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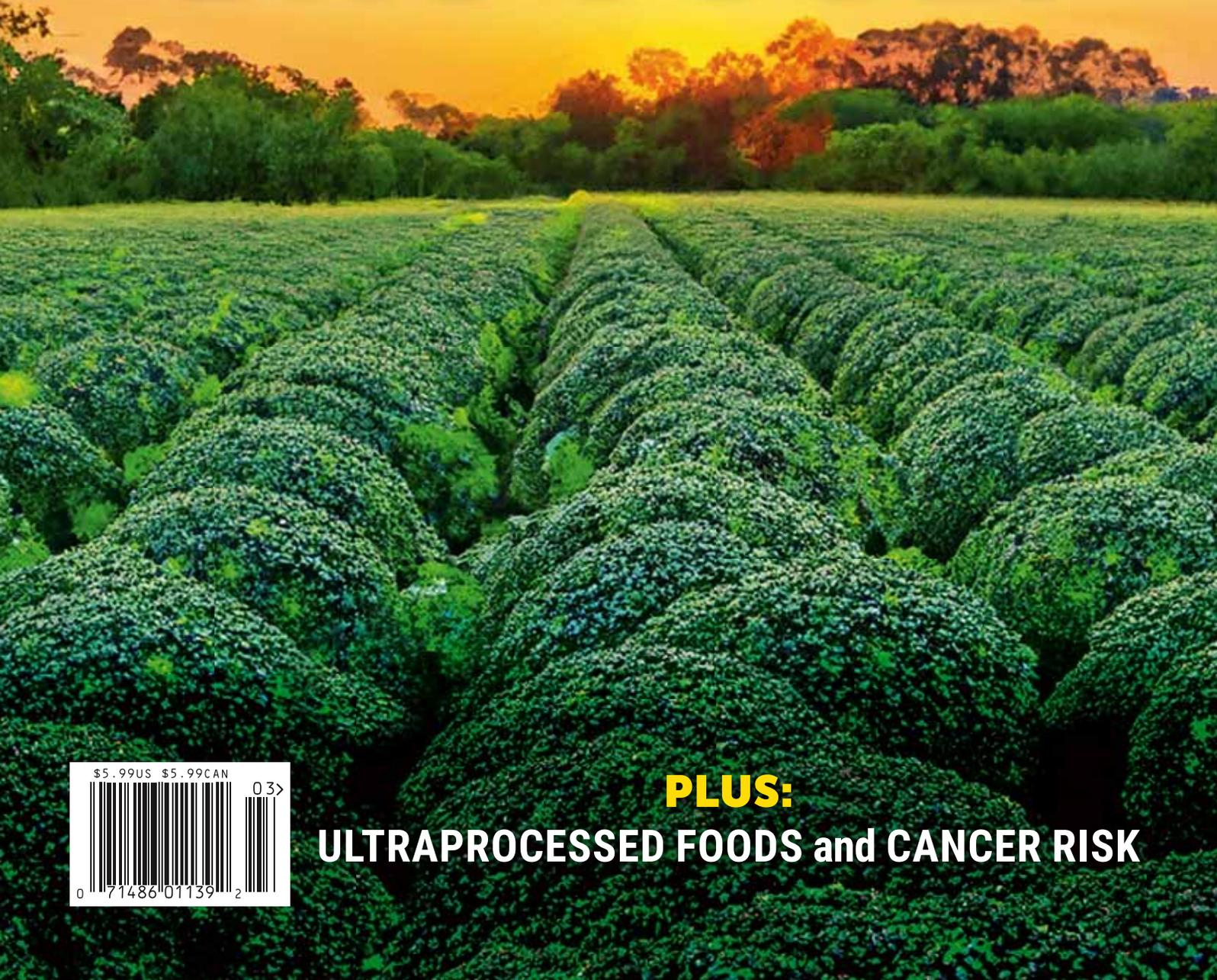
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March 2024

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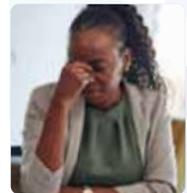
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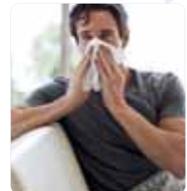
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# Second-Hand Smoke



WILLIAM FALOON

Each year, more than **10,000** Americans are killed in **motor vehicle** crashes involving **alcohol-impaired** drivers.<sup>1</sup>

About **7,000** of these deaths are **drunk drivers** who caused the crashes. The balance of over **3,000** alcohol-related fatalities are **innocent** victims.<sup>1</sup>

Public service groups plead to not drink and drive. Drunk drivers are targeted for arrest and criminal prosecution.

