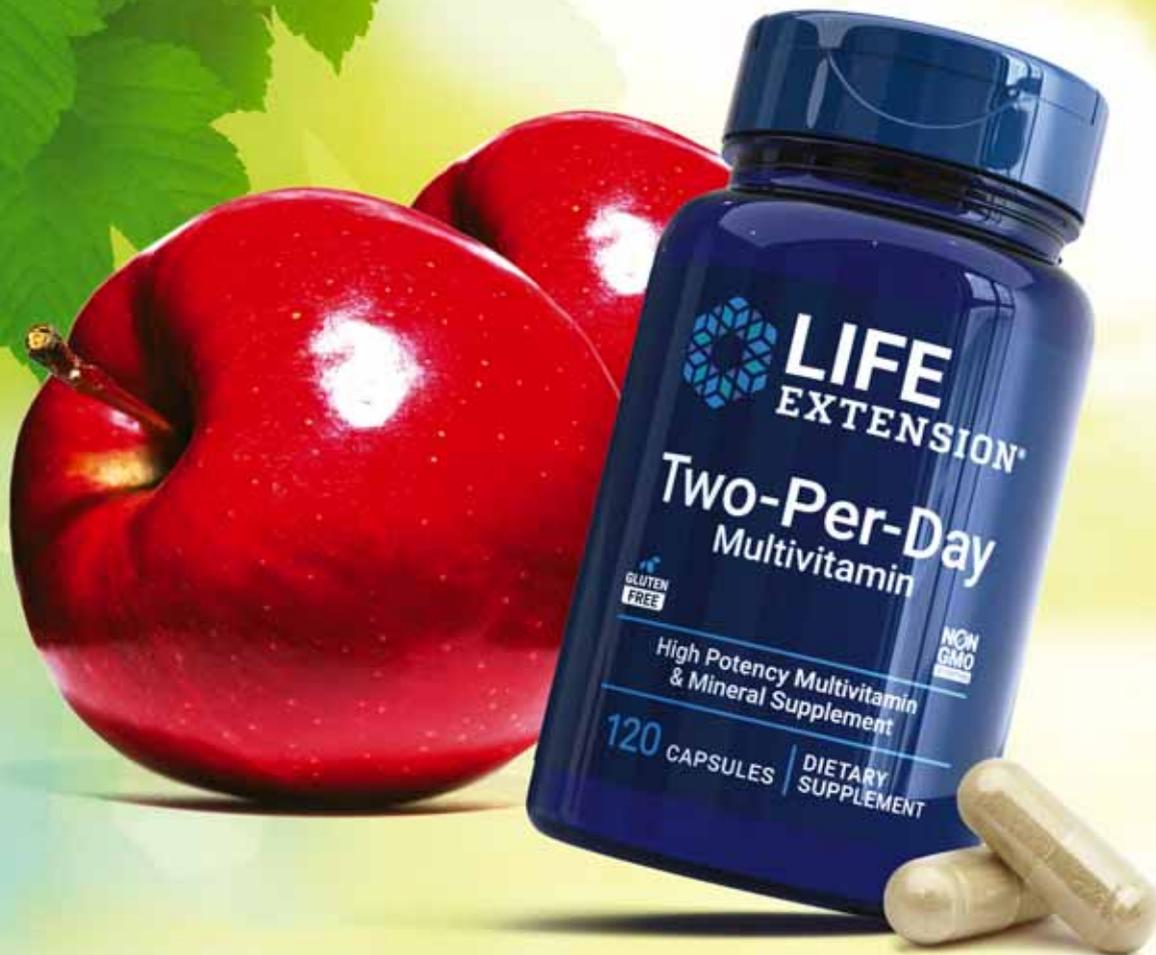
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CAUTION: If you are taking anti-coagulant or anti-platelet medications, or have a bleeding disorder, consult your healthcare provider before taking this product.

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How Do You Like Them Apples?

Eight times as much vitamin C. **Three times** as much vitamin E. **Twice** as much vitamin D and zinc. The list goes on. And since our multivitamin formulas deliver the most bioavailable forms of these nutrients (plus hard-to-find botanical extracts), **the winner is Two-Per-Day: hands down.***

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"Good stuff!"

Steven

VERIFIED CUSTOMER REVIEW



Bodyguard for Your Brain

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

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

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

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(1,000 mcg of lithium per tiny cap)

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Item #02403

100 vegetarian capsules

1 bottle \$10.80

4 bottles \$9.45 each

Each bottle lasts 100 days.



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

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SUPER SALE PRICE

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30 vegetarian capsules

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With Ultra Prostate Formula,
you'll always have a great play.

Ultra Prostate Formula addresses multiple factors essential to lasting prostate health, so you can stay on top of your game.

Our best prostate supplement is packed with ingredients like nettle root extract, pygeum and beta-sitosterol to promote healthy prostate function, healthy urine flow and more.



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In the News



Just Over Half a Tablespoon of Olive Oil Daily May Lower Dementia Death Risk 28%

A new study suggests that regular olive oil consumption may lower the risk of dying from dementia.

The study findings were presented at NUTRITION 2023, the flagship annual meeting of the American Society for *Nutrition*.*

Participants included 60,582 women enrolled in the **Nurses' Health Study** and 31,801 men in the **Health Professionals' Follow-Up Study**, between 1990 and 2018.

Every four years individuals responded to questionnaires providing information about foods they ate, including olive oil and other fats.

During more than 28 years of follow-up, there were 4,749 deaths from dementia. Consuming more than **seven grams** per day of **olive oil** (just over half a tablespoon) was associated with a **28% lower risk** of fatal dementia compared to consuming it rarely or not at all.

Editor's Note: "The lower risk of dementia mortality with olive oil intake was independent of overall diet quality, suggesting unique brain health benefits of olive oil," the study found.

* <https://neurosciencenews.com/olive-oil-dementia-23678/>

Some Heartburn Medication Found to Increase Dementia Risk

Long-term use of proton pump inhibitors (PPIs) has been associated with an increased risk of dementia later in life, according to a study published in *Neurology*.*

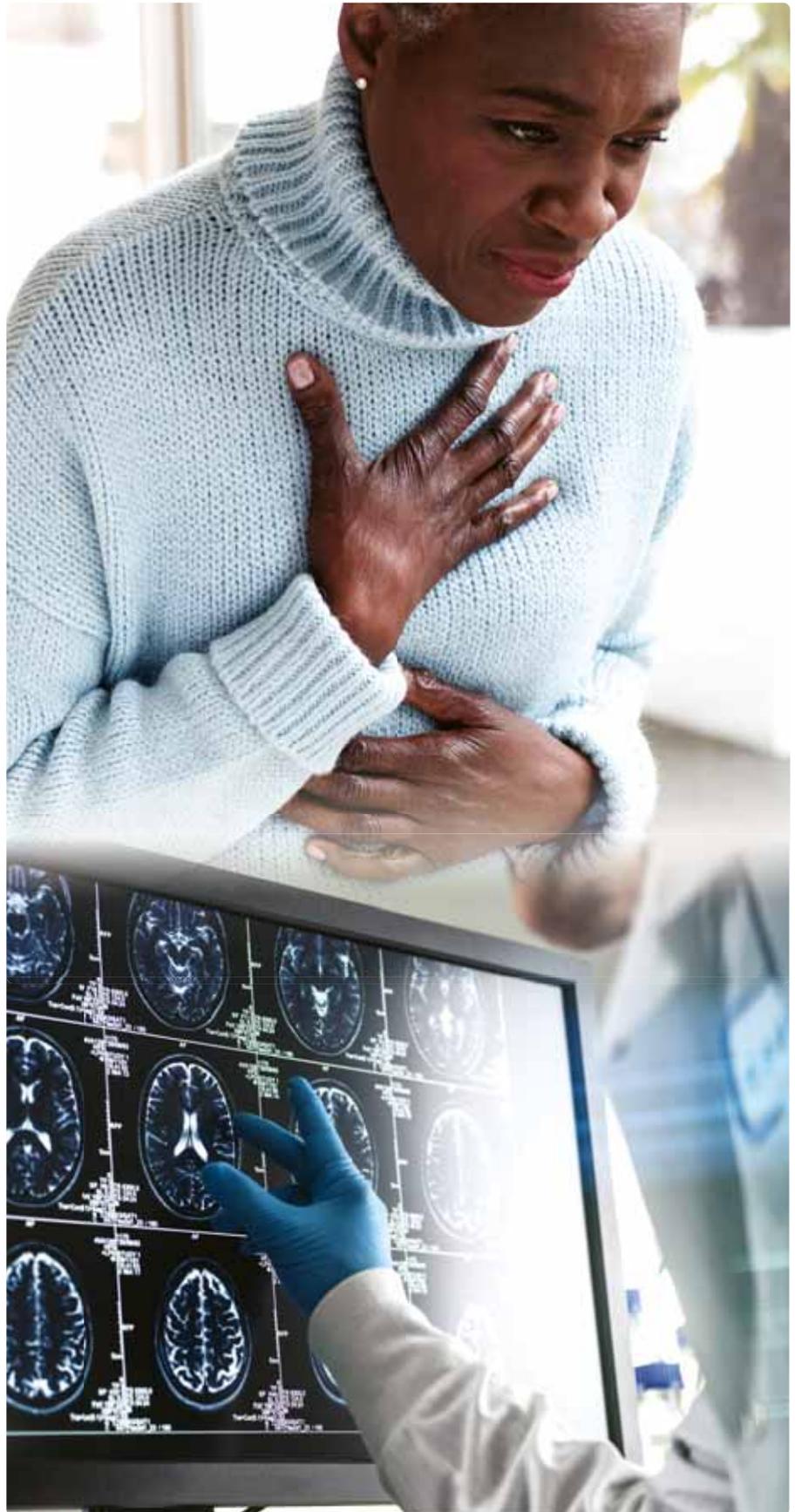
PPIs are drugs used to treat heartburn and acid-related disorders that work by reducing stomach acid production.

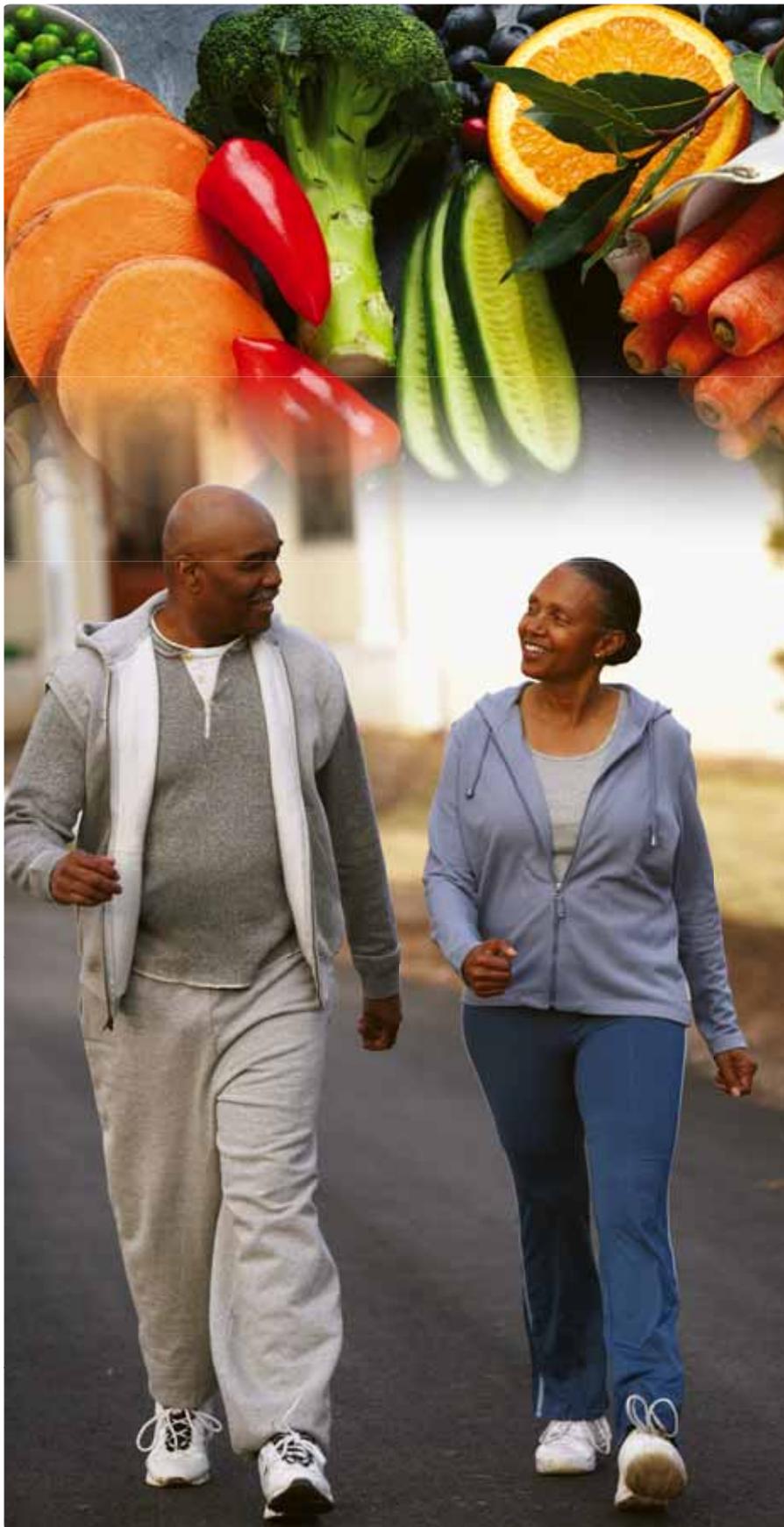
Using data from the Atherosclerosis Risk in Communities Study from 1987 to 2017, researchers evaluated the use of PPIs with dementia risk in 5,712 dementia-free participants, (mean age 75.4±5.1 years).

Results showed that using PPIs for more than **4.4 years** was associated with a **33%** increased risk of **dementia** later in life, compared to individuals who didn't use PPIs.

Editor's note: "PPIs were dispensed over 115 million times in 2016," the authors noted.

* *Neurology*. 2023 Aug 9:10.1212.





High Antioxidant Intake Lowers Risk of Gout

A study found a reduced risk of gout among men and women with a high antioxidant intake in comparison with those whose intake was low.*

Participants included 26,117 adults aged 40 to 59 enrolled in the National Health and Nutrition Examination Survey cycles from 2007 to 2018. Questionnaire responses were evaluated for the intake of the antioxidants selenium, zinc, vitamins A, C and E, and the carotenoids, to calculate the **composite dietary antioxidant index (CDAI)**.

Men and women whose CDAI was among the top **25%** had an adjusted **35%** lower risk of gout than those whose CDAI was among the lowest **25%**.

Oxidative stress, which is decreased by antioxidants, and inflammation, have been found to be higher in gout patients than in those without the disease.

Editor's Note: Gout is a type of inflammatory arthritis caused by elevated uric acid that leads to the formation of painful sodium urate crystals in joints, tendons and surrounding tissues.

* *Biol Res Nurs.* 2023 Aug
24:10998004231198166.

