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LifeExtension.com

January 2024

FEATURE ARTICLES

- 7 Exponential Knowledge Growth
- 24 Protect Lungs from Pollution
- 34 Deliver More Quercetin to Cells
- 46 Probiotic Effects on Anxiety/Depression
- 59 PQQ and Diabetic Kidney disease
- 69 What is MSM?

Impact of Plant Foods on Healthy Aging



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02407	Curcumin Elite™ Turmeric Extract • 60 vegetarian capsules Patented turmeric extract provides 45x <i>greater</i> free curcuminoid bioavailability.	\$24.00	\$19.80 ea.	18%
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REPORTS



Page 34
ON THE COVER

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

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



46 REDUCE ANXIETY AND DEPRESSION WITH PROBIOTICS

Researchers have discovered a link between poor gut health and depression. In a clinical trial two **probiotic** strains produced a **50% improvement** in **depression scores** without side effects or medication.



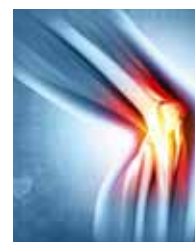
59 PQQ AND DIABETIC KIDNEY DISEASE

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, is found in the human body. Clinical studies show that MSM *reduces* **joint pain** and swelling in **osteoarthritis** patients, while improving physical function and mobility.



DEPARTMENTS

7 EXPONENTIAL KNOWLEDGE GROWTH

An explosion of studies over four decades shows that people who ingest more **plant foods** live longer and suffer fewer illnesses.

17 IN THE NEWS

Statins may reduce cardiovascular risk in HIV patients; some antacid drugs raise dementia risk; higher antioxidant intake linked to lower gout risk; just over half a table-spoon of olive oil daily lowers risk of dying of dementia.





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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.

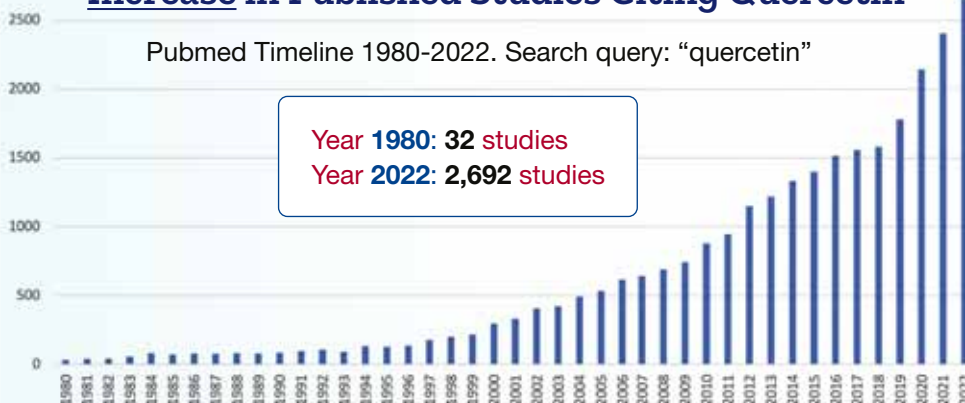


This graph is published by the National Library of Medicine (www.pubmed.gov) and appears when the search term "quercetin" is entered. It shows that in **1980**, there were 32 studies published that mentioned quercetin. Beginning in **1995**, the number began to increase and surged to **2,692** new studies 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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Supports Improvement
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Neuro-Mag[®] Magnesium L-Threonate is an absorbable form of magnesium, well-studied for its brain health benefits.

Neuro-Mag[®] helps improve memory and cognition.

SUPER SALE PRICE

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SUPER SALE PRICE

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For full product description and to order **Neuro-Mag[®] Magnesium L-Threonate** or **Neuro-Mag[®] Magnesium L-Threonate Powder**, call 1-800-544-4440 or visit www.LifeExtension.com

* 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

Item #01988 • 120 softgels

1 bottle **\$34.43**

4 bottles \$30.60 each



SUPER OMEGA-3*
EPA/DHA Fish Oil,
Sesame Lignans & Olive Extract
(2,400 mg of EPA + DHA in four softgels)

SUPER SALE PRICE

Item #01982 • 120 softgels

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

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



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

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Two-Per-Day Beats Centrum® in 10 Ways

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.*

SUPER SALE PRICE

Item #02314 • 120 capsules | 1 bottle \$15.30 | 4 bottles \$17.22 each

Item #02315 • 120 capsules | 1 bottle \$16.54 | 4 bottles \$14.63 each

(Each bottle provides a two-month supply)

*Formula compared to Centrum® Silver® Adults 50+.

For full product description and to order **Two-Per-Day Multivitamin**,
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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!

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

(1,000 mcg of lithium per tiny cap)

SUPER SALE PRICE

Item #02403

100 vegetarian capsules

1 bottle \$10.80

4 bottles \$9.45 each

Each bottle lasts 100 days.

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



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QUERCETIN: IMMUNE SUPPORT AND MORE

more quercetin

UP TO 62 TIMES GREATER BIOAVAILABILITY

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**.



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4 bottles \$7.20 each



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Up Your Game

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.