Yet the number of **deaths** caused by **drunk drivers** pales in comparison to those inflicted by **second-hand** tobacco **smoke**.

**Second-hand** smoke causes at least **7,000 deaths** each year from **lung cancer**.<sup>2</sup>

**Heart disease** caused by **second-hand smoke** kills **34,000** Americans per year.<sup>3</sup> Even short-term smoke exposure can increase **heart attack** risk.<sup>4,5</sup>

So, each year drunk drivers tragically kill **3,000** sober Americans, whereas **second-hand** smoke kills **41,000** non-smokers.<sup>2</sup>

That translates into over **13 times more deaths** caused by **second-hand smoke** than by **alcohol-impaired** drivers.

I've never been a smoker. But during my first **34 years** of life, I was exposed to a lot of **second-hand** smoke in my home and workplace.

In reviewing data about the many **diseases** caused by **second-hand** smoke, I grow increasingly indignant about the **failure** of public policy makers to protect the victims, which include most of us born before year **2000**.

There are no proven ways to reverse all the **damage** caused by **second-hand** smoke. One strategy we can employ today is to ingest **plant foods** that have been shown to confer intriguing degrees of protection.



The term **pancreatic cancer** strikes fear because about **90%** of its victims perish within **five years** after diagnosis.<sup>6,7</sup>

A large European study found that exposure to **second-hand** smoke at home or work can increase **pancreatic cancer** risk by **50%**.<sup>8</sup>

Proven ways to increase your odds of avoiding pancreatic cancer include not smoking, maintaining healthy body weight, proper diet, regular exercise... and avoiding **second-hand smoke**.

## Mitigating Cancer Risks

Cigarette smoke contains dozens of carcinogens, including **benzene**.<sup>9</sup>

Inhalation of smoke irritates our lungs in ways that contribute to **COPD** and other **lung** diseases.

Exposure to **carcinogens** is the most concerning aspect of **smoke inhalation** as it increases **malignancy** risks throughout the body.<sup>9,10</sup>

Ingestion of **cruciferous vegetables**, such as broccoli, cauliflower, cabbage, kale, and collard greens can lower cancer risk via several mechanisms including **detoxifying** our body of **carcinogens** like **benzene**.<sup>11-15</sup>

Researchers at **Johns Hopkins** discovered the **anti-cancer** effects of a broccoli compound called **sulforaphane** in **1992**.<sup>16</sup>

Since then, prestigious **cancer centers** have been studying **sulforaphane** as a way to prevent and better treat existing malignancies.

## Recent Success in Removing Deadly Toxins from Our Body

The **Fred Hutchison Cancer Center** published findings showing broccoli components providing **sulforaphane** increased **elimination** of **carcinogens** from **human** subjects by **67%**.

These researchers demonstrated favorable reductions of **carcinogens** from **food**, **air pollution** and **smoke** in response to consumption of **sulforaphane-rich broccoli** compounds.<sup>17</sup>

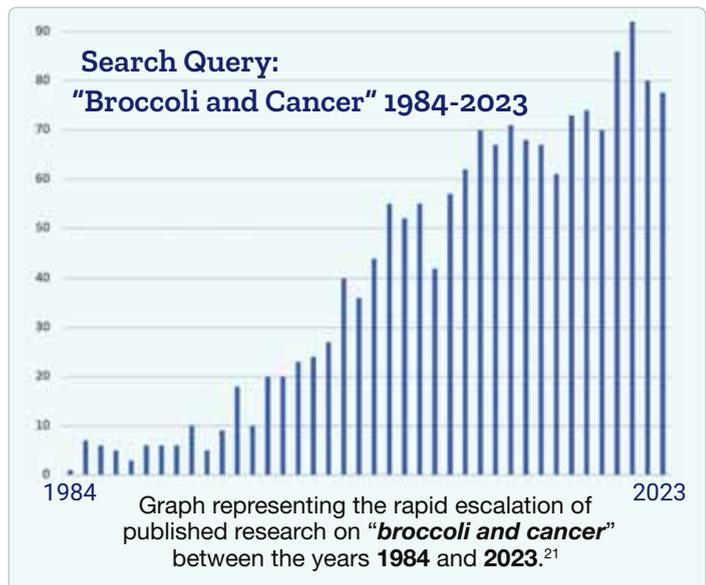
Another **human** study from the **University of Arizona** showed how **broccoli compounds** rapidly detoxify **benzene** and other **carcinogens** in tobacco smoke.<sup>18</sup>