Statins May Reduce Risk of Cardiovascular Disease in HIV Infection

Statins could reduce the risk of cardiovascular disease in individuals with human immunodeficiency virus (HIV) infection, according to a study funded by the National Institutes of Health and published in the *New England Journal of Medicine*.*

The study included 7,769 people with HIV, averaging 50 years old, who had a low-to-moderate risk of cardiovascular disease and were receiving antiretroviral therapy.

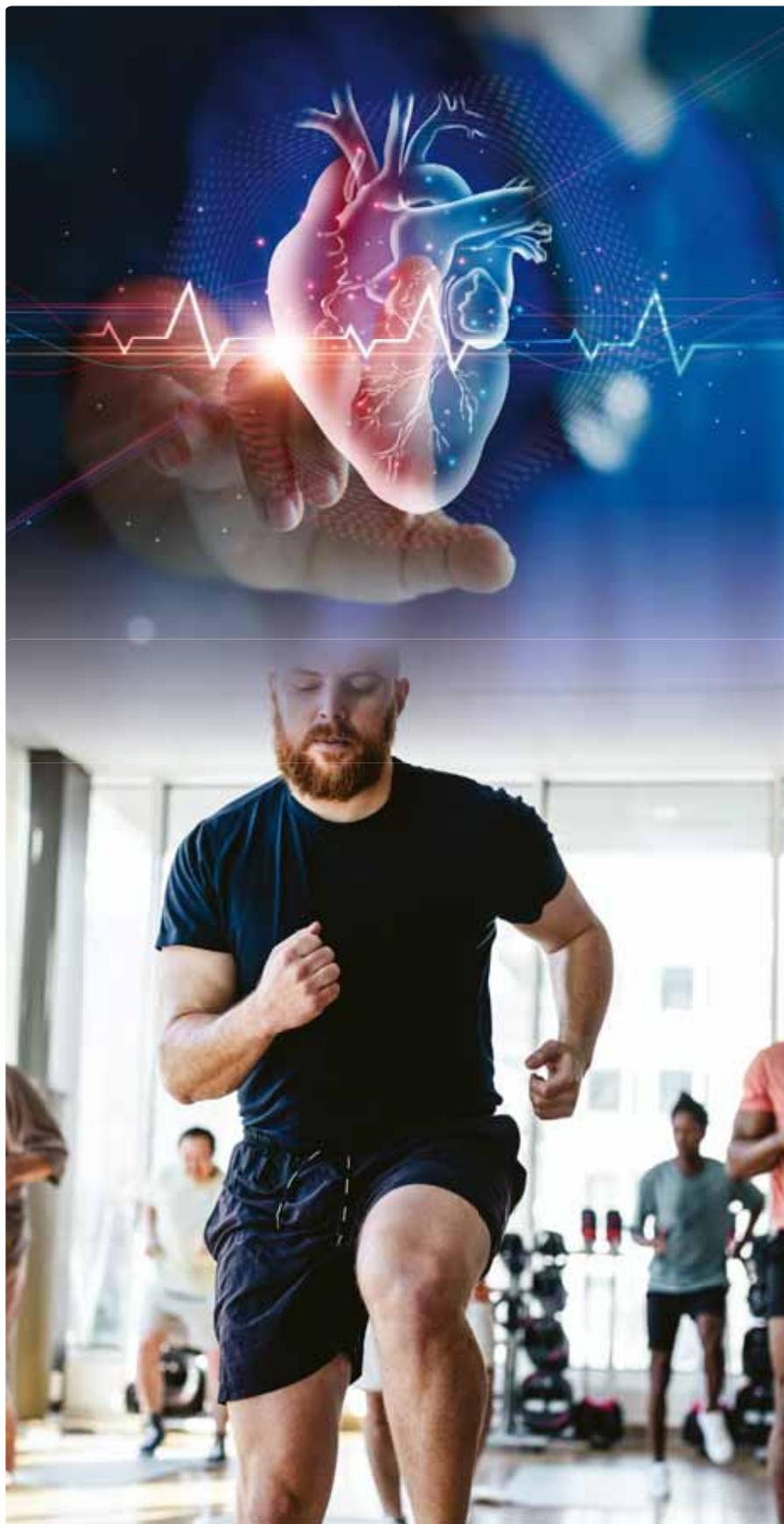
Participants took either a placebo or **4 mg** per day of **pitavastatin calcium** (a statin drug).

Researchers tracked the occurrence of major cardiovascular events such as myocardial infarction, stroke, peripheral arterial ischemia, or cardiovascular death.

After 5.1 years, there was a **35%** lower risk of a major cardiovascular event in the pitavastatin group, compared to the placebo group.

Editor's Note: The statin group also experienced a **30%** reduction in LDL cholesterol. Statins also have **anti-inflammatory** properties that can help reduce cardiovascular risks.

* *N Engl J Med.* 2023; 389:687-699.



Cry Out Loud

go ahead,
shed a tear.



Tears are a good thing — until you don't have enough.

Maqui berries (*Aristotelia chilensis*) produce compounds called **delphinidins** that encourage tear production—an up to **45%** increase in one study. So where can you get a delphinidin-rich maqui extract?

Tear Support with MaquiBright®.

For full product description and to order **Tear Support with MaquiBright®** call **1-800-544-4440** or visit **LifeExtension.com**

MaquiBright® is a registered trademark of MAQUI NEW LIFE S.A, Chile and ORYZA OIL & FAT CHEMICAL CO., LTD., Japan.

SUPER SALE PRICE

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30 vegetarian capsules

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4 bottles \$10.80 each



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B

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Brilliant, Boundless.



B your best...with our very best vitamin B.

Supercharge your mental and physical superpowers with BioActive Complete B-Complex, a full-spectrum and highly absorbable vitamin B formula.

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4 bottles \$7.20 each

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

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A More Restful Sleep



Serene Sleep contains two plant extracts that in independent clinical studies were shown to support restorative, high-quality sleep for **occasional sleeplessness**.

Clinical trials have demonstrated that:

- A standardized **black cumin** extract encouraged sleep efficiency and supported healthy sleep patterns.¹ **Black cumin extract** was shown in a separate study to maintain restorative sleep along with sleep efficiency, latency, and total sleep time.²

- **Ashwagandha** maintained measures of restorative sleep,³ reduced stress measures,³ and maintained healthy levels of the stress hormone *cortisol*.⁴

Take just one softgel **20 to 30 minutes** before bed.

References

1. *Front Nutr.* 2023;10:1152680.
2. *Mohan et al.*, unpublished resubmitted to Medicine – Draft Manuscript on file 2023.
3. *Sleep Med.* 2020 Aug;72:28-36.
4. *Report I.* Data on file. 2023.



SUPER SALE PRICE

Item #02526

30 softgels

1 bottle **\$13.50**

4 bottles \$12.15 each



For Occasional Sleeplessness

For full product description and to order **Life Extension® Serene Sleep**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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Bael fruit



Boswellia



Protect **LUNGS** from POLLUTION

BY RICHARD EVANS

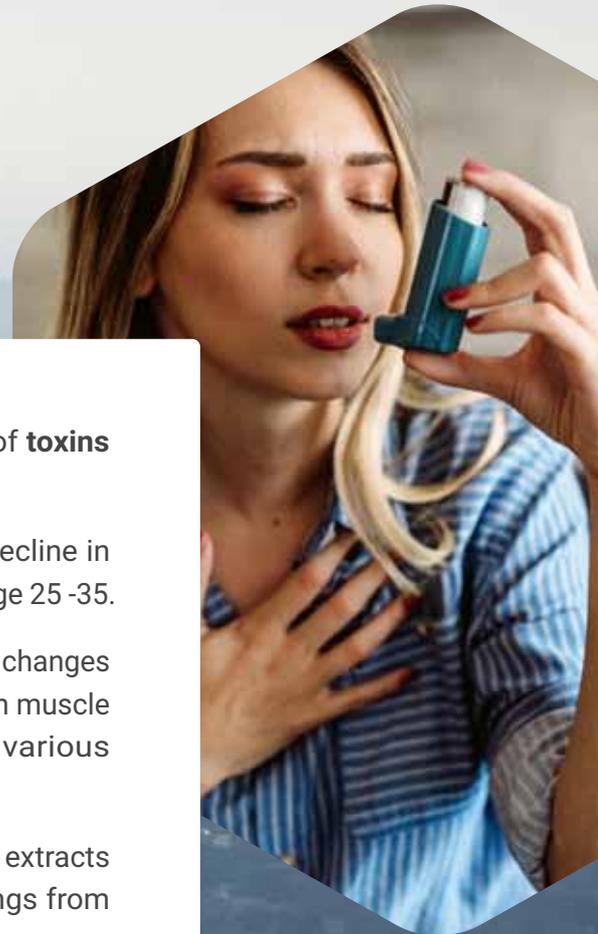
Our airways are exposed to a barrage of **toxins** that can cause chronic **lung diseases**.¹⁻³

The lungs suffer an estimated **1%-2%** decline in function every year beginning at around age 25 -35.

This functional falloff can be attributed to changes to lung tissue and structure, to changes in muscle strength, as well as to exposure to various pollutants.⁴⁻⁶

Scientists have discovered plant-derived extracts and compounds that help shield the lungs from damage and boost respiratory function.

In a clinical study, a blend of two plant-derived compounds *increased* a measure of **lung capacity** by an astonishing **30%**.⁷



Lung Health Matters

People with the *best* lung function have a *longer lifespan* and *healthspan* (the duration of healthy living free from disease).⁵

Pulmonary function, however, tends to decline with age.⁸

An estimated **1%-2%** of lung function is lost *per year* beginning around age 25-35.^{8,9} That decline contributes to frailty and deteriorating physical fitness.^{6,10,11}

Another reason that lung function deteriorates with age is air **pollution** that injures the delicate tissues of our respiratory tract.

More than **40%** of Americans live in areas with **poor air quality**. In recent years, some areas have experienced a worsening in air quality at certain times of year with increased exposure to **wildfire smoke**.¹²

Poor air quality is associated with deteriorating lung function and *higher* risk for lung problems, including:^{5,13,14}

- Asthma,
- Emphysema,
- Bronchitis,
- Lung infections, and
- Lung cancer.



To address the threats that aging, and pollution pose to respiratory health, scientists investigated several **plant-derived** extracts and compounds that have been shown to protect the lungs and improve lung function.

Boswellia-Bael Fruit Blend

Boswellia serrata is a tree native to parts of Asia that has long been used in traditional Indian medicine.¹⁵ It has been shown to have benefits for respiratory disorders such as asthma.^{15,16}

Bael fruit is native to India and other parts of Asia. This fruit and its seeds have been used in traditional medicine for a range of disorders.¹⁷

Scientists combined extracts of **Boswellia** resin and **bael fruit** and tested them in **clinical trials**.

In one study, healthy adults who reported a sensitivity to air pollution received either **200 mg** daily of **Boswellia-bael fruit** blend or a **placebo**.⁷

After three weeks, the group receiving the **extracts** had improved lung function. After six weeks:⁷

- Total air exhaled (measured by a spirometry test, which measures lung capacity, how much air you can breathe into or out of your lungs) increased by **30%**,
- Forced air exhalation in one second (a measure of how well air flows through the airways) improved by **16.4%**, and
- Aerobic exercise capacity increased by **7.4%**.

In another study, subjects with mild to moderate **asthma** received either **200 mg** of **Boswellia-bael fruit** blend or a placebo.¹⁸ Those receiving the extracts had a:

- **50%** improvement in peak expiratory air flow rate, which is usually reduced in asthma sufferers, and
- **44%** decrease in the use of an asthma rescue inhaler.

Researchers attributed these improvements to the **anti-inflammatory** activity of the extracts.



Saffron

Saffron is a spice that has long been used in traditional medicine for respiratory ailments.¹⁹

Preclinical studies show that saffron improves **lung function** through anti-inflammatory effects in the lungs²⁰ and by relaxing smooth muscles in the airways, improving airflow.²⁰⁻²⁶

In a human trial, patients with mild to moderate **asthma** received either **100 mg of saffron extract** daily or a placebo.^{19,27}

After eight weeks, those in the saffron group had:

- **50%** less waking at night due to asthma symptoms,
- Fewer instances of shortness of breath during the night,
- Less limitation of physical activity,
- A **40%** reduction in use of an asthma rescue inhaler,
- Improvement in airflow in respiratory testing, and
- Reduction in markers of inflammation.



Andrographolide

Andrographolide is a compound extracted from the herb *Andrographis paniculata*. It has been used in eastern medicine for an array of health concerns.²⁸

Cell and animal studies show that andrographolide can **shield the lungs** against damage caused by smoke and other pollution.²⁹⁻³⁴

It does so in several ways, including by:

- Protecting against **inflammation**,
- Defending against **oxidative stress**, and
- Preventing **DNA damage**.

By protecting the lungs and improving lung function, a combination of Boswellia-bael fruit, saffron, and andrographolide may help counter the damage that aging and poor air quality do to the respiratory system.



WHAT
YOU
NEED
TO
KNOW

Improve Lung Function

- Lung function generally deteriorates with age. Exposure to wildfire smoke, air pollution, and other toxins accelerates lung damage and is associated with increased risk for asthma, lung infections, and lung cancer.
- In a clinical study, a blend of extracts of *Boswellia serrata* resin and **bael fruit** was shown to improve lung function in healthy adults and asthma sufferers and to increase a measure of lung capacity by **30%**.
- **Saffron** has also been found to boost lung function and improve the clinical control of asthma, reducing use of a rescue inhaler by **40%**.
- The plant-derived compound **andrographolide** protects the lungs from damage due to poor air quality in cell and animal studies.
- Together, these ingredients may improve lung function and help shield the respiratory system from damage due to age and poor air quality.

Summary

Lung function tends to decline with age.

Exposure to wildfire smoke and other forms of pollution further accelerates lung damage and correlates with higher rates of lung disease, including **asthma and lung cancer**.

Clinical studies have found that extracts of *Boswellia serrata* and **bael fruit**, and **saffron**, improve lung function in a variety of ways and reduce symptoms of lung disease.