SUPER SALE PRICE

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60 softgels

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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*.*

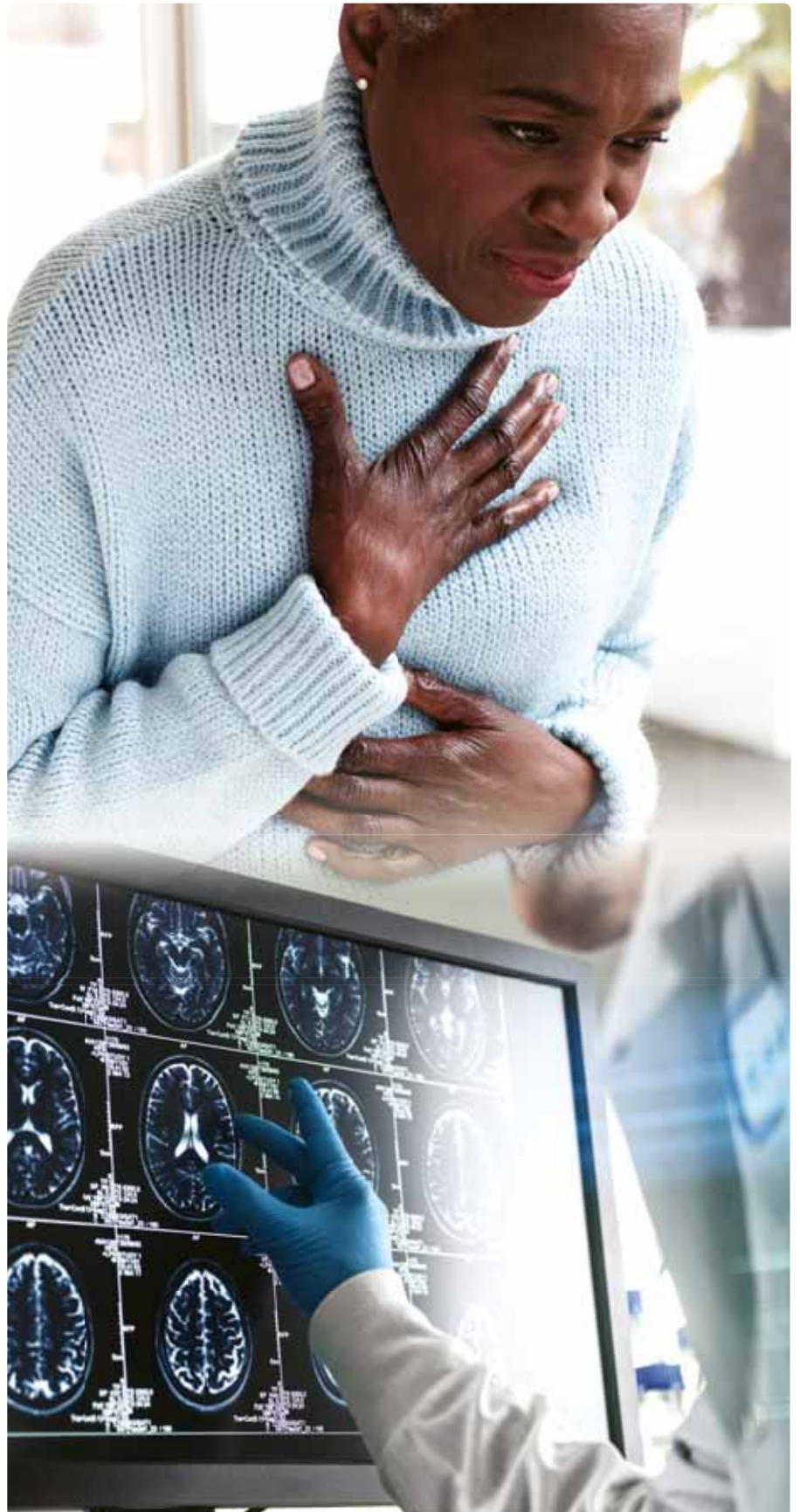
PPIs are drugs used to treat heartburn and acid-related disorders that work by reducing stomach acid production.

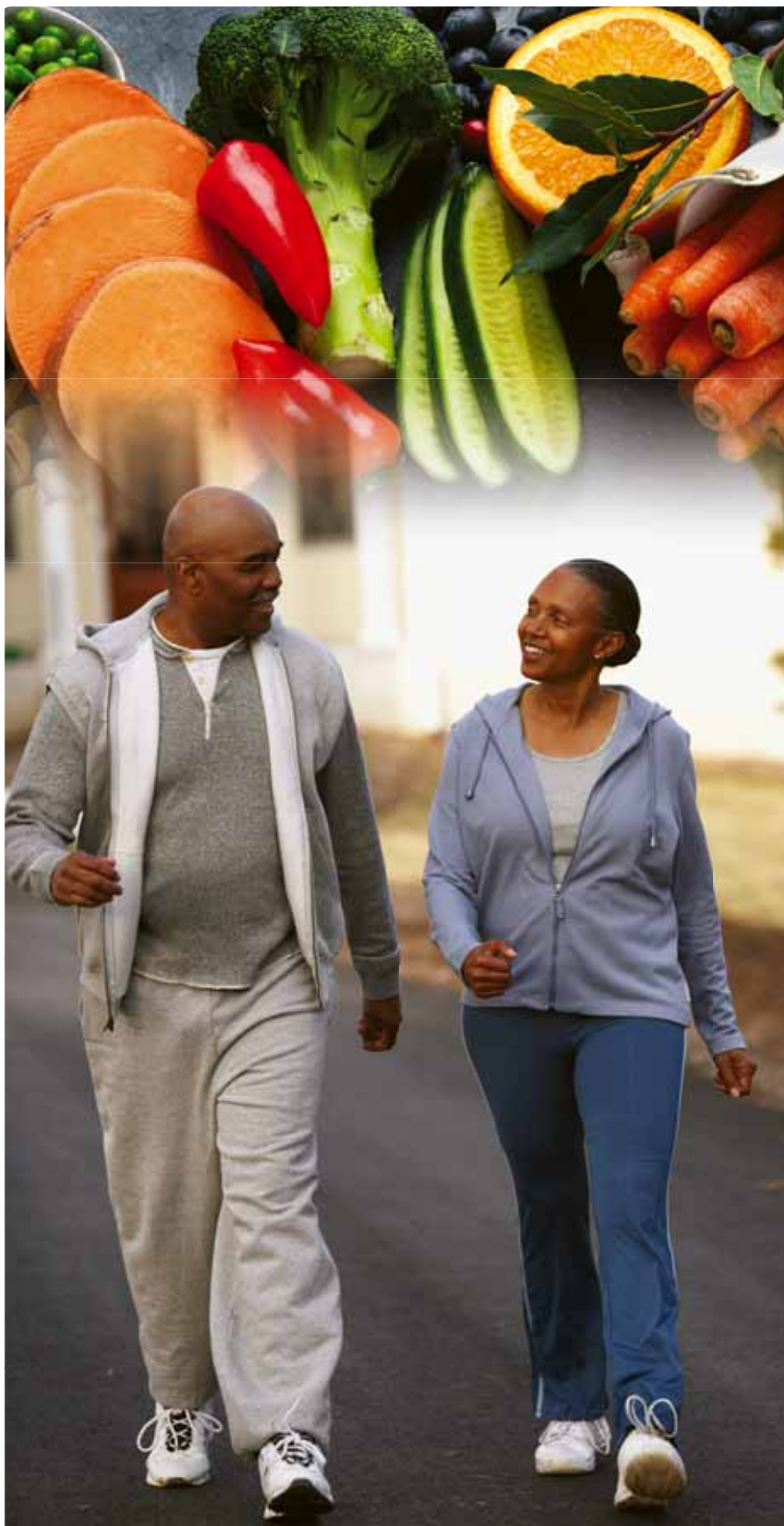
Using data from the Atherosclerosis Risk in Communities Study from 1987 to 2017, researchers evaluated the use of PPIs with dementia risk in 5,712 dementia-free participants, (mean age 75.4 ± 5.1 years).