**MD Anderson Cancer Center** published a report describing the multiple ways that **sulforaphane** reduces cancer risk that include neutralizing **toxins** and blocking cellular **DNA mutations**.<sup>19</sup>

**UCLA Health** published an article describing the cancer prevention titled:

### “Broccoli and Other Cruciferous Vegetables Can Significantly Lower Cancer Risks”<sup>20</sup>

Entering the terms “**broccoli and cancer**” on the **National Library of Medicine** website reveals rapid escalation of published research shown on the following graph:<sup>21</sup>



Smokers, former smokers, and people exposed to carcinogens from second-hand smoke who eat lots of **cruciferous vegetables** are less likely to develop lung and other cancers.<sup>22-24</sup>

A robust amount of research shows that consumption of **sulforaphane-rich** broccoli can remove deadly **toxins** from our bodies and can reduce **cancer** incidence.<sup>15,25-27</sup>

## Almost Impossible to Avoid Environmental Toxins

We are all exposed to **environmental toxins** that increase cancer risk.

Eliminating accumulated **toxins** has long been sought by health-conscious consumers.

Recent findings indicate an effective method of reducing our toxic burden is to consume **sulforaphane-delivering** foods, and/or utilize supplements that release **sulforaphane** in the **small intestine** for optimal **absorption**.<sup>14,28,29</sup>

## Kidney Failure and Second-Hand Smoke

Smoking is associated with double the risk of death in **kidney failure**.<sup>30</sup>

A study found that **second-hand** smoke is almost as toxic to **kidneys** as being a smoker.<sup>31</sup>

This study analyzed over **130,000 non-smokers**.

People exposed to three or more days per week of second-hand smoke were **66% more** likely to develop **chronic kidney disease** than those with no exposure.

People with fewer than three days of exposure per week were **59% more** likely to develop chronic kidney disease than those with no exposure.

These data suggest there is no safe level of exposure to **second-hand** smoke.

## Challenge of Sulforaphane Absorption

Incorporating lots of **fresh vegetables** in one's diet is of indisputable value.

Mature **cruciferous vegetables**, however, contain relatively little **sulforaphane**.<sup>32</sup>

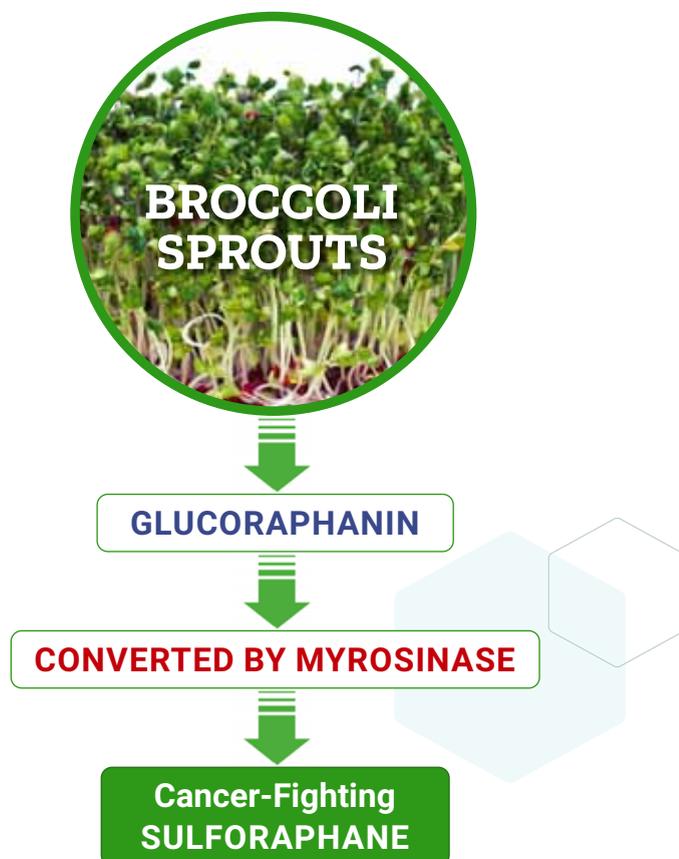
What mature vegetables provide is varying levels of a **sulforaphane precursor** called **glucoraphanin**. Some of this **glucoraphanin** can convert to **sulforaphane** in the gut primarily using an *enzyme* called **myrosinase**.<sup>14</sup>