In preclinical studies, **andrographolide** has been shown to help defend lung tissue against the effects of pollution. •

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

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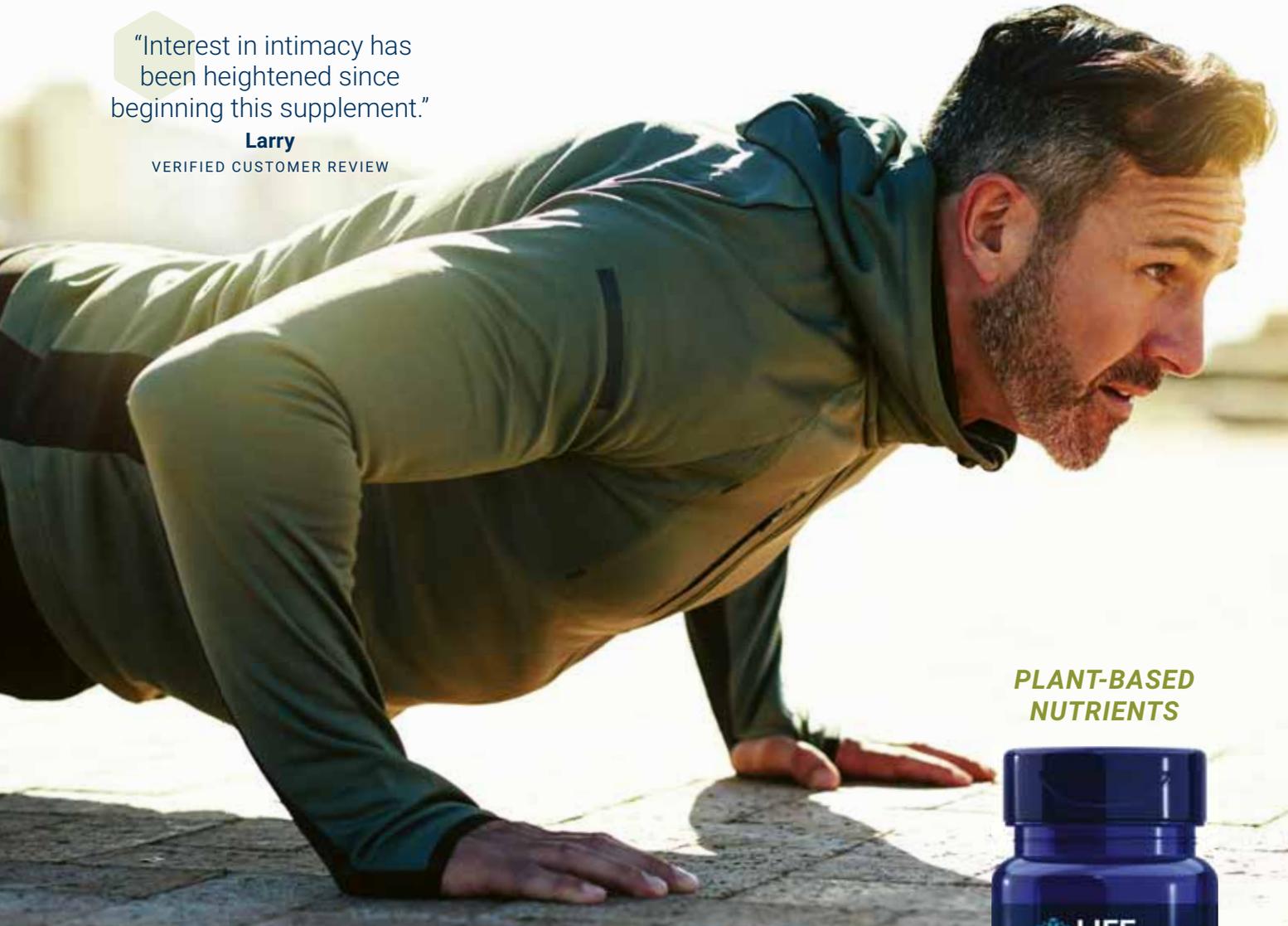
BOOST YOUR FREE

TESTOSTERONE

"Interest in intimacy has been heightened since beginning this supplement."

Larry

VERIFIED CUSTOMER REVIEW



PLANT-BASED
NUTRIENTS



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

Testosterone Elite helps maintain healthy testosterone levels:[†]

- > A clinical trial showed that **pomegranate** and **cacao** elevated **free testosterone** levels **48%** in just eight weeks.³
- > **Luteolin** increases a protein for testosterone synthesis and inhibits aromatase, an enzyme that breaks down testosterone.^{4,6}

Just one capsule a day.

SUPER SALE PRICE

Item #02500 • 30 vegetarian capsules

1 bottle **\$37.80** • 4 bottles \$33.75 each

Tesnor® is a trademark of Laila Nutra and Gencor.

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

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

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

BURN MORE CALORIES

REDUCE STUBBORN FAT POUNDS

Thermo Weight Control contains a patented **red-chili extract** that *increases* burning of calories.*†

Clinical results demonstrate reduced body mass including a decreased waist-to-hip ratio of 4%** after only 28 days.

Specially formulated to be gentle on the stomach, these low-cost **red-chili extract** capsules can help maximize your weight management program.

SUPER SALE PRICE

Item #02511 • 60 vegetarian capsules

1 bottle \$13.50 • 4 bottles \$12.15 each



For full product description and to order **THERMO WEIGHT CONTROL**, call 1-800-544-4440 or visit www.LifeExtension.com

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

*J Diet Suppl. 2021;18(4):387-405.

Capsifen® is a registered trademark of Akay USA LLC.



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POMEGRANATE

The Fruit of Life



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

Pomegranate plant compounds support **heart** health.



SUPER SALE PRICE

Item #01953

30 softgels

1 bottle **\$16.20**

4 bottles \$14.18 each



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

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

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Comprehensive EYE HEALTH Formula

MacuGuard® Ocular Support provides:

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



MacuGuard® Ocular Support
with Saffron + Astaxanthin
SUPER SALE PRICE
Item #01993 • 60 softgels



MacuGuard® Ocular Support
with Saffron
SUPER SALE PRICE
Item #01992 • 60 softgels

1 bottle **\$29.03** • 4 bottles \$26.10 each 1 bottle **\$16.20** • 2 bottles \$15.30 each

(Each bottle lasts for two months.)

MacuGuard® Ocular Support is available with or without astaxanthin.

MacuGuard® Ocular Support with Saffron has met ConsumerLab.com standards for ingredient and product quality for Lutein and Zeaxanthin in independent testing. More information at www.consumerlab.com.

For full product description and to order either of these **MacuGuard®** formulas, call **1-800-544-4440** or visit www.LifeExtension.com

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BREATHE EASY

Lung health is adversely impacted by aging and environmental exposures.

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

- ***Boswellia serrata***^{1,2}
- **Bael fruit**^{1,2}
- **Saffron**^{3,4}
- **Andrographolide**^{5,6}

Studies have shown these nutrients can:

- Improve breathing capacity.^{1,2,4}
- Assist healthy adults sensitive to environmental exposure.¹
- Promote lung function.²⁻⁴



SUPER SALE PRICE

Item #02512

30 vegetarian capsules

1 bottle **\$21.60**

4 bottles \$19.80 each

(One capsule per day)

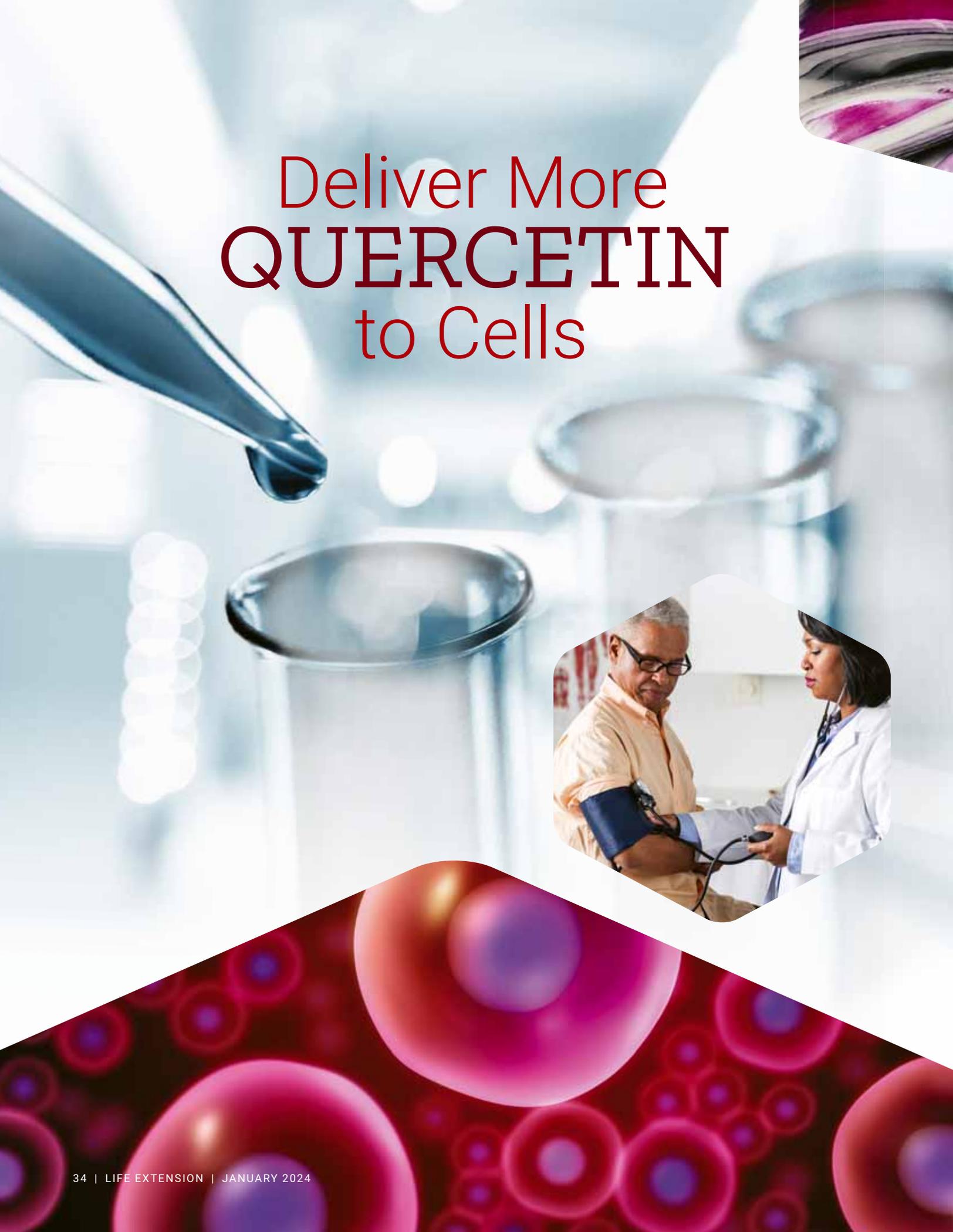


For full product description and to order **Healthy Lungs**, call **1-800-544-4440** or visit **www.LifeExtension.com**

References: 1. PLT Study. 2022. Unpublished. Data on file. 2. *Phytother Res.* 2018 Jan;32(1):140-50. 3. *Respir Res.* 2019 Feb 22;20(1):39. 4. *Respir Med.* 2018 Dec;145:28-34. 5. *Pharmacol.* 2020 Aug;177(16):3662-3673. 32335896; PMCID: PMC7393195. 6. *PLoS One.* 2013;8(2):e56407.

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Deliver More **QUERCETIN** to Cells





BY RICHARD SANTOS

Quercetin has become a popular supplement for good reason.

Studies show that **quercetin**, a plant **flavonoid** functions in several ways, including:¹⁻⁵

- Promoting better cardiovascular health,
- Protecting cognitive function,
- Improving metabolic health, and
- Helping rid the body of dysfunctional senescent cells.

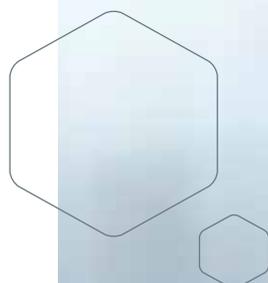
Standard or unformulated quercetin has relatively low **bioavailability**. That means that little of it gets into the blood and cells following consumption.

In recent years, scientists have developed various ways to improve quercetin's **bioavailability**.

In a new development, scientists have created an innovative method to further *increase* quercetin's bioavailability.

In a **human** study, a novel quercetin compound was shown to *boost* total **bioavailability** up to **62 times** compared to unformulated quercetin.⁶

This new formulation also delivered **18 times more bioactive free quercetin** than unformulated quercetin.⁶



A Better Quercetin

For many people, there's an obstacle to getting the full benefits of quercetin: Standard quercetin suffers from poor **bioavailability**.

Much of what is consumed never makes it into the bloodstream and to cells where it could help.

A randomized placebo-controlled study found that **bioavailability** of quercetin has reached new heights.

This quercetin is first encapsulated in plant-derived particles called **micelles**.

These micelles are then combined with a **hydrogel** made from a non-digestible fiber found in fenugreek seeds called **galactomannans**. This fiber hydrogel acts as a scaffold for the micelles, protecting them and the **quercetin** within.

This formulation significantly **improves** the **bioavailability** of quercetin.

In a **clinical trial**, healthy adults received either unformulated quercetin or the new galactomannan hydrogel formulation. With the new formula, the bioavailability of quercetin was found to be up to **62 times greater** compared to the unformulated.⁶

In addition, the peak concentration of quercetin in the blood was greater and the **half-life** more than **doubled**. This means that more quercetin makes it into the bloodstream *and* stays there longer, giving it time to be absorbed into tissues and cells where it can exert its benefits.

The hydrogel quercetin not only increases the **total quercetin** absorbed, but it increases the amount of **free quercetin** in the blood as well.



Importance of Free Quercetin

When quercetin is absorbed into the body, much of it is chemically bound to other compounds (conjugated).

Conjugated forms of quercetin have some health benefits, but increasing **free quercetin**, which is unbound to other compounds, may offer additional benefits.

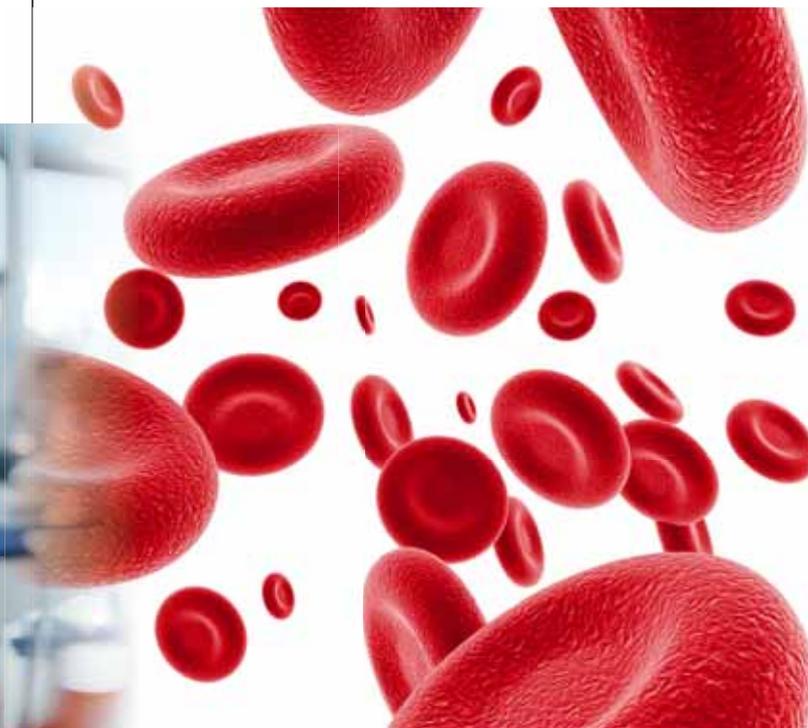
This has been shown in animal studies. In one, scientists gave quercetin to two groups of rats with high blood pressure.⁷ Through experimental manipulation, they were able to ensure that one group had more **free quercetin** than the other.

The group *without* free quercetin had no significant change in blood pressure, while the group with more **free quercetin** had a nearly **30%** drop in average blood pressure.