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.

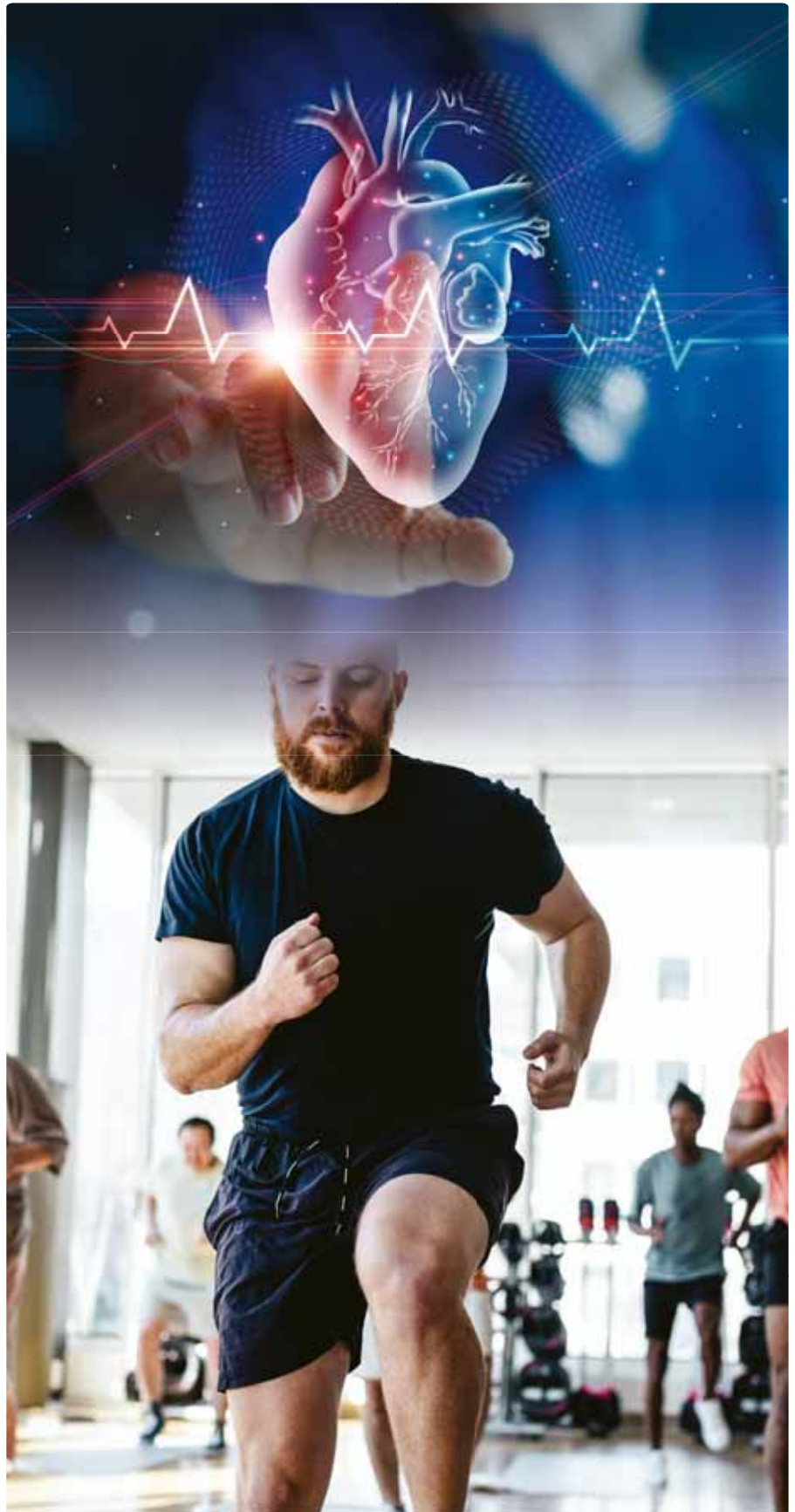
Participants took either a placebo or **4 mg** per day of **pitavastatin calcium** (a statin drug).

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

Item #01918

30 vegetarian capsules

1 bottle **\$12.15**

4 bottles **\$10.80 each**



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B

*Brainy, Bubbly, Bold, Brave,
Brilliant, Boundless.*



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SUPER SALE PRICE

Item #01945
60 vegetarian capsules
1 bottle **\$8.10**
4 bottles \$7.20 each

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.