**Broccoli sprouts** contain **10 to 100 times more** **sulforaphane**-boosting potential than mature broccoli.<sup>32</sup>

Even so, cooking broccoli or sprouts destroys most of the **sulforaphane precursor (glucoraphanin)**.<sup>13,29</sup> Cooking also inactivates the enzyme (**myrosinase**) needed to convert **glucoraphanin** (in the intestines) to **sulforaphane** for *absorption* into the bloodstream.<sup>33,34</sup>

For most people, properly formulated **glucoraphanin + myrosinase** supplements may be a practical solution.

The diagram on this page shows the pathway of how **glucoraphanin** (found abundantly in broccoli sprouts) converts to **sulforaphane**.<sup>14</sup>



## Consistent + Extensive Data

Several years ago, *Life Extension® Magazine* published in-depth articles on multiple types of **cancers** that **cruciferous vegetables** have been shown to help prevent.<sup>35-40</sup>

You can access these articles by entering:

[www.LifeExtension.com/broccoli](http://www.LifeExtension.com/broccoli)

What's remarkable is the abundance of confirmatory data spanning many decades that include recent findings.

Cancer rates might significantly decline if more people were able to deliver more **sulforaphane** to their bloodstream.

Many readers of this publication have been able to accomplish this.

### A Personal Note...

Humans indulge in all kinds of risky behaviors that cause premature **death**. The direct victims are often the risk takers, such as those who smoke **cigarettes**.

When it comes to **second-hand** smoke, the victims extend to people who chose not to engage in the deadly behavior, but nonetheless suffer the consequences of cancer, clogged arteries, and failed kidneys.

A rough calculation of the total number of American deaths caused by **second-hand** smoke since year **1900** likely exceeds **four million**.

When data emerged suggesting **second-hand** smoke was dangerous, Big Tobacco suppressed it by all kinds of nefarious means, including the now infamous **Tobacco Institute** that created illusions that smoke inhalation was perfectly safe.<sup>41</sup>

## Cardiovascular Damage Inflicted by Second-Hand Smoke

Toxins contained in **inhaled smoke** damage the delicate lining of our blood vessels.<sup>43</sup>

This sets the stage for **stroke, heart attack,** and other vascular diseases caused by **atherosclerosis,** abnormal **platelet aggregation,** and persistent **inflammation**.<sup>43</sup>

A method to predict future cardiovascular risk is a measure of **coronary artery calcification**.<sup>44</sup> An ideal **coronary calcium score** is ZERO, meaning no calcification of one's coronary arteries.

With age, **coronary artery calcium scores** often elevate into the 100s and sometimes well over 1,000.

Exposure to **second-hand smoke** independently predicts the likelihood and extent of **coronary artery calcification**.<sup>45,46</sup>

A study was conducted of over **3,000** individuals who were never **smokers** (ages 40 to 80 years), completed a questionnaire on **second-hand** smoke exposure from tobacco, and had a CT scan to estimate coronary artery **calcification** (CAC).<sup>45</sup>

Four categories of **exposure** to second-hand smoke were identified (minimal, low, moderate, and high exposure).

Coronary artery calcification was graded, and statistical analysis of the prevalence of CAC was performed to assess the impact of second-hand smoke on the odds of **coronary calcification**.

The analysis was adjusted for factors known to impact coronary calcification including gender, age, the presence of diabetes, high cholesterol, hypertension, and kidney disease.