This suggests that the presence of **free quercetin** in the body may be essential for certain health benefits. This may be due to free quercetin's ability to cross membranes into cells more readily than bound forms.

Unformulated quercetin yields relatively low levels of free quercetin in the blood, potentially limiting its benefits.⁶

This **hydrogel** form of quercetin changes all that. It is the first formulation to demonstrate significantly **higher** blood levels of **free quercetin**, leading to amounts approximately **18 times higher** compared to unformulated quercetin.⁶





Benefits of Quercetin

Flavonoids are compounds found in many fruits, vegetables, and herbs.

A diet high in **flavonoids** is associated with better health, lower risk for many age-related chronic conditions, and reduced rates of death.⁸⁻¹³

Quercetin is one of the most abundant flavonoids found in plant-based foods, including onions, kale, broccoli, and apples.¹⁻⁵

Hundreds of cell, animal, and human studies of **quercetin** have shown a range of effects, including:¹⁻⁵

- Anti-inflammatory action,
- Anti-microbial activity against bacteria, fungi, and viruses,
- Anti-cancer properties,
- Anti-diabetic effects,
- Metabolic improvements including reduced blood pressure, anti-obesity effects, and improved blood lipids,
- Protection of blood vessel health, including anti-atherosclerosis activity,
- Neuroprotective actions, including protecting the brain from cognitive decline and neurodegenerative disorders such as Alzheimer's disease, and
- Protecting the heart and reducing risk for cardiovascular disease.

Maximizing the Benefits of Quercetin

- **Quercetin** has been shown in many studies to have wide-ranging health benefits and life-extending potential.
- Unformulated quercetin suffers from poor **bioavailability**. Only small amounts make it into the bloodstream after consumption.
- Scientists have developed a new quercetin formulation that boosts bioavailability more dramatically than any previous forms.
- Protected in a hydrogel of fenugreek seed-derived fiber, quercetin is able to reach much higher blood levels and remain in the bloodstream for longer. This new form also increases levels of bioactive **free quercetin** more than unformulated quercetin.
- These changes may allow quercetin to reach its full potential at last.

Meta-analyses of human trials found that daily quercetin intake significantly decreased **systemic** (top number) and **diastolic blood pressure** in patients with metabolic disease and with high blood pressure.^{14,15}

One meta-analysis of human trials also found that taking quercetin for at least eight weeks improved lipid profiles by increasing protective **HDL cholesterol** (the “good” cholesterol) and decreasing **triglycerides** in patients with metabolic disease or obesity.¹⁴

Another found that quercetin reduced total cholesterol, **LDL** (“bad”) cholesterol, and **C-reactive protein** (a marker of systemic inflammation) in patients with metabolic disease.¹⁶

Many more clinical trials of quercetin for various conditions are currently underway. At the time of publication, a **National Institutes of Health** website (clinicaltrials.gov) lists 44 human trials of quercetin in the U.S. alone.

Summary

Many people take **quercetin** for its potential to improve health and extend life.

Unformulated forms of quercetin have poor **bioavailability**.

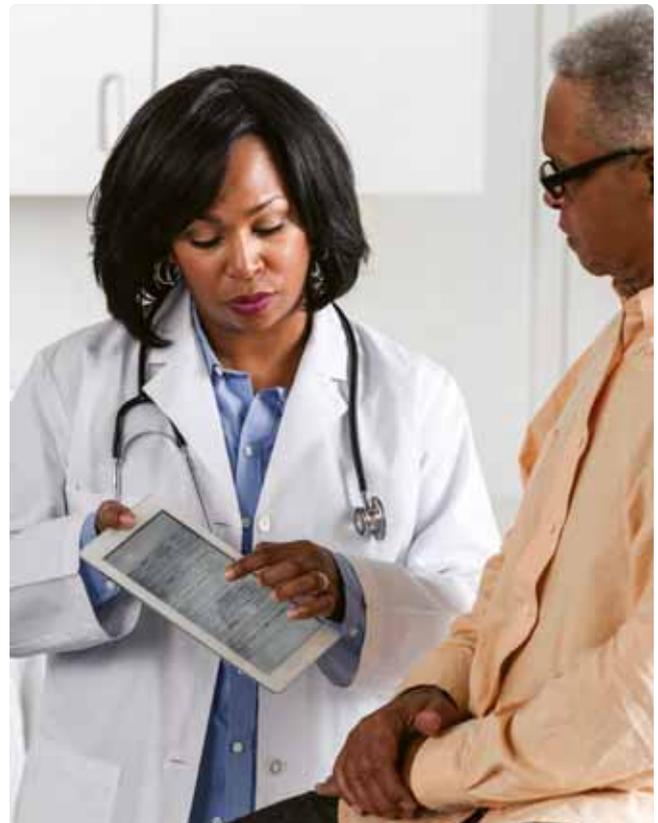
A novel formulation protects quercetin in the gut. This enables a major increase in the amount of absorbed **bioavailable quercetin** and the time it stays in the body.

In addition, this new formula increases blood levels of bioactive **free quercetin** beyond unformulated quercetin and previously available forms. •

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

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



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

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Mega Vitamin K2 • Item #02417

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+
HEALTHY HEARTS**

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(converts to K2 in some people)

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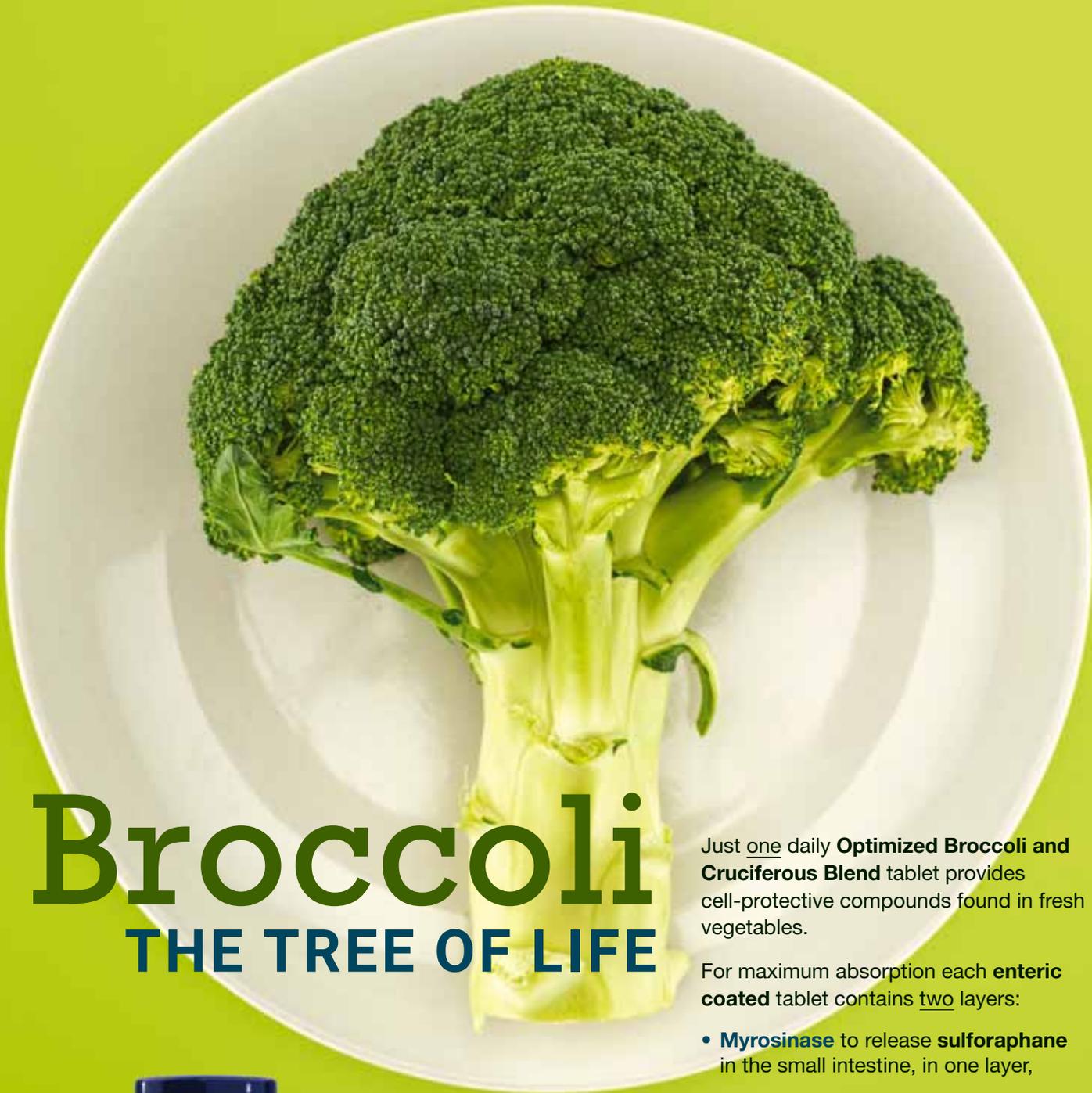
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Broccoli

THE TREE OF LIFE

Just one daily **Optimized Broccoli and Cruciferous Blend** tablet provides cell-protective compounds found in fresh vegetables.

For maximum absorption each **enteric coated** tablet contains two layers:

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



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vegetarian tablets

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45 TIMES GREATER BIOAVAILABILITY *Curcumin*



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

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500 mg, 60 vegetarian capsules

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"I love that it's
extended release."

Carol

VERIFIED CUSTOMER
REVIEW

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- Deliver magnesium citrate for immediate uptake
- Deliver magnesium oxide for extended release
- Support heart and bone health
- Encourage metabolic health

SUPER SALE PRICE

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60 250 mg vegetarian capsules

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CAUTION: If taken in high doses, magnesium may have a laxative effect. If this occurs, divide dosing, reduce intake, or discontinue product.

ZümXR® is a registered trademark and protected by patents. See www.ZümXR.com

For full product description and to order **Extend-Release Magnesium**, call **1-800-544-4440** or visit www.LifeExtension.com

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different is good

Bio-Quercetin® *is* different.

For years, researchers have worked to *increase* the **bioavailability** of the plant flavonoid, **quercetin**.

Now, **Bio-Quercetin®** with an innovative **hydrogel delivery** system is **62 times** more bioavailable than unformulated quercetin.

And, delivers up to **18 times** more **free quercetin**.



SUPER SALE PRICE

Item #02302 • 30 vegetarian capsules

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

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Item #	Product		Price	Super Sale	Save
02302	Bio-Quercetin • 30 vegetarian capsules Promotes immune, cardiovascular, and endothelial health.	1 bottle	\$9.00	\$8.10	10%
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02314	Two-Per-Day Multivitamin • 120 capsules High-potency bioactive vitamins, minerals, and plant extracts. (2-month supply)	1 bottle	\$19.13	\$17.22	10%
		4 bottles	—	\$15.30 ea.	20%
02040	Vitamins D and K with Sea-Iodine™ • 60 capsules Delivers 125 mcg (5,000 IU) of vitamin D3, 2100 mcg of vitamins K1 and K2 (MK4 and MK7), and 1000 mcg of iodine.	1 bottle	\$18.00	\$16.20	10%
		4 bottles	—	\$14.85 ea.	18%
02004	Arterial Protect • 30 vegetarian capsules Gotu kola & Pycnogenol® help stabilize plaque in the arteries.	1 bottle	\$33.00	\$29.70	10%
		4 bottles	—	\$26.10 ea.	21%
02309	Potassium with Extend-Release Magnesium 60 vegetarian capsules Dual-action mineral formula for blood pressure support.	1 bottle	\$11.25	\$10.13	10%
		4 bottles	—	\$9.00 ea.	20%
02125	FLORASSIST® GI with Phage Technology • 30 liquid vegetarian capsules • Dual-encapsulation probiotic for optimal delivery to help balance bacteria in the intestines.	1 bottle	\$24.75	\$22.28	10%
		4 bottles	—	\$20.25 ea.	18%
01982	Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 softgels Highly purified EPA and DHA sesame lignans, plus olive extract.	1 bottle	\$28.50	\$25.65	10%
		4 bottles	—	\$23.85 ea.	16%
		10 bottles	—	\$18.90 ea.	34%
01727	Bone Restore Calcium Supplement with Vitamin K2 • 120 capsules Skeletal-strengthening nutrients in one highly absorbable formula.	1 bottle	\$18.00	\$16.20	10%
		4 bottles	—	\$14.85 ea.	18%
02403	Lithium • 1,000 mcg • 100 vegetarian capsules A low-cost mineral that functions in several ways to support cognition and overall brain health.	1 bottle	\$12.00	\$10.80	10%
		4 bottles	—	\$9.45 ea.	20%

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Item #	Product		Price	Super Sale	Save
01603	Neuro-Mag® Magnesium L-Threonate • 90 vegetarian capsules Helps support memory and cognitive health.	1 bottle	\$30.75	\$27.68	10%
		4 bottles	—	\$24.75 ea.	20%
00335	DHEA • 25 mg • 100 capsules Promotes optimal hormone balance & overall health.	1 bottle	\$12.00	\$10.80	10%
				\$9.90 ea.	18%
02096	Skin Restoring Ceramides • 30 liquid vegetarian capsules Hydrates & smooths the appearance of fine lines & wrinkles.	1 bottle	\$18.75	\$16.88	10%
		4 bottles	—	\$15.53 ea.	17%
01868	Mitochondrial Energy Optimizer with PQQ • 120 vegetarian capsules Supports <i>mitochondrial</i> biogenesis & helps inhibit glycation. 1,000 mg carnosine, R-lipoic acid, taurine, benfotiamine & PQQ.	1 bottle	\$51.00	\$45.90	10%
		4 bottles	—	\$40.50 ea.	21%
01426	Super Ubiquinol CoQ10 with Enhanced Mitochondrial Support™ 100 mg • 60 softgels Superior ubiquinol form of CoQ10 plus shilajit shown to enhance mitochondrial energy production.	1 bottle	\$47.25	\$42.53	10%
		4 bottles	—	\$36.00 ea.	24%
		6 bottles	—	\$33.30 ea.	30%
01534	N-Acetyl-L-Cysteine (NAC) • 600 mg • 60 capsules The do-it-all antioxidant for liver, immune and respiratory health.	1 bottle	\$12.00	\$10.80	10%
		4 bottles	—	\$9.68 ea.	19%
02414	Bio-Fisetin • 30 vegetarian capsules A highly <i>absorbable</i> form of the plant flavonoid fisetin supports cell health in multiple ways.	1 bottle	\$11.25	\$10.13	10%
		4 bottles	—	\$9.00 ea.	20%
02419	B12 Elite • 60 vegetarian lozenges Two active forms for brain health & dopamine production, lozenge.	1 bottle	\$8.25	\$7.43	10%
		4 bottles	—	\$6.75 ea.	18%
02207	AMPK Metabolic Activator • 30 vegetarian tablets Helps fight belly fat.* Once-daily dosing.	1 bottle	\$28.50	\$25.65	10%
		4 bottles	—	\$21.60 ea.	24%
01778	Super Selenium Complex • 200 mcg • 100 vegetarian capsules Three forms of selenium promote the body's production of glutathione.	1 bottle	\$10.50	\$9.45	10%
		4 bottles	—	\$8.10 ea.	23%
		10 bottles	—	\$7.43 ea.	29%
01813	Zinc Caps • 50 mg • 90 vegetarian capsules Support for the body's natural immune defenses.	1 bottle	\$6.75	\$6.08	10%
				\$5.40 ea.	20%
02500	Testosterone Elite • 30 vegetarian capsules Promotes youthful testosterone production.	1 bottle	\$42.00	\$37.80	10%
		4 bottles	—	\$33.75 ea.	20%
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Saffron





How **PROBIOTICS** Can *Reduce* Anxiety and Depression

BY HEATHER L. MAKAR

Roughly **25%** of adults in the U.S. suffer from **anxiety**, **depression**, or both.¹

Many find that antidepressant drugs don't work for them, or they discontinue them as a result of side effects.