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

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

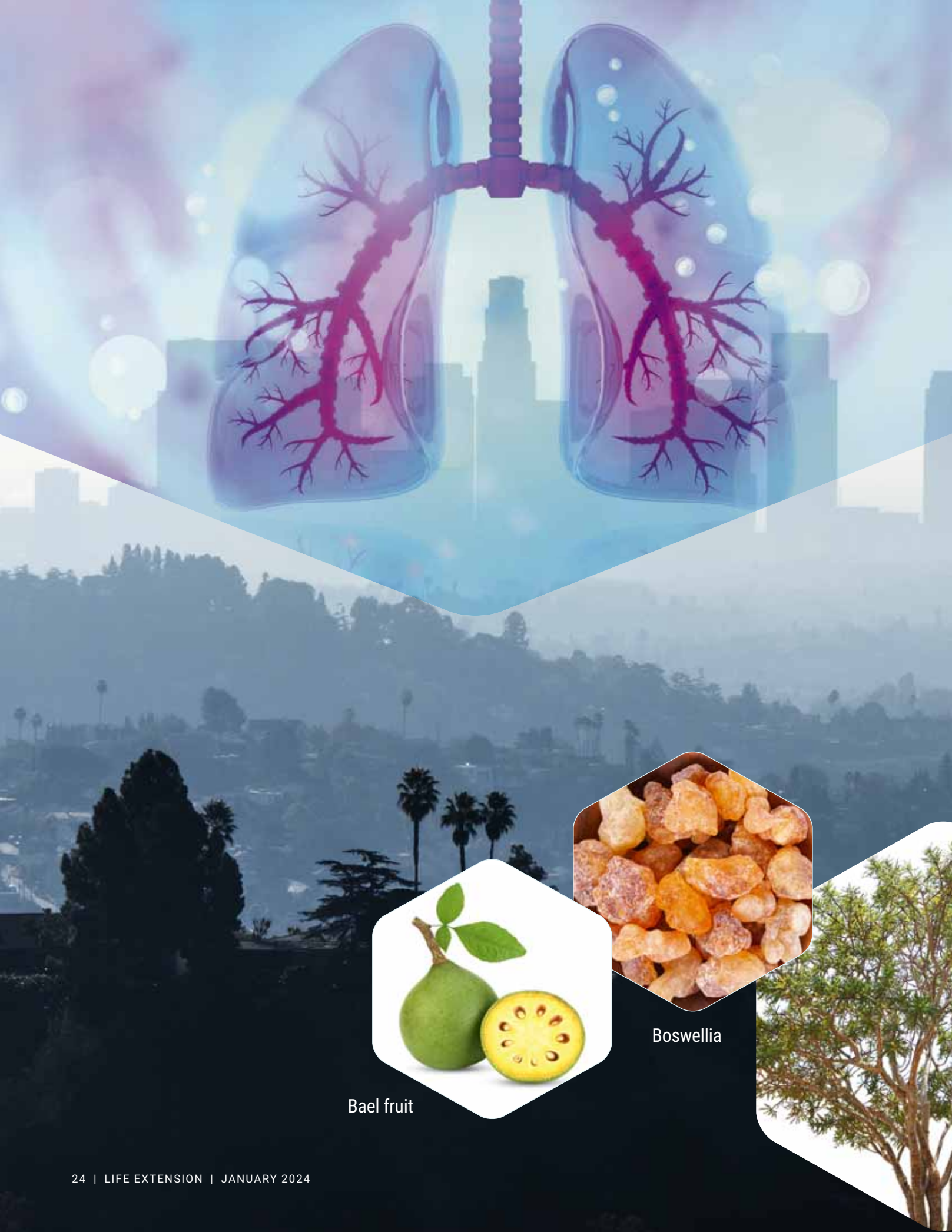


For Occasional Sleeplessness

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

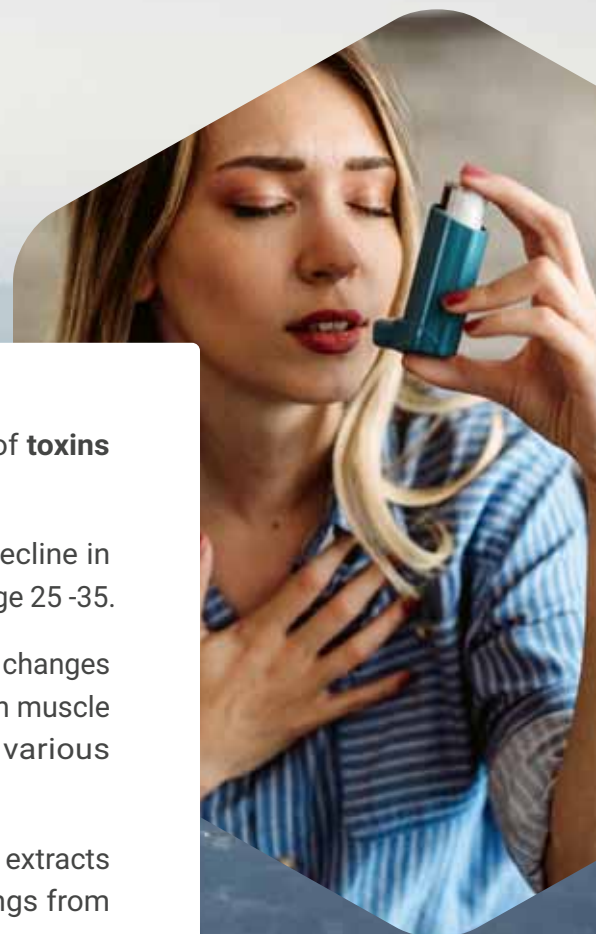
Our airways are exposed to a barrage of **toxins** that can cause chronic **lung diseases**.¹⁻³