The results showed significantly *higher* odds of CAC with increasing **exposure** to second-hand smoke as summarized in the table below:

Second-Hand Smoke Exposure	Prevalence of Calcification (odds ratio, adjusted)
<u>Low</u>	<u>1.54-times higher (54%)</u>
<u>Moderate</u>	<u>1.60-times higher (60%)</u>
<u>High</u>	<u>1.93-times higher (93%)</u>

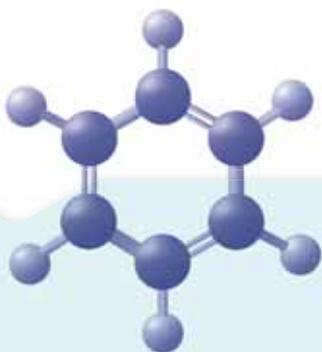
This study revealed the dangers of **second-hand smoke** on coronary artery calcification *accumulated* throughout life, to include childhood through adulthood, be it exposure at work or in the home.

I encourage those with a history of **second-hand smoke** exposure (which includes myself) to have regular **blood tests** and optimize every vascular risk factor including **lipids, C-reactive protein, homocysteine, hormones, glycemic markers** and of course, **blood pressure** (using an at-home blood pressure monitor).



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## Defend Against BENZENE, An Invisible Killer

**Benzene** is a toxic chemical that is practically *everywhere*.

Found in gasoline and formed by the burning of fossil fuels and tobacco, this invisible gas spreads widely in the air we breathe.<sup>47-49</sup>

Benzene has been tied to major health risks, including **leukemia** and other blood cell **cancers**.<sup>47</sup>

The good news is that nutrients in broccoli sprouts, including **sulforaphane**, act as potent **detoxifiers** of benzene, helping to eliminate it from the body.<sup>12,50,51</sup>

### A HIDDEN THREAT

Benzene is literally all around us.

It is used in the production of **plastics**, lubricants, **pesticides**, and other products.<sup>47,48</sup>

It's present in **gasoline fumes** and is formed through the burning of crude oil<sup>48</sup> and motor vehicle exhaust and industrial emissions.<sup>52</sup>

**Cigarette** smoke accounts for about half of the total U.S. population's exposure to benzene.<sup>52</sup>

Even burning **natural gas** or **propane** on stovetops in our homes produces benzene!<sup>49</sup>

Avoiding gas fumes, car exhaust, smoking, and second-hand smoke can *reduce* exposure to this invisible chemical, but it can't eliminate it.

The World Health Organization (WHO) and programs associated with the Environmental Protection Agency (EPA), the National Institutes of Health and Centers for Disease Control and Prevention all classify benzene as a **known human carcinogen**.<sup>47,48,52</sup>

### HOW BROCCOLI COMPOUNDS MAY HELP

Scientists have long recognized that consuming **cruciferous vegetables** such as **broccoli** reduces risk for several forms of cancer and other conditions.<sup>51</sup>

Many of these benefits have been attributed to compounds in broccoli that are converted into **sulforaphane**. This cruciferous nutrient induces a wide range of mechanisms that aid in detoxification and cellular protection.

Clinical trials show that the ability of broccoli-derived nutrients to defend health extends to the detoxification of dangerous chemicals, including **benzene**.<sup>12,50,51</sup>

In one placebo-controlled study, scientists evaluated subjects in China who are exposed to some of the *highest* levels of airborne pollutants in the world. They measured levels of compounds in the urine that are derived from the metabolism and detoxification of **benzene**.

What they found was those participants given **broccoli sprout nutrients** for **10 days** had as much as a **63% increase** in the **elimination** of **benzene** from the body.<sup>50</sup>

The scientists concluded that consumption of broccoli sprout-derived nutrients boosted the **detoxification** of benzene,<sup>11-15,50,51</sup> potentially reducing the negative health effects of **benzene exposure**.





# Sweet DREAMS

**Fast-Acting Liquid Melatonin** is a popular way to achieve more rapid sleep onset.

The nice-tasting, citrus-vanilla flavor enables convenient “drop” dosing of **Fast-Acting Liquid Melatonin** each night or when needed.

**Life Extension** also offers a full range of melatonin in solid forms and a variety of dosages.



Item #02234 • 3 mg per 20 drops, 2 fl. oz

1 bottle \$9 • 4 bottles \$8.25 each



FOR OCCASIONAL SLEEPLESSNESS.