There's an alternative solution.

A link has been found between **gut health** and **mood disorders**.²⁻⁵

One trial in healthy **human** volunteers found that a blend of two **probiotics** improved median self-rated scores of feelings of **depression** and anxiety by **50%**—without side effects or dependence.⁶

Another **clinical trial** showed how a plant extract enabled antidepressive benefits without side effects.⁷

These ingredients may provide a safe way to **improve mood**.



Depression and Anxiety

Depression affects more than **21 million** adults in the U.S.⁸ Rates of **anxiety** and **depression** skyrocketed during the pandemic.⁹

Medication and counseling can help. But **two thirds** of those taking antidepressants experience side effects,¹⁰ including sexual dysfunction, fatigue, weight gain, and insomnia.¹¹

Only a small percentage of people taking antidepressants get a clinically significant response. Because of this, many stop taking them.¹²

Roughly **60%** of those affected by mood disorders are not receiving treatment.¹³

The Gut-Brain Axis

Probiotics have been shown to provide some relief for symptoms of depression, and perhaps to a lesser extent symptoms of anxiety, in multiple clinical trials.^{14,15}

The likely reason: the **gut-brain axis**.

Though we think of **neurons** primarily as brain cells, a network of **200-600 million** neurons lines the **gastrointestinal tract**.^{16,20}

The **gut-brain axis** is a two-way communication system between the **digestive system** and the **brain**.¹⁶⁻¹⁹

The **gut microbiota** is the name for the trillions of bacteria and other microorganisms that live in our digestive tract. The greatest amounts are in the large intestine.

Some of these bacteria alter the synthesis and degradation of **neurotransmitters** that neurons in

the gut use to transmit signals to regions of the brain responsible for mood regulation and learning.^{5,21,22}

Stress and depression may alter gut bacteria and promote secretion of pro-inflammatory cytokines.²³ These signaling molecules can promote **inflammation** in the brain, which can *worsen* symptoms of mood disorders^{23,24} and cognition.^{24,25} Some of these bacteria may even encourage dysregulated eating.²⁶

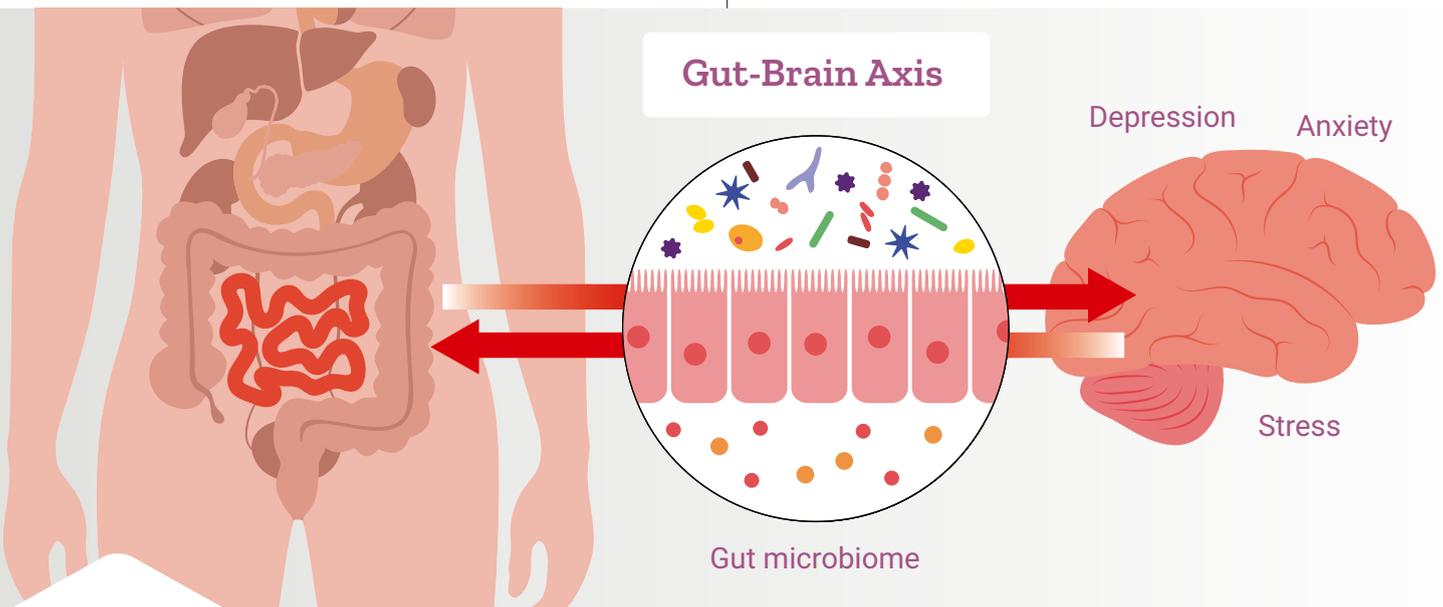
Probiotics Improve Mental Health

Probiotics are beneficial bacteria that support immune, digestive, and oral health. They also play a vital role in **psychological wellbeing**.^{6,16,17,27}

The gut contains trillions of bacteria²¹ with the neural system of the intestine composed of **200-600 million** neurons, cells that receive, process, and transmit information.²⁰

The gut communicates with the brain through these neurons and the vagus nerve or by modulation of neuroactive compounds produced by the microbiome.²¹

- Gut microorganisms can produce/modulate via secretion of precursors, many kinds of **neurotransmitters** (chemicals that send signals from one neuron to another). They include precursors to **dopamine, serotonin, and norepinephrine**, which are important to regulating mood.²¹



- Probiotics have been shown, in a study in healthy individuals, to reduce self-rated scores for depression, anxiety, and stress.²⁸ Another study showed that treatment with *Lactobacillus* species resulted in lower levels of cortisol, an important stress hormone.²⁷
- Preclinical evidence has shown that certain intestinal bacteria increase brain levels of **BDNF (brain-derived neurotrophic factor)**, a growth factor known to promote neuron development, survival, and function, and support synapse health.²³
- Stress is one of the factors that plays an integral role in **intestinal barrier function**, causing “leaky gut” which allows pro-inflammatory molecules to enter the blood, causing dysregulation of the immune system.²⁶ Chronic stress can also change the composition of the microbiome and impact its barrier function.²⁴ That, in turn, can negatively affect mood.²⁶

Specific Probiotic Strains

Two strains of probiotic bacteria, *Lactobacillus helveticus* R0052 and *Bifidobacterium longum* R0175, have been shown in animal models to play a role in beneficially modulating the **gut-brain axis**^{6,27,29} by:

- Maintaining a **balance** of the **microbiome** by competitive exclusion of bad gut bacteria (such as clostridium).²⁷ Clostridium bacteria, for example are known to produce propionic acid that has been associated in other animal studies with anxiety and aggression,³⁰
- Increasing levels of **doublecortin** (a protein that helps movement and differentiation of neurons) in the **hippocampus** (the brain’s memory-processing region). Doublecortin is also a marker for new brain-cell formation in an experimental model of chronic stress. This increase may indicate that the brain is regenerating healthy tissue that can lead to future resilience against stress,²⁹
- Supporting the hypothalamic-pituitary-adrenal axis balance,
- Reducing levels of **pro-inflammatory cytokines** and improving production of **anti-inflammatory cytokines**,²⁷ and
- Tightening the “leaky gut” induced by stress.^{29,31}



WHAT
YOU
NEED
TO
KNOW

Improve Mood Without Side Effects

- Millions of Americans suffer from **anxiety** and **depression**, but many find prescription antidepressants ineffective, or they don’t like the side effects.
- Two strains of probiotics, *Lactobacillus helveticus* R0052 and *Bifidobacterium longum* R0175, stimulate beneficial neuromodulators that travel from the gut to the brain. In a clinical study, they reduced depression and anxiety scores by **50%** in healthy individuals.
- The spice **saffron** interacts with neurotransmitters in the brain. In clinical studies, it was as effective as multiple antidepressant and anti-anxiety drugs, including Prozac® and Celexa®.
- A combination of saffron and probiotics can work to relieve depression and anxiety and improve mood, without side effects.

Success in Human Trials

Human trials of these probiotics have shown impressive results in reducing symptoms of depression and anxiety.

In one clinical trial, healthy participants took either **three billion CFUs** (colony forming units) of combined ***Lactobacillus helveticus* R0052** and ***Bifidobacterium longum* R0175** or a **placebo** daily.

After one month, compared to **placebo**, those who took the **probiotics** had a:²⁷

- **50%** improvement in **depression** scores,
- **49%** improvement in global severity index, a measure of overall **psychological distress**,
- **60%** improvement in **anger-hostility** scores, and
- **13%** reduction in free urinary cortisol, a measure of chronic **stress**.

A follow-up analysis of this study found that the **probiotic formula** also worked well in improving self-rated anxiety and depression scores in patients who began the study with low stress levels as measured by urinary cortisol. ⁶ As is the case with most probiotics, these were well tolerated with few, if any, side effects.

Anxiety and stress are associated with intestinal disturbances.²

In another trial, participants aged 18-60, with at least two self-reported symptoms of stress, were given either a placebo or the probiotic combination at the same dosage as in the other studies.³²

After three weeks the probiotic-treated subjects experienced a **complete elimination** of stress-induced nausea and vomiting and, compared to the **placebo** group, approximately **8.6 times** the reduction in stress-induced abdominal pain, and **nearly double** the reduction in flatulence and gas.

Once again, the probiotics were found to be safe and did not cause unpleasant side effects.

Saffron Enhances Mood

Saffron has been used in Persian and Chinese medicine to treat depression for centuries.³³⁻³⁵

Preclinical research suggests it may help relieve depression and anxiety as a result of its potential influence on three **neurotransmitter**-signaling pathways involved in mood regulation in the brain:

- **Dopamine**,³⁶ which contributes to feelings of pleasure, learning, and motivation,³⁷
- **Serotonin**,³⁸ responsible for a behavior pattern, mood, sleep pattern, anxiety, feelings of comfort, and well-being, and³⁷
- **Norepinephrine**,³⁹ responsible for alertness, arousal, decision-making, focus, and attention.³⁷





Effective in Clinical Trials

In a series of human studies, researchers tested **30 mg** of **saffron** head-to-head against common antidepressant drugs, including:

- Imipramine (Tofranil®),⁴⁰
- Fluoxetine (Prozac®),^{33,41} and
- Citalopram (Celexa®).⁴²

In each case, **saffron** was found to be as effective as the drug in treating depression.

Combining the probiotics ***Lactobacillus helveticus* R0052** and ***Bifidobacterium longum* R0175** with an extract of **saffron** offers a multipronged attack on **anxiety** and **depression** and a way to boost mood without side effects.

Summary

The probiotics ***Lactobacillus helveticus* R0052** and ***Bifidobacterium longum* R0175** work through the gut-brain axis to reduce feelings of depression and anxiety.

Saffron extract interacts with neurotransmitters to improve mood and has been shown to work as well as prescription drugs to treat depression.^{7,43}

A combination of these ingredients is not associated with significant side effects and could help people struggling with anxiety and depression. •

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

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A photograph of a family celebrating Christmas at night. An older woman with short white hair is smiling and hugging a young girl in a yellow sweater. The girl is holding a red gift box with white polka dots. A younger woman with blonde hair, wearing a red and white patterned sweater, is also smiling and holding another red gift box with white polka dots. A white dog is sitting in the foreground, looking towards the family. The background is decorated with warm white string lights and a large, glowing Christmas tree. The scene is set outdoors at night, with a wooden fence visible in the background.

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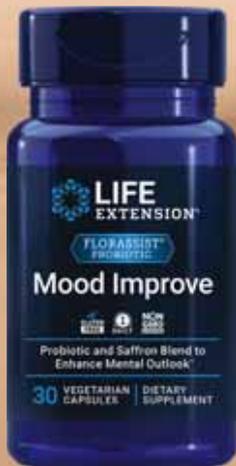
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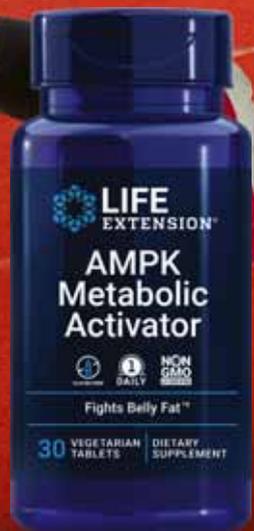
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Contains milk, soybeans.

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Studies show that *increasing* AMPK activity encourages cells to stop storing fat.