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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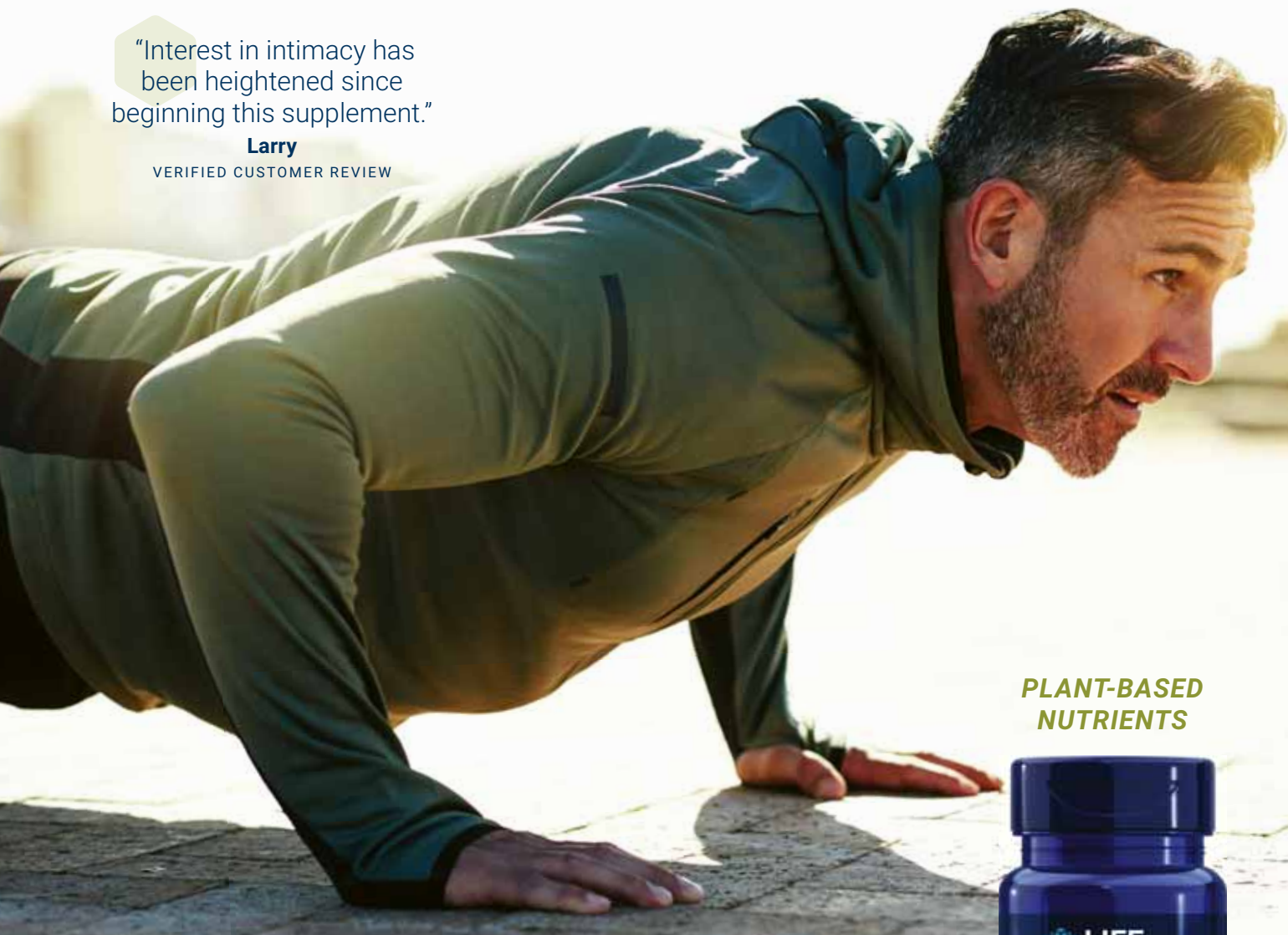
BOOST YOUR FREE

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.



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.

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

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

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**.

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

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)