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

**CAUTION:** Do not consume alcohol, drive or operate heavy machinery after taking this product.

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.

"I believe this product is another arrow in my quiver of products I use to be my best."

Raymond

VERIFIED CUSTOMER REVIEW

# Fisetin

## The Healthy Aging Flavonoid

**Fisetin**, a flavonoid found in strawberries and apples, is currently being studied for its effectiveness as a **senolytic** in humans.<sup>1</sup>

**Fisetin** has low bioavailability due to its breakdown in the small intestines.

**Bio-Fisetin™** solves this problem by enclosing **fisetin** with a compound from the fenugreek herb.

A **human** trial showed **bioavailability** of this **fisetin** compound increased up to **25 times** compared to fisetin by itself.<sup>2</sup>

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**Item #02414**

30 vegetarian capsules

1 bottle **\$11.25**

4 bottles \$10 each



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

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# Now Recruiting Study Participants —Apply Online!



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Participants will receive:

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- Up to **\$275** for your time
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\*If you refer someone who completes the study, you will be compensated \$50.

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### Who We Are

Life Extension Clinical Research, Inc. is a dedicated research arm of Life Extension. We research innovative dietary supplements and anti-aging regimens for their potential to influence everything from medical treatments to nutritional protocols, disease prevention, diagnostic processes and even genetic studies.

### Who Can Participate?

- Men and women between the ages of 21 and 65 years
- Must be able to read, speak and write English and follow all study instructions
- Must be available for video or on-site visits



### Results from Past Studies

#### Inflammation and Discomfort:

This virtually conducted study found that a marine oil/curcumin combo significantly reduced pain severity, intensity, and total pain scores over the course of 60 days.

#### Men's Bladder Clinical Study:

This study showed promise for men seeking non-pharmaceutical therapies for frequent, sleep-disrupting nighttime urination.



Life Extension Clinical Research, Inc.

For more Information, contact us at [LifeExtension.com/CL114](http://LifeExtension.com/CL114) or call us at **1-866-517-4536**

# In the News



## CoQ10 Linked to Better Liver Enzyme Levels

A review and meta-analysis of randomized clinical trials concluded that coenzyme Q10 (CoQ10) was significantly associated with better, reduced levels of the liver enzymes: *alanine aminotransferase* (ALT), *aspartate aminotransferase* (AST) and *gamma-glutamyl transferase* (GGT).<sup>\*</sup> These enzymes are often elevated in people with liver disorders.

The researchers analyzed the findings of 15 randomized, controlled trials that administered CoQ10 and reported changes in liver enzymes.

Participants included a total of 712 men and women with conditions such as coronary heart disease, type I or type II diabetes, nonalcoholic fatty liver disease or elevated lipids.

**CoQ10** supplemented participants had beneficial reductions in elevated **liver enzymes**.

**Editor's Note:** Coenzyme Q10 doses ranged from **100 to 400 mg** per day consumed for two to 24 weeks.

<sup>\*</sup> *Food Sci Nutr.* 2023 Jun 7;11(9):4912-4925.