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

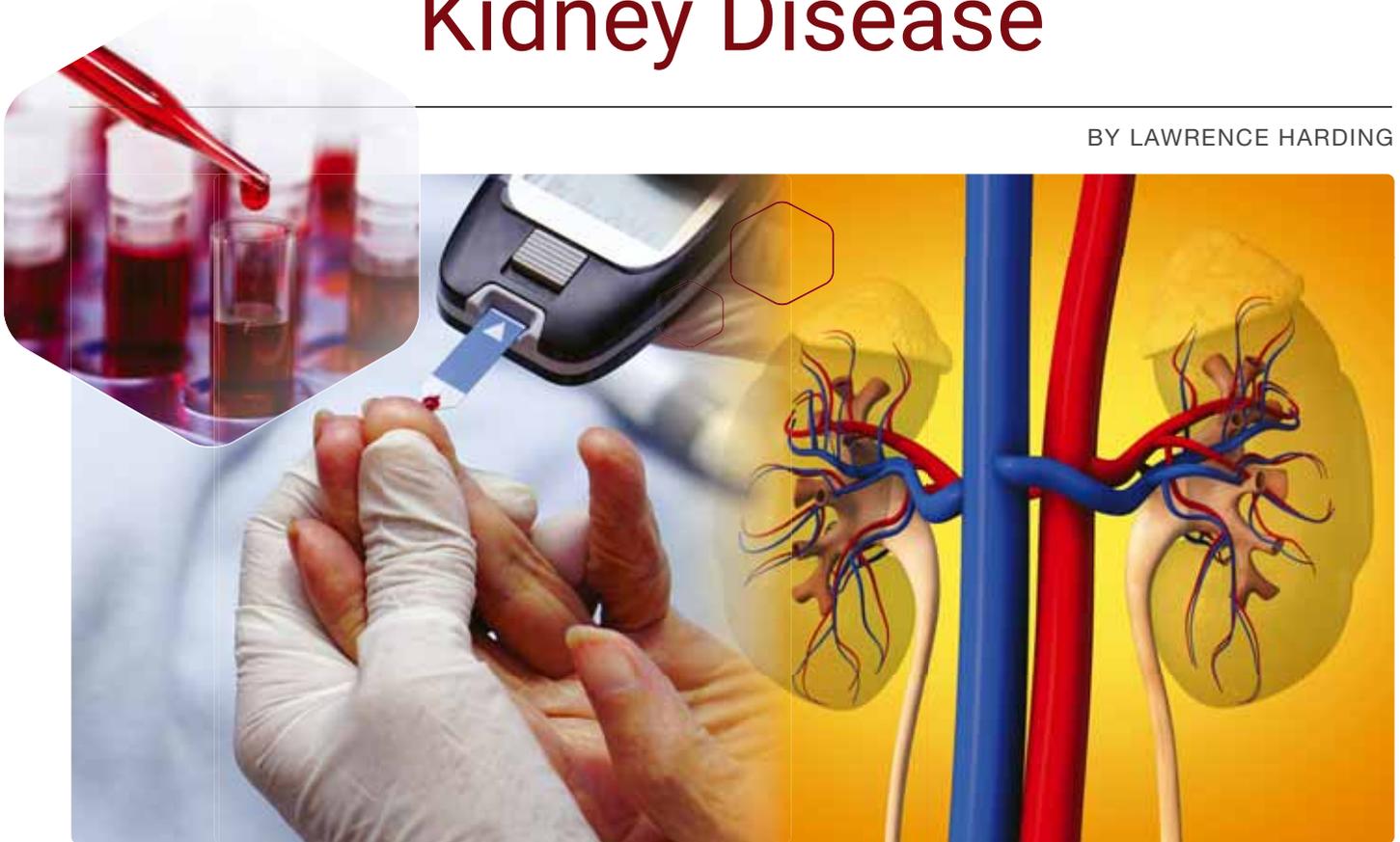
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PQQ and Diabetic Kidney Disease

BY LAWRENCE HARDING



An astonishing **37.3 million** Americans have **diabetes**¹ (type II accounts for **90%-95%** of the cases).²

That's more than **11%** of the population.¹

The prevalence of **diabetes** and **metabolic syndrome** is *increasing* in the U.S.^{3,4}

The **kidneys** are particularly susceptible to the damage caused by high blood sugar.⁵

Recent estimates find that nearly **50%** of people with type II diabetes will eventually suffer from **kidney disease**.⁶ Alarming, as diabetes rates skyrocket, so does the incidence of diabetic kidney disease.⁷

Pyrroloquinoline quinone (PQQ) has been shown in lab and animal studies to **protect the kidneys** and other tissues from the harmful effects of poor blood glucose control.^{5,8-11}

Diabetes and Kidney Disease

When people suffer from metabolic diseases like **diabetes**, chronically high levels of blood sugar can cause widespread damage to most tissues of the body.

Over time, this can lead to risk for multiple long-term complications including cardiovascular disorders, vision loss, neurovascular insufficiency, and kidney failure.¹²

The **kidneys** are especially susceptible to damage in diabetics. Over time, kidney function deteriorates and can lead to **kidney failure**. At that point, an individual will require dialysis or a kidney transplant to survive.¹³

Long before kidney failure develops, people with metabolic disease should do everything possible to protect their kidneys from damage.

PQQ Improves Mitochondrial Function

Pyroloquinoline quinone (PQQ) is a compound produced by many bacteria found in soil.

PQQ is absorbed by plants and is found in fruits and vegetables.¹⁴ It is a vitamin-like compound that has demonstrated impressive biological effects.^{15,16}

One of PQQ's key functions is to support the **mitochondria**, the energy powerhouses found in all cells. It supports optimal mitochondrial function.^{9,17}

As we age, the body experiences a decline in mitochondrial activity and resilience.¹⁸

PQQ has been shown to **improve mitochondrial function** and stimulate the creation of **new mitochondria**.¹⁹⁻²¹

This may help rejuvenate cellular function and counter metabolic disorders like type II diabetes.^{22,23}

In addition to its impact on mitochondria, PQQ inhibits a protein known as **PTP1B**, which is associated with **insulin resistance**.²⁴

Insulin is the hormone that helps cells take up and use glucose. Inhibiting PTP1B improves **insulin sensitivity** in diabetic mice, making cells more responsive to insulin. That **reduces** high blood glucose levels.

In rodent models of **diabetes**, several metabolic problems are normally seen. In addition to high blood glucose, there are elevated levels of cholesterol and triglycerides and reduced levels of antioxidants in tissues.¹⁰

Giving these animals **PQQ** reverses these problems—lowering glucose, cholesterol, and triglycerides while boosting antioxidant protection in tissues, including in the kidneys.^{5,10,11,19,24,25}



Protecting Against Kidney Damage

Kidney disease is one of the most common complications of diabetes. Researchers are constantly searching for ways to defend kidney function and avoid progression to **kidney failure**.

The results of studies in animal models indicate that **PQQ** use helps protect the kidneys, even in the face of diabetes and elevated blood glucose levels.^{5,10,11}

In rodent models of diabetes, the kidneys show signs of significant damage and develop **fibrosis** (scarring). Kidney function is decreased and there are signs of oxidative stress and inflammation in the tissues.⁵

Treating the animals with PQQ **reversed** these changes, **improving kidney function** and **decreasing damage** to the kidneys.

PQQ is believed to accomplish this by enhancing mitochondrial function and relieving oxidative stress.¹⁴

Taking **10 mg to 20 mg** of PQQ daily is often recommended as part of any anti-aging program, and may benefit anyone with elevated blood sugar, diabetes, or other metabolic disease.

Summary

Diabetes and its complications affect millions of people and damage tissues throughout the body. A particularly high number of people with diabetes suffer from **kidney disease**.

Studies in animal models have found that the compound **pyroloquinoline quinone (PQQ)** can **reverse** many of the metabolic problems associated with type II diabetes and **shield kidneys** from the harmful impact of high blood sugar.



It is believed that these beneficial effects result from PQQ's ability to boost mitochondrial function and relieve oxidative stress.

Diabetic animals receiving PQQ have significant improvements to their metabolism and are protected from the kidney damage normally observed in diabetes.

Human studies are urgently needed to assess whether these effects seen in laboratory models translate into improved clinical outcomes. •

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

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SUPER SALE PRICE

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1 bottle **\$20.25**

4 bottles **\$18.23** each

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* *BMC Complement Altern Med.* 2019;19:97. Capros® is patent protected and a registered trademark of Natreon, Inc.



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

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ZINC

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YOUR IMMUNE HEALTH

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

Tina

VERIFIED CUSTOMER REVIEW



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

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

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

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

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*Than unformulated resveratrol

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Liposomal-Hydrogel™

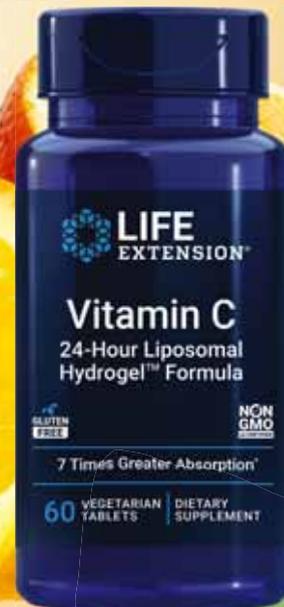


VITAMIN

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

Mary

VERIFIED CUSTOMER REVIEW



SUPER SALE PRICE

Item #02501 • 60 vegetarian tablets

1 bottle \$22.95 • 4 bottles \$20.70 each

For full product description and to order **Vitamin C 24-Hour Liposomal Hydrogel™ Formula**, call 1-800-544-4440 or visit www.LifeExtension.com

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

It also maintains *higher* vitamin levels throughout the day.¹

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

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Restore Youthful Cellular Energy with

PQQ

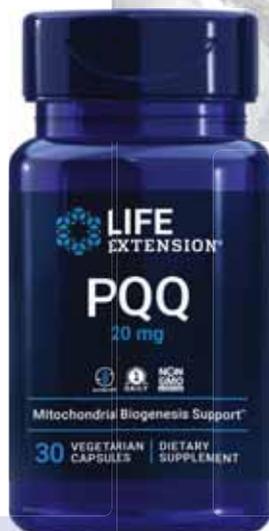
PQQ (*pyrroloquinoline quinone*) activates genes involved in the production of cellular energy.¹⁻⁵

Studies show **PQQ** supports heart health and cognitive function, complementing CoQ10.^{6,7}

In fact, just **20 mg** per day of **PQQ** plus **CoQ10** promotes memory and attention in aging individuals.⁸

This formulation contains **20 mg** of **PQQ** per capsule, which is the recommended daily dose.

For full product description and to order **PQQ** or any other **PQQ-containing formulas**, call 1-800-544-4440 or visit www.LifeExtension.com



SUPER SALE PRICE

Item #01647 • 30 vegetarian capsules

1 bottle **\$21.60** • 4 bottles \$16.20 each



Also available are **10 mg PQQ caps** (Item #01500) and **100 mg Super Ubiquinol CoQ10 with PQQ** (Item #01733).

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Keep Your Heart Healthy and Your Brain Sharp

Taurine has a range of potential anti-aging benefits, but levels in our body decline over time.



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4 bottles \$8.10 each



SUPER SALE PRICE

Item #00133 • 300 grams

1 bottle **\$13.50**
4 bottles \$11.39 each

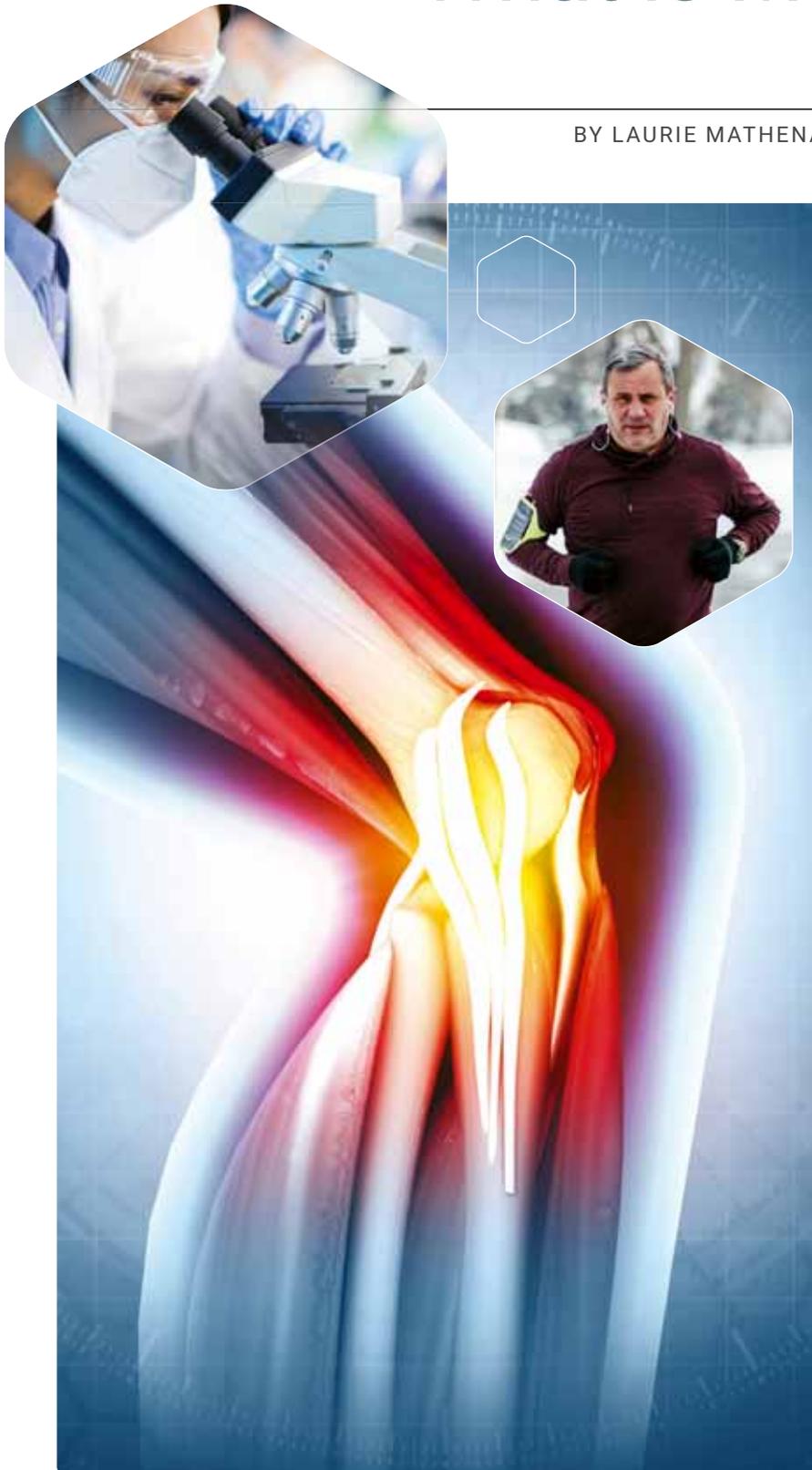


For full product description and to order **Taurine**,
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What is MSM?

BY LAURIE MATHENA



MSM (methylsulfonylmethane) is a compound found in some fruits, vegetables, and grains.¹

Boosting the body's supply of MSM has been shown to **reduce joint pain** and **swelling** in people with **osteoarthritis**, while improving physical function and mobility.

These properties make MSM a popular nutrient for those seeking to support joint health.

Reducing Joint Pain

Human and animal model studies have shown beneficial effects of bathing in sulfur-rich thermal mineral waters.

MSM is a sulfur-containing compound.²

An animal study showed significantly improved **joint mobility** in a treatment group that received baths in sulfur-rich water as compared to a control group that received no treatment, and another control group that was bathed in plain tap water. The sulfur-bath group also had decreased cartilage degeneration compared to controls.³

A human study of participants with osteoarthritis of the hand also showed similar improvements in joint pain and overall quality of life in the treatment group after three months of sulfur water bathing, compared to a control group that bathed in tap water.⁴

Human studies have found that **oral intake** of **MSM** can reduce joint **pain** and improve **physical function** in people suffering from osteoarthritis:

- A randomized, placebo-controlled trial in adults with knee osteoarthritis found that taking **1,125 mg** of **MSM** three times a day for 12 weeks resulted in some improvement in pain and physical function.⁵
- In individuals with knee osteoarthritis, taking **3,000 mg** of MSM twice a day for 12 weeks decreased pain and reduced physical impairment, compared to a placebo.⁶ The MSM group also reported improvements in performing daily activities.
- In people with hip and/or knee osteoarthritis, taking **6,000 mg** of MSM daily for 26 weeks decreased pain and improved functional performance, compared with a placebo.⁷
- In a randomized controlled trial in Japanese people with mild knee joint pain, taking **2,000 mg** of MSM daily for 12 weeks led to a significant reduction in pain as well as improvements in systemic health conditions as compared to placebo.⁸

These results indicate that MSM reduces *arthritis-related joint pain*.