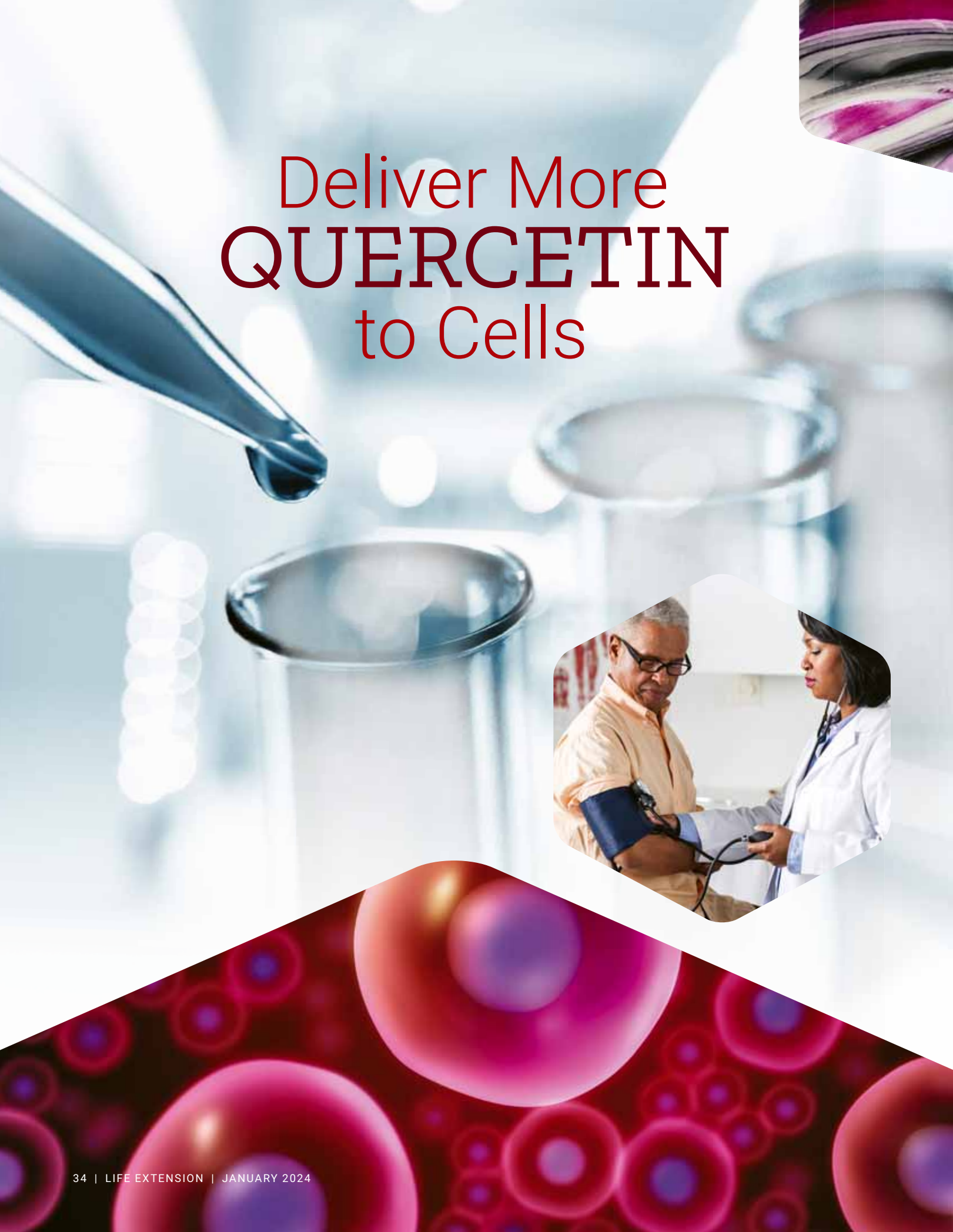


For full product description and to order **Healthy Lungs**, call **1-800-544-4440** or visit **www.LifeExtension.com**

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AlvioLife® is a registered trademark of PLT Health Solutions-Laila Nutraceuticals LLC.

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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.

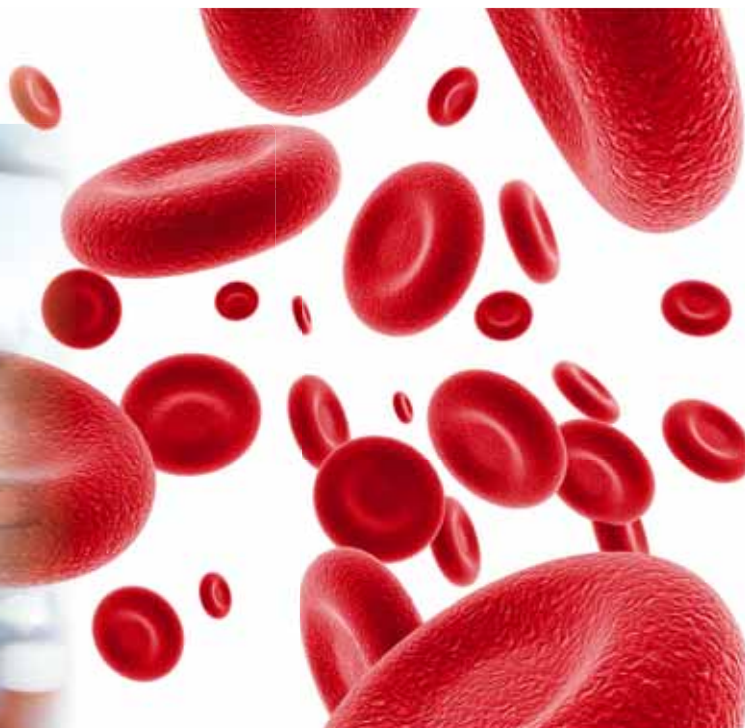
This has been shown in animal studies. In one, scientists gave quercetin to two groups of rats with high blood pressure.⁷ Through experimental manipulation, they were able to ensure that one group had more **free quercetin** than the other.

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 **systolic** (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 **bio-availability**.

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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MEGA VITAMIN K2

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



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

SUPER SALE PRICE

Mega Vitamin K2 • Item #02417

30 capsules

1 bottle **\$25.65** • 4 bottles \$23.40 each

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

TWO WAYS TO GET



FOR
**HEALTHY BONES
+
HEALTHY HEARTS**

SUPER K

The best-selling **vitamin K** formula for bone and heart health.



Vitamin K1 1,500 mcg
(converts to K2 in some people)

Vitamin K2 (MK-4) 1,000 mcg
(for bone & vascular health)

Vitamin K2 (MK-7) 100 mcg
(long-acting protection)

SUPER SALE PRICE

Super K • Item #02334 • 90 softgels
1 bottle **\$20.25** • 4 bottles \$18.23 each
(3-month supply)

For full product description and to order these **VITAMIN K** formulas
call 1-800-544-4440 or visit www.LifeExtension.com



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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.



SUPER SALE PRICE

Item #02368

30 enteric coated
vegetarian tablets

1 bottle **\$25.65**

4 bottles \$23.85 each

For full product description and to order **Optimized Broccoli and Cruciferous Blend**, call 1-800-544-4440 or visit www.LifeExtension.com

TrueBroc® Produced under US patents 5,725,895; 5,968,505; 5,968,567; 6,177,122; and 6,242,018 licensed from Brassica Protection Products LLC; TrueBroc® is a trademark of Brassica Protection Products LLC. BroccoVital® Myrosinase is a registered trademark of Berg Imports, LLC.

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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**.

SUPER SALE PRICE
Item #02407

500 mg, 60 vegetarian capsules

1 bottle **\$21.60** • 4 bottles \$19.80 each



Same 500 mg potency of patented **turmeric** and **fenugreek blend** with added benefits of **ginger** and other **turmeric** actives.

SUPER SALE PRICE
Item #02324

500 mg curcumin + gingerol, 30 softgels

1 bottle **\$18** • 4 bottles \$16.20 each

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



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"I love that it's
extended release."