## Higher B12 Levels Associated with Less Inflammation

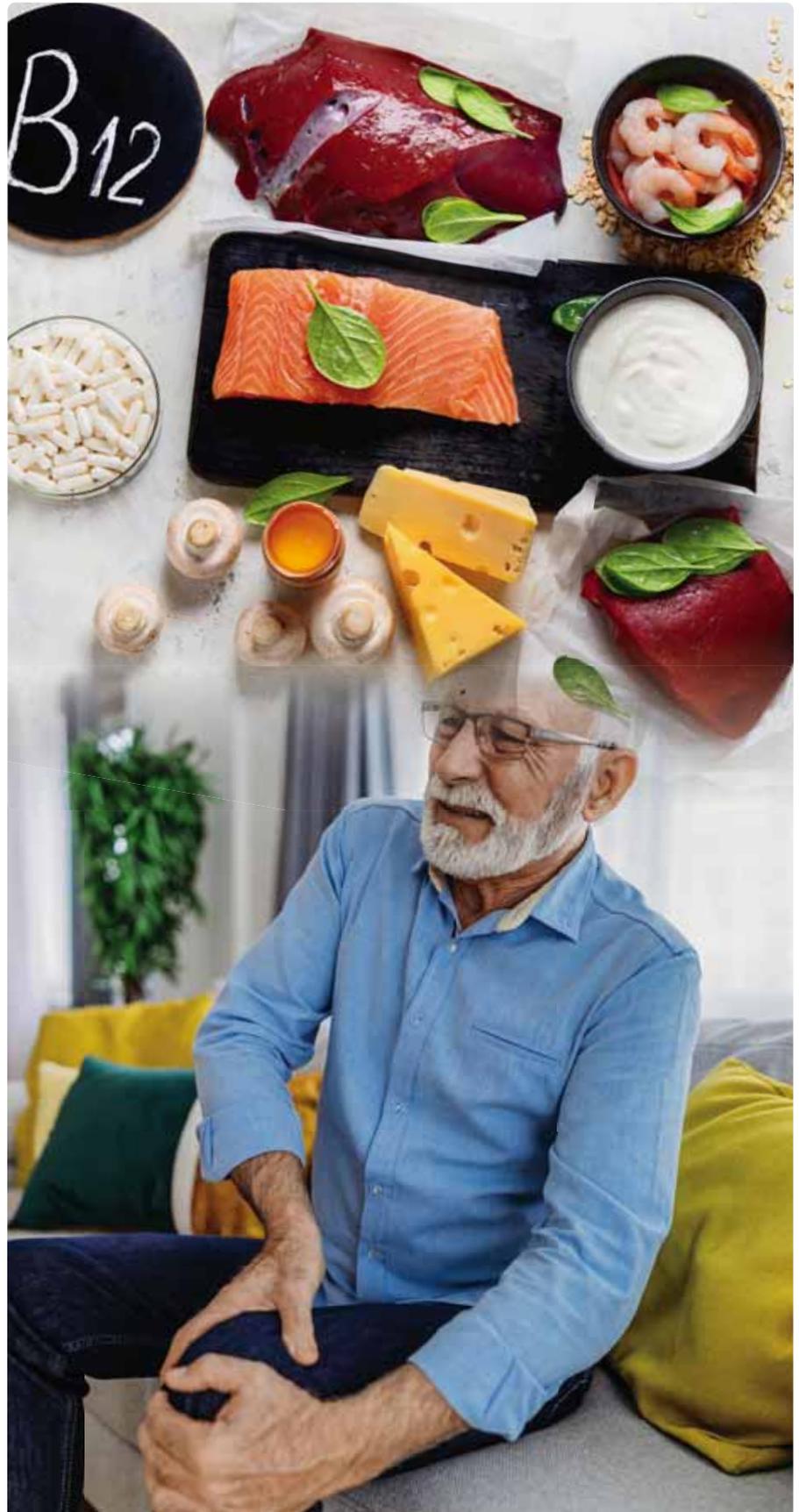
Researchers uncovered a link between higher serum vitamin B12 levels and lower levels of C-reactive protein (CRP) and interleukin-6 (IL-6), which increase during inflammation.\*