Anti-Inflammatory Effects

Osteoarthritis leads to degradation of joint **cartilage** that cushions the ends of bones, leading to pain, stiffness, and loss of mobility. **Inflammation** is one of the factors that contributes to the destruction of cartilage.



MSM combats osteoarthritis by:¹

1. Fighting inflammation, and
2. Helping prevent cartilage damage.

In preclinical and clinical studies, MSM has well-documented anti-inflammatory effects, which include:

- Inhibiting the inflammation-promoting protein complex NF-kB,
- Inhibiting the release of inflammatory signaling proteins,^{1,9}
- Increasing levels of glutathione,¹ the body's "master antioxidant."

In a preclinical study, MSM supplementation in mice with osteoarthritis resulted in significantly decreased cartilage joint surface degeneration.¹⁰

In a clinical trial of physically active men, participants were randomized to receive **3,000 mg** of MSM or placebo 28 days prior to a knee exercise regimen. It was observed that in the group that

received MSM, there was a reduction of inflammation-inducing **IL-1 beta** as well as a small decrease in proinflammatory cytokines.¹¹

IL-1 beta is a key mediator of inflammatory response that is, along with other proinflammatory molecules, implicated in the destructive process of cartilage.¹

This clinical study in physically active men demonstrated the potential of MSM to help prevent **joint degeneration** in arthritis.

Boosts Effects of Glucosamine and Chondroitin

MSM *enhances* the effects of two popular supplements for joint pain treatment: **glucosamine** and **chondroitin**.

Human studies have shown significant improvement in arthritis-associated pain and stiffness through the use of glucosamine, chondroitin sulfate, and MSM.^{12,13}

A randomized controlled double-blind trial compared glucosamine and chondroitin either alone or combined with **MSM**. The group that received the combination that included **MSM** had significant improvements in pain and physical function after just four weeks.¹⁴

In another randomized, placebo-controlled trial, patients with osteoarthritis took one of the following for 12 weeks:¹⁵

- Glucosamine **1,500 mg** alone,
- MSM **1,500 mg** alone,
- A combination of the Glucosamine and MSM, or
- A placebo.

Compared with the **placebo**, all treatments led to impressive improvements in pain and swelling.

However, in the group taking glucosamine *plus* **MSM**, there was an astounding **79%** reduction in the average **pain** score. The combination also worked *faster* than either treatment alone.

Summary

MSM (methylsulfonylmethane) helps support muscle and joint comfort, promoting joint mobility and function.

Oral intake of MSM can help combat inflammation that contributes to cartilage damage.

In clinical studies of people with osteoarthritis and joint discomfort, MSM reduces pain and swelling and improves physical function and joint mobility. •

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

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Vitamins,¹ manganese,² colostrum,³ turmeric,¹ and 6 probiotics^{1,4,5} in this **chicken-flavored** soft chew supplement helps support a dog's overall health and diverse microbiome.



SUPER SALE PRICE

Item #02524 • 90 soft chews
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1 jar \$26.33 | 4 jars \$24.75 each

Stress & Behavior

L-theanine¹ and melatonin¹ in this **bacon-flavored** soft chew supplement helps promote calmness and relaxation so your dog can keep an even keel.



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Item #02525 • 120 soft chews
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Hip & Joints

In human and animal studies PEA,⁹ glucosamine,^{1,10} and MSM¹ supplementation have been shown to promote healthy, comfortable joints. This **beef-flavored** soft chew supplement is just what your dog needs to keep moving comfortably.



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Item #02523 • 90 soft chews
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1 jar \$32.40 | 4 jars \$30.60 each

Skin & Coat

This **salmon-flavored** soft chew supplement contains **omega-3**-rich fish oil for healthy coat and skin. This has been shown in clinical studies to help promote skin and coat health for dogs with sensitive skin⁶ and to maintain a healthy coat.⁶⁻⁸



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1 jar \$26.33 | 4 jars \$24.75 each

For full product description and to order Life Extension® DOG, call 1-800-544-4440 or visit www.LifeExtension.com/PetCare

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9. *Nutrients*. 2023, 15(6), 1350;
10. *J Am Vet Med Assoc*. 2007 2 15;230(4):514-21.

PYCNOGENOL®

*Powerful Protection from
Factors of Premature Aging*

Pycnogenol® is a potent plant extract from French maritime pine bark that protects against factors of premature aging in **multiple, synergistic** ways:

- **Supports** healthy cell membrane and DNA function
- **Modulates** inflammatory factors through normal mechanisms
- **Fights** oxidative stress
- **Supports** healthy cellular metabolism



SUPER SALE PRICE

Item #01637

60 vegetarian capsules

1 bottle **\$43.20**

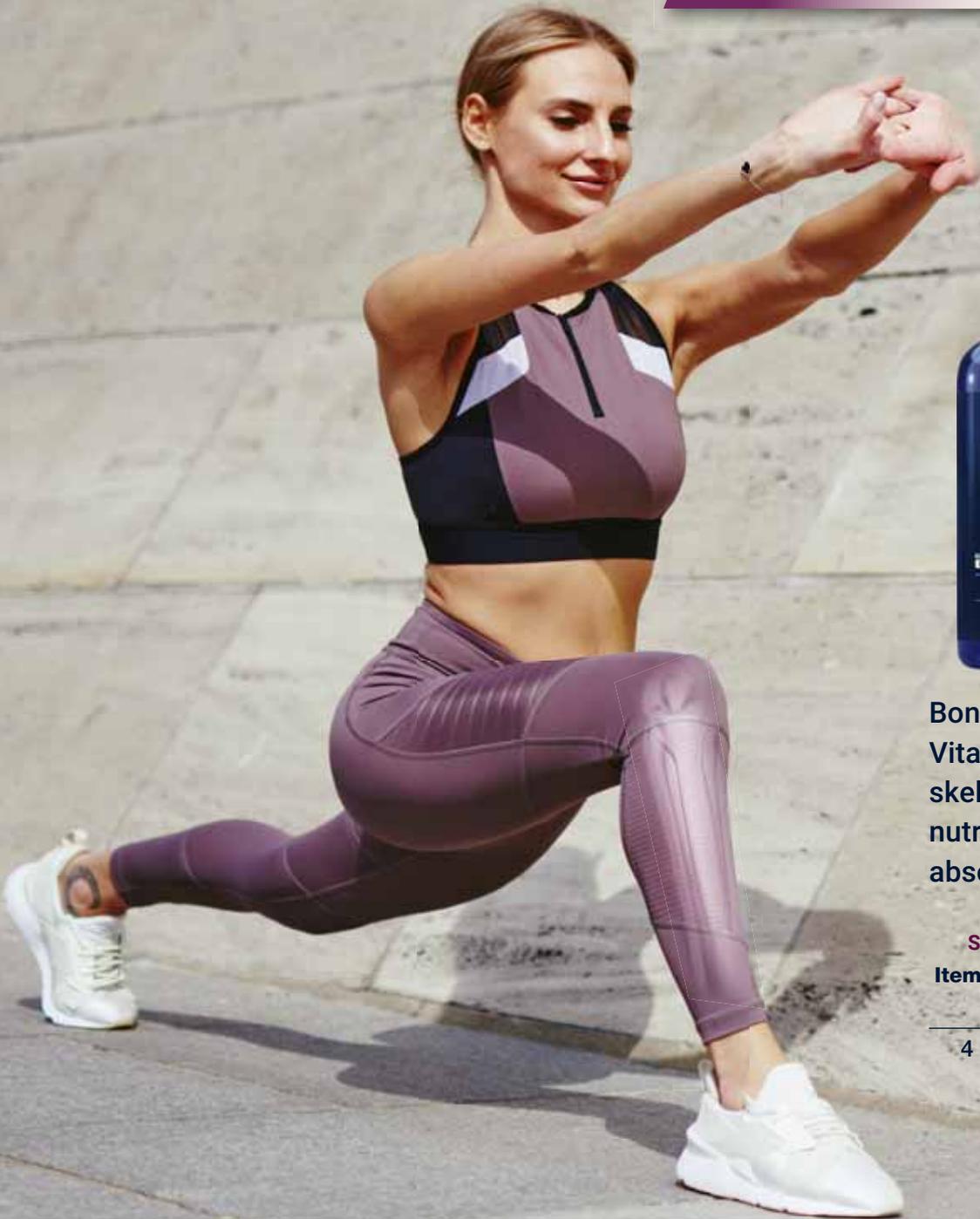
4 bottles \$40.50 each

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

Pycnogenol® is a registered trademark
of Horphag Research Ltd.

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

YOUR **BONE** HEALTH...NOW **BOOSTED**



Bone Restore with Vitamin K2 combines skeletal-strengthening nutrients in one highly absorbable formula.

SUPER SALE PRICE

Item #01727 • 120 capsules

1 bottle **\$16.20**

4 bottles \$14.85 each

For full product description and to order **Bone Restore with Vitamin K2**, call **1-800-544-4440** or visit www.LifeExtension.com

Caution: Those taking the anticoagulant drug Coumadin® (warfarin) should use Bone Restore without vitamin K2.

Fruitex B® and OsteoBoron® are registered trademarks of VDF Futureceuticals, Inc. U.S. patent #5,962,049.



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.

Make Every Day a Sunny Day!

"This is a necessary ingredient
for my health."

James

VERIFIED CUSTOMER REVIEW



Even when the forecast doesn't call for blue skies, you can still make sure you're getting enough of the sunshine vitamin. Our **Vitamin D3** offers 125 mcg (5000 IU) of this essential vitamin that supports bone, heart, brain and immune health and more, so you can bask in the benefits of a sunny day—*every day.*

For full product description and to order **Vitamin D3**, call **1-800-544-4440** or visit **www.LifeExtension.com**.

SUPER SALE PRICE

Item #01713

125 mcg (5000 IU) • 60 softgels

1 bottle **\$6.75** • 4 bottles \$5.85 each

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



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

ACTIVE LIFESTYLE & FITNESS

- 01529 Creatine Capsules
- 02020 Super Carnosine
- 02023 Tart Cherry with CherryPURE®
- 02186 Wellness Bar - Chocolate Brownie
- 02518 Wellness Bar - Peanut Butter Chocolate Chip
- 02246C Wellness Code® Advanced Whey Protein Isolate Vanilla
- 02221 Wellness Code® Muscle Strength & Restore Formula
- 02127 Wellness Code® Plant Protein Complete & Amino Acid Complex
- 02261C Wellness Code® Whey Protein Concentrate Chocolate
- 02260 Wellness Code® Whey Protein Concentrate Vanilla
- 02243C Wellness Code® Whey Protein Isolate Chocolate
- 02242 Wellness Code® Whey Protein Isolate Vanilla

AMINO ACIDS

- 00038 Arginine Ornithine Powder
- 01253 Branched Chain Amino Acids
- 01829 Carnosine
- 01671 D,L-Phenylalanine Capsules
- 01624 L-Arginine Caps
- 01532 L-Carnitine
- 00345 L-Glutamine
- 00141 L-Glutamine Powder
- 01678 L-Lysine
- 01827 Taurine
- 00133 Taurine Powder

BLOOD PRESSURE & VASCULAR SUPPORT

- 01824 Advanced Olive Leaf Vascular Support
- 02004 Arterial Protect
- 02497 Endothelial Defense™ Pomegranate Plus
- 56885 Natto Activ Cardiovascular & Respiratory Support
- 02320 NitroVasc™ Boost
- 01953 Pomegranate Complete
- 00956 Pomegranate Fruit Extract
- 02024 Triple Action Blood Pressure AM/PM
- 02102 VenoFlow™

BONE HEALTH

- 01726 Bone Restore
- 02123 Bone Restore Chewable Tablet
- 02416 Bone Restore Elite with Super Potent K2
- 01727 Bone Restore with Vitamin K2
- 01725 Bone Strength Collagen Formula
- 01963 Calcium Citrate with Vitamin D
- 01506C Dr. Strum's Intensive Bone Formula
- 02417 Mega Vitamin K2
- 01476 Strontium Caps

BRAIN HEALTH

- 01524 Acetyl-L-Carnitine
- 01974 Acetyl-L-Carnitine Arginate
- 02419 B12 Elite
- 02510 Brain Fog Relief
- 01659 CDP Choline
- 02321 Cognitex® Alpha GPC
- 02396 Cognitex® Elite
- 02397 Cognitex® Elite Pregnenolone

- 01540 DMAE Bitartrate
- 02006 Dopa-Mind™
- 02413 Dopamine Advantage
- 01658 Ginkgo Biloba Certified Extract™
- 01527 Huperzine A
- 00020 Lecithin
- 02101 Memory Protect
- 00709 Migra-Eeze™
- 01603 Neuro-Mag® Magnesium L-Threonate Caps
- 02032 Neuro-Mag® Magnesium L-Threonate Powder
- 00888 Optimized Ashwagandha
- 01676 PS (Phosphatidylserine) Caps
- 02406 Quick Brain Nootropic
- 01327 Vinpocetine

CHOLESTEROL MANAGEMENT

- 01828 Advanced Lipid Control
- 01910 CHOL-Support™
- 01304 Theaflavins Standardized Extract
- 00372 Vitamin B3 Niacin Capsules

DIGESTION SUPPORT

- 02412 Bloat Relief
- 02514 Easy Fiber
- 01736 Effervescent Vitamin C - Magnesium Crystals
- 02021 Enhanced Super Digestive Enzymes
- 02022 Enhanced Super Digestive Enzymes and Probiotics
- 02033 EsophaCool™
- 01737 Esophageal Guardian
- 01706 Extraordinary Enzymes
- 02100 Gastro-Ease™

ENERGY MANAGEMENT

- 01628C Adrenal Energy Formula • 60 veg capsules
- 01630C Adrenal Energy Formula • 120 veg capsules
- 00972 D-Ribose Powder
- 01473 D-Ribose Tablets
- 01900 Energy Renew
- 01544 Forskolin
- 01805 Ginseng Energy Boost
- 01869 Mitochondrial Basics with PQQ
- 01868 Mitochondrial Energy Optimizer with PQQ
- 01904 NAD+ Cell Regenerator™ • 100 mg, 30 veg capsules
- 02344 NAD+ Cell Regenerator™ 300 mg, 30 veg capsules
- 02348 NAD+ Cell Regenerator™ and Resveratrol Elite™
- 01500 PQQ Caps • 10 mg, 30 vegetarian capsules
- 01647 PQQ Caps • 20 mg, 30 vegetarian capsules
- 00889 Rhodiola Extract
- 02003 Thyroid Support Complex

EYE HEALTH

- 01923 Astaxanthin with Phospholipids
- 00893 Brite Eyes III
- 02323 Digital Eye Support
- 01514 Eye Pressure Support with Mirtogenol®
- 01992 MacuGuard® Ocular Support with Saffron
- 01993 MacuGuard® Ocular Support with Saffron & Astaxanthin
- 01873 Standardized European Bilberry Extract
- 01918 Tear Support with MaquiBright®