Carol

VERIFIED CUSTOMER
REVIEW

Immediate Uptake. Extended Release. Up to 6 Hours of Support.

Magnesium is terrific for head-to-toe,
in-and-out wellness. Extend-Release
Magnesium is clinically formulated to:

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

SUPER SALE PRICE

Item #02107

60 **250 mg** vegetarian capsules

1 bottle **\$8.78**

4 bottles \$7.88 each

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**

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.



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

1 bottle **\$8.10** | 4 bottles \$7.20 each



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

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SuperSale

Every Life Extension® supplement is on sale!

As a Life Extension customer, you already take extraordinary steps to enjoy healthy aging—now get ready to enjoy extraordinary savings on everything you need for optimal wellness.

When you buy from Life Extension® you can count on the highest-quality products based on the latest scientific studies.



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%
		4 bottles	—	\$7.20 ea.	20%
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 4 bottles	\$30.75 —	\$27.68 \$24.75 ea.	10% 20%
00335	DHEA • 25 mg • 100 capsules Promotes optimal hormone balance & overall health.	1 bottle	\$12.00	\$10.80 \$9.90 ea.	10% 18%
02096	Skin Restoring Ceramides • 30 liquid vegetarian capsules Hydrates & smooths the appearance of fine lines & wrinkles.	1 bottle 4 bottles	\$18.75 —	\$16.88 \$15.53 ea.	10% 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 4 bottles	\$51.00 —	\$45.90 \$40.50 ea.	10% 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 4 bottles 6 bottles	\$47.25 — —	\$42.53 \$36.00 ea. \$33.30 ea.	10% 24% 30%
01534	N-Acetyl-L-Cysteine (NAC) • 600 mg • 60 capsules The do-it-all antioxidant for liver, immune and respiratory health.	1 bottle 4 bottles	\$12.00 —	\$10.80 \$9.68 ea.	10% 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 4 bottles	\$11.25 —	\$10.13 \$9.00 ea.	10% 20%
02419	B12 Elite • 60 vegetarian lozenges Two active forms for brain health & dopamine production, lozenge.	1 bottle 4 bottles	\$8.25 —	\$7.43 \$6.75 ea.	10% 18%
02207	AMPK Metabolic Activator • 30 vegetarian tablets Helps fight belly fat.* Once-daily dosing.	1 bottle 4 bottles	\$28.50 —	\$25.65 \$21.60 ea.	10% 24%
01778	Super Selenium Complex • 200 mcg • 100 vegetarian capsules Three forms of selenium promote the body's production of glutathione.	1 bottle 4 bottles 10 bottles	\$10.50 — —	\$9.45 \$8.10 ea. \$7.43 ea.	10% 23% 29%
01813	Zinc Caps • 50 mg • 90 vegetarian capsules Support for the body's natural immune defenses.	1 bottle	\$6.75	\$6.08 \$5.40 ea.	10% 20%
02500	Testosterone Elite • 30 vegetarian capsules Promotes youthful testosterone production.	1 bottle 4 bottles	\$42.00 —	\$37.80 \$33.75 ea.	10% 20%
02348	NAD⁺ Cell Regenerator™ and Resveratrol Elite™ 30 vegetarian capsules • NIAGEN® nicotinamide riboside, new bioavailable resveratrol, and more to support healthy cellular metabolism.			For pricing available to readers of this magazine call 1-800-544-4440 or visit LifeExtension.com/NAD	

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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

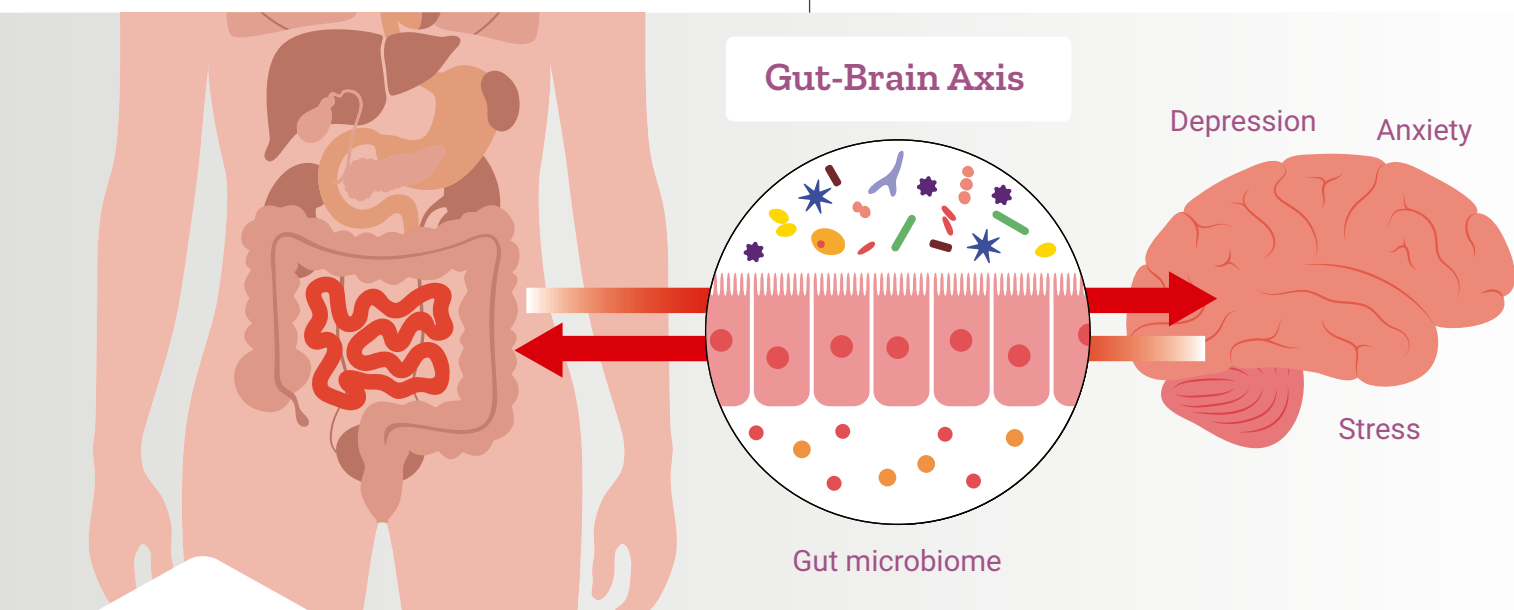
Probiotics Improve Mental Health

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 outdoors at night. An older woman with short white hair is smiling and holding a young girl in a yellow shirt. 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 a similar red gift box. A white dog is visible in the foreground on the right. The background is filled with warm string lights and a blurred structure, creating a festive atmosphere.

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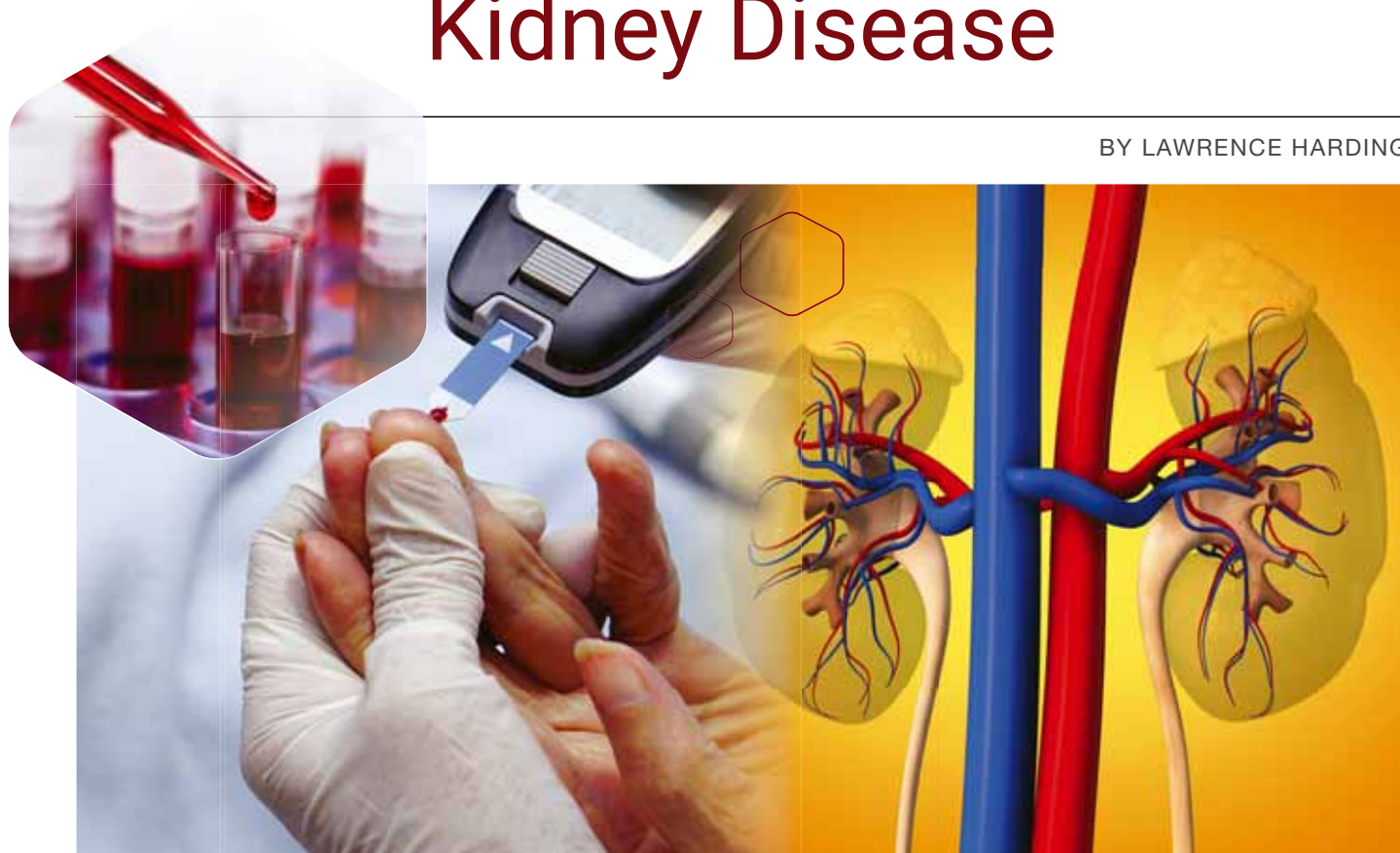
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PQQ and Diabetic Kidney Disease

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

Pyrroloquinoline 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 **pyrroloquinoline 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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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.

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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-κB,
- 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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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**.

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.

SUPER SALE PRICE

Item #01713

125 mcg (5000 IU) • 60 softgels

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



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 InSea ² ® 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

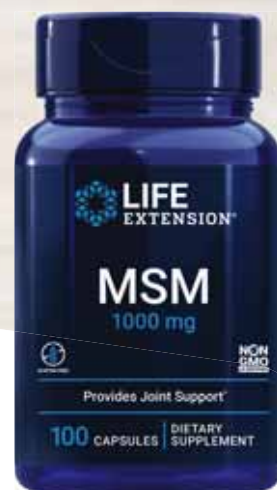
02479	7-Keto® DHEA Metabolite 100 mg, 60 veg capsules
02207	AMPK Metabolic Activator
02504	Body Trim and Appetite Control
02478	DHEA Complete
02506C	Mediterranean Weight Management
01432	Optimized Saffron
02511	Thermo Weight Control
02509	Waistline Control™

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



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.



The Science of a Healthier Life®

PO BOX 407198
FORT LAUDERDALE, FLORIDA 33340-7198



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.

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