FISH OIL & OMEGAS

- 01937 Mega EPA/DHA
- 02218 Mega GLA Sesame Lignans
- 01983 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 60 softgels
- 01988 Super Omega-3 Plus EPA/DHA Fish Oil, Sesame Lignans, Olive Extract, Krill & Astaxanthin
- 01982 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 softgels
- 01985 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 60 enteric coated softgels
- 01984 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 120 enteric coated softgels
- 01986 Super Omega-3 EPA/DHA Fish Oil, Sesame Lignans & Olive Extract • 240 softgels
- 01812 Provinal® Purified Omega-7
- 01640 Vegetarian DHA

FOOD

- 02008 California Estate Extra Virgin Olive Oil
- 02170 Rainforest Blend Decaf Ground Coffee
- 02169 Rainforest Blend Ground Coffee
- 02171 Rainforest Blend Whole Bean Coffee

GLUCOSE MANAGEMENT

- 01503 CinSulin® with InSea²® and Crominex® 3+
- 01620 CoffeeGenic® Green Coffee Extract
- 02122 Glycemic Guard™
- 00925 Mega Benfotiamine
- 01803 Tri Sugar Shield®

HEART HEALTH

- 01066 Aspirin (Enteric Coated)
- 01842 BioActive Folate & Vitamin B12 Caps
- 01700 Cardio Peak™
- 02121 Homocysteine Resist
- 02508 Omega-3 Fish Oil Gummy Bites
- 02018 Optimized Carnitine
- 01949 Super-Absorbable CoQ10 Ubiquinone with *d*-Limonene • 50 mg, 60 softgels
- 01951 Super-Absorbable CoQ10 Ubiquinone with *d*-Limonene • 100 mg, 60 softgels
- 01929 Super Ubiquinol CoQ10
- 01427 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 30 softgels
- 01425 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 50 mg, 100 softgels
- 01437 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 30 softgels
- 01426 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 100 mg, 60 softgels
- 01431 Super Ubiquinol CoQ10 with Enh Mitochondrial Support™ • 200 mg, 30 softgels
- 01733 Super Ubiquinol CoQ10 with PQQ
- 01859 TMG Liquid Capsules
- 00349 TMG Powder

HORMONE BALANCE

- 00454 DHEA • 15 mg, 100 capsules
- 00335 DHEA • 25 mg, 100 capsules
- 00882 DHEA • 50 mg, 60 capsules

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

IMMUNE SUPPORT

- 02302 Bio-Quercetin
- 02410 Black Elderberry + Vitamin C
- 02433 Echinacea Elite
- 01961 Enhanced Zinc Lozenges
- 01704 Immune Modulator with Tinofend®
- 02425 Immune Packs with Vitamin C & D, Zinc and Probiotic
- 02005 Immune Senescence Protection Formula™
- 01681 Lactoferrin (Apolactoferrin) Caps
- 02426 Mushroom Immune with Beta Glucans
- 01903 NK Cell Activator™
- 01394 Optimized Garlic
- 01309 Optimized Quercetin
- 01811 Peony Immune
- 01708 Reishi Extract Mushroom Complex
- 01906 Standardized Cistanche
- 01097 Ultra Soy Extract
- 01561 Zinc Lozenges

INFLAMMATION MANAGEMENT

- 01639 5-LOX Inhibitor with AprèsFlex®
- 02324 Advanced Curcumin Elite™
Turmeric Extract, Ginger & Turmerones
- 01709 Black Cumin Seed Oil
- 02310 Black Cumin Seed Oil and Curcumin Elite™
- 02467 Curcumin Elite™ Turmeric Extract
30 veg capsules
- 02407 Curcumin Elite™ Turmeric Extract
60 veg capsules
- 01804 Cytokine Suppress® with EGCG
- 02223 Pro-Resolving Mediators
- 56886 Restore Activ Joint Muscle & Tissue
- 01203 Specially-Coated Bromelain
- 00407 Super Bio-Curcumin® Turmeric Extract

JOINT SUPPORT

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

KIDNEY & BLADDER SUPPORT

- 00862 Cran-Max® Cranberry Whole Fruit Concentrate
- 01424 Optimized Cran-Max®
- 01921 Uric Acid Control
- 01209 Water-Soluble Pumpkin Seed Extract

LIVER HEALTH & DETOXIFICATION

- 01922 Advanced Milk Thistle • 60 softgels
- 01925 Advanced Milk Thistle • 120 softgels
- 02240C Anti-Alcohol Complex
- 01651 Calcium D-Glucarate
- 01571 Chlorophyllin
- 02402 FLORASSIST® Liver Restore™
- 02521 Glutathione
- 01541 Glutathione, Cysteine & C
- 01393 HepatoPro
- 01608 Liver Efficiency Formula
- 01522 Milk Thistle • 60 veg capsules
- 01534 N-Acetyl-L-Cysteine
- 01884 Silymarin
- 02361 SOD Booster

LONGEVITY & WELLNESS

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

LUNG HEALTH

- 02512 Healthy Lungs

MEN'S HEALTH

- 02209 Male Vascular Sexual Support
- 00455 Mega Lycopene Extract
- 02306 Men's Bladder Control
- 02515 Men's Vitality Packs
- 01789 PalmettoGuard® Saw Palmetto and Beta-Sitosterol
- 01790 PalmettoGuard® Saw Palmetto/Nettle Root Formula and Beta-Sitosterol
- 01373 Prelox® Enhanced Sex for Men
- 01940 Super MiraForte with Standardized Lignans
- 02500 Testosterone Elite
- 01909 Triple Strength ProstaPollen™
- 02029 Ultra Prostate Formula

MINERALS

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

MISCELLANEOUS

- 00577 Potassium Iodide

MOOD & STRESS MANAGEMENT

- 02519 Ashwagandha Plus
- 02434 Calm-Mag
- 02312 Cortisol-Stress Balance
- 00987 Enhanced Stress Relief
- 01683 L-Theanine
- 02175 SAME (S-Adenosyl-Methionine)
200 mg, 30 enteric coated vegetarian tablets
- 02176 SAME (S-Adenosyl-Methionine)
400 mg, 30 enteric coated vegetarian tablets
- 02174 SAME (S-Adenosyl-Methionine)
400 mg, 60 enteric coated vegetarian tablets
- 02429 Theanine XR™ Stress Relief

MULTIVITAMINS

- 02199 Children's Formula Life Extension Mix™
- 02354 Life Extension Mix™ Capsules
- 02364 Life Extension Mix™ Capsules without Copper
- 02356 Life Extension Mix™ Powder
- 02355 Life Extension Mix™ Tablets
- 02357 Life Extension Mix™ Tablets with Extra Niacin
- 02365 Life Extension Mix™ Tablets without Copper
- 02292 Once-Daily Health Booster • 30 softgels
- 02291 Once-Daily Health Booster • 60 softgels
- 02313 One-Per-Day Tablets
- 02428 Plant-Based Multivitamin
- 02317 Two-Per-Day Capsules • 60 capsules
- 02314 Two-Per-Day Capsules • 120 capsules
- 02316 Two-Per-Day Tablets • 60 tablets
- 02315 Two-Per-Day Tablets • 120 tablets

NERVE & COMFORT SUPPORT

- 02202 ComfortMAX™
- 02303 Discomfort Relief

PERSONAL CARE

- 02322 Hair, Skin & Nails Collagen Plus Formula
- 01278 Life Extension Toothpaste
- 00408 Venotone
- 02304C Youthful Collagen
- 02252 Youthful Legs

PET CARE

- 01932 Cat Mix
- 01931 Dog Mix
- 02523 DOG™ Hip & Joints
- 02524 DOG™ Multivitamin & Probiotics
- 02522 DOG™ Skin & Coat
- 02525 DOG™ Stress & Behavior

PROBIOTICS

- 01622 Bifido GI Balance
- 01825 FLORASSIST® Balance
- 02421 FLORASSIST® Daily Bowel Regularity
- 02125 FLORASSIST® GI with Phage Technology
- 01821 FLORASSIST® Heart Health
- 02250 FLORASSIST® Mood Improve
- 02208 FLORASSIST® Immune & Nasal Defense
- 02120 FLORASSIST® Oral Hygiene
- 02203 FLORASSIST® Prebiotic
- 02505 FLORASSIST® Probiotic Women's Health

SKIN CARE

- 02423 Daily Skin Defense
- 01938 Shade Factor™
- 02129 Skin Care Collection Anti-Aging Serum
- 02130 Skin Care Collection Day Cream
- 02131 Skin Care Collection Night Cream
- 02096 Skin Restoring Ceramides

SLEEP

- 01512 Bioactive Milk Peptides
- 02300 Circadian Sleep
- 01511 Enhanced Sleep without Melatonin
- 02234 Fast-Acting Liquid Melatonin
- 01669 Glycine
- 02308 Herbal Sleep PM
- 01722 L-Tryptophan
- 01668 Melatonin • 300 mcg, 100 veg capsules
- 01083 Melatonin • 500 mcg, 200 veg capsules
- 00329 Melatonin • 1 mg, 60 capsules
- 02503 Melatonin • 3 mg, 60 gummies
- 00330 Melatonin • 3 mg, 60 veg capsules
- 00331 Melatonin • 10 mg, 60 veg capsules
- 00332 Melatonin • 3 mg, 60 veg lozenges
- 02201 Melatonin IR/XR
- 01787 Melatonin 6 Hour Timed Release
300 mcg, 100 veg tablets
- 01788 Melatonin 6 Hour Timed Release
750 mcg, 60 veg tablets
- 01721 Optimized Tryptophan Plus
- 01445 Quiet Sleep Melatonin • 5 mg, 60 veg capsules
- 02502 Rest & Renew
- 02526 Serene Sleep

VITAMINS

- 01533 Ascorbyl Palmitate
- 00920 Benfotiamine with Thiamine
- 01945 BioActive Complete B-Complex
- 00102 Biotin
- 00084 Buffered Vitamin C Powder
- 02229 Fast-C® and Bio-Quercetin Phytosome

- 02075 Gamma E Mixed Tocopherol Enhanced with Sesame Lignans
- 02070 Gamma E Mixed Tocopherol & Tocotrienols
- 01913 High Potency Optimized Folate
- 01674 Inositol Caps
- 02244 Liquid Vitamin D3 • 50 mcg (2000 IU)
- 02232 Liquid Vitamin D3 (Mint) • 50 mcg (2000 IU)
- 01936 Low-Dose Vitamin K2
- 00373 No Flush Niacin
- 01939 Optimized Folate (L-Methylfolate)
- 01217 Pyridoxal 5'-Phosphate Caps
- 01400 Super Absorbable Tocotrienols
- 02334 Super K
- 01863 Super Vitamin E
- 02422 Vegan Vitamin D3
- 02028 Vitamin B5 (Pantothenic Acid)
- 01535 Vitamin B6
- 00361 Vitamin B12 Methylcobalamin
- 01536 Vitamin B12 Methylcobalamin
1 mg, 60 veg lozenges
- 01537 Vitamin B12 Methylcobalamin
5 mg, 60 veg lozenges
- 02228 Vitamin C and Bio-Quercetin®
60 veg tablets
- 02227 Vitamin C and Bio-Quercetin®
250 veg tablets
- 01753 Vitamin D3 • 25 mcg (1000 IU), 90 softgels
- 01751 Vitamin D3 • 25 mcg (1000 IU), 250 softgels
- 01713 Vitamin D3 • 125 mcg (5000 IU), 60 softgels
- 01718 Vitamin D3 • 175 mcg (7000 IU), 60 softgels
- 01758 Vitamin D3 with Sea-Iodine™
- 02040 Vitamins D and K with Sea-Iodine™

WEIGHT MANAGEMENT & BODY COMPOSITION

- 02479 7-Keto® DHEA Metabolite
100 mg, 60 veg capsules
- 02207 AMPK Metabolic Activator
- 02504 Body Trim and Appetite Control
- 02478 DHEA Complete
- 02506C Mediterranean Weight Management
- 01432 Optimized Saffron
- 02511 Thermo Weight Control
- 02509 Waistline Control™

WOMEN'S HEALTH

- 01942 Breast Health Formula
- 01626 Enhanced Sex for Women 50+
- 01894 Estrogen for Women
- 02204 Menopause 731™
- 02319 Prenatal Advantage
- 01649 Soy Isoflavones
- 02513 Women's Bladder Support

Make your
mobility and
daily exercise
a joint effort.

KEEP MOVING



MSM (*methylsulfonylmethane*) helps maintain comfortable muscles and **joints** and promotes healthy muscle structure after exercise.

Human trials show that **MSM** helps:¹⁻⁵

- Promote healthy **joints'** mobility & flexibility
- Ease joint stiffness due to normal daily exercise and activity
- Support a healthy inflammatory response
- Maintain normal muscle recovery following daily activity

Life Extension® MSM provides **3,000 mg** of **MSM** per serving of **3 capsules**.

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



References

1. *Nutrients*. 2023. 6 30;15(13):2995.
2. *Muscles*. 2023. 2(2), 204-217.
3. *Nutrients*. 2017 3; 9(3): 290.
4. *J Pharm Pharmacol*. 2011 10;63(10):1290-4.
5. *J Int Soc Sports Nutr*. 2012; 9(1):46.

SUPER SALE PRICE
Item #00451 • 1000 mg
100 capsules
1 bottle **\$9.45**
4 bottles \$8.06 each



"I have taken this supplement for a long time. It works!"

Ingrid

VERIFIED CUSTOMER REVIEW

Tilt Your Bacteria Ratio for a Healthy Digestive Tract

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

FLORASSIST® GI provides a 7-strain blend of **probiotics** in a **dual encapsulation** formula to deliver beneficial bacteria and **phages** where you need them the most.



Dual-Encapsulation Delivery



SUPER SALE PRICE

Item #02125

30 liquid vegetarian capsules

1 bottle **\$22.28**

4 bottles \$20.25 each

GLUTEN FREE

**NON GMO
LE CERTIFIED**

For full product description and to order **FLORASSIST® GI with Phage Technology**, call **1-800-544-4440** or visit www.LifeExtension.com

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



IN THIS EDITION OF *LIFE EXTENSION* MAGAZINE[®]



7 EXPONENTIAL KNOWLEDGE GROWTH

An exceptional number of new studies show that people who ingest more plant foods live longer and suffer fewer illnesses.



24 PROTECT LUNG FUNCTION

Lung function declines with age. A **clinical trial** showed that two **plant compounds** *protect* the lungs from damage and *boost lung capacity* by **30%**.



34 DELIVER MORE QUERCETIN TO YOUR CELLS

A **clinical trial** found that a novel formulation *increases quercetin bioavailability* by **62%** and boosts *bioactive free quercetin* by **18%**.



46 REDUCE ANXIETY/DEPRESSION WITH PROBIOTICS

Poor gut health is linked to depression. In a clinical trial two **probiotic** strains produced a **50% improvement** in **depression scores** without side effects or medication.



59 PQQ AND DIABETIC KIDNEY DISEASE

PQQ has been shown in lab and animal studies to *protect the kidneys* from the harmful effects of elevated blood **glucose**.



69 WHAT IS MSM?

MSM, rich in sulfur, has been shown to *reduce joint pain*, while improving function and mobility in clinical trials of **osteoarthritis** patients.