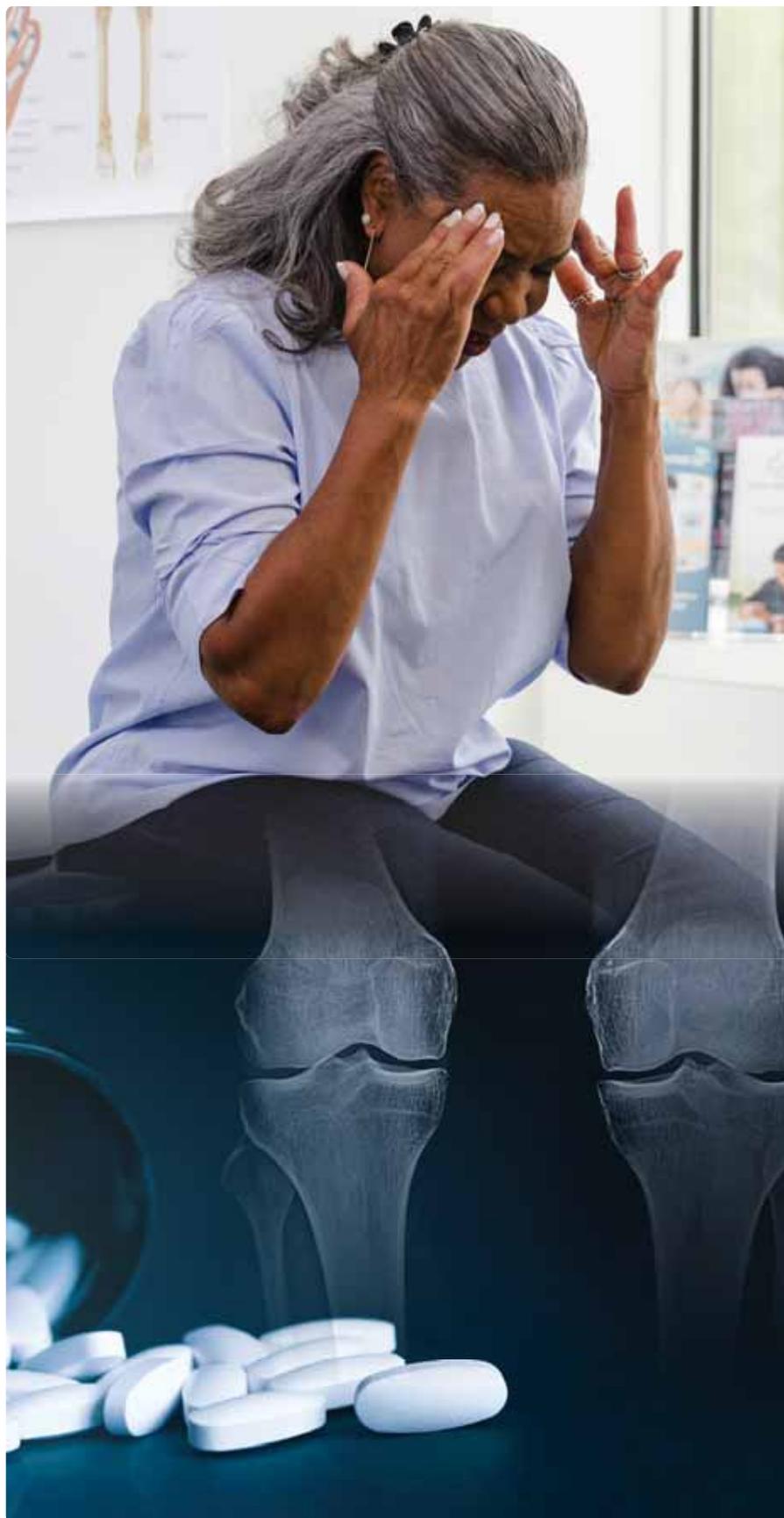
The study utilized data from a subgroup of 136 participants in the PREDIMED trial who had available data concerning their serum concentrations of vitamin B12 and CRP, and plasma IL-6. The PREDIMED trial was designed to evaluate the relationship between consuming a Mediterranean diet and cardiovascular disease prevention.

Men and women who had higher vitamin B12 levels had lower concentrations of CRP and IL-6. Similar findings were obtained when the researchers measured these factors in aged mice.

**Editor's Note:** "Since chronic inflammation is associated with a wide range of diseases, understanding how vitamin B12 status influences inflammation could have significant implications for disease prevention and management," the authors noted.

\* *J Sci Food Agric.* 2024 Jan 30;104(2): 875-882.





## Glucosamine May Also be Beneficial Against Vascular Dementia

People with osteoarthritis who used glucosamine, a compound that supports joint health, were also at reduced risk of developing vascular dementia, according to a study published in *Alzheimer's Research and Therapy*.\*

Participants included 214,945 men and women in the UK Biobank, over the age of 60, who did not have dementia at baseline. Their questionnaire responses provided information concerning regularly consumed nutrients. During a median 12-year follow-up, 1,039 individuals developed vascular dementia, 1,774 developed Alzheimer's disease and 122 developed frontotemporal dementia.

Habitual use of glucosamine was associated with an **18%** lower risk of vascular dementia compared with non-use. People who additionally consumed calcium had a **54%** lower risk of vascular dementia than those who did not use glucosamine. No association was observed between glucosamine and the development of Alzheimer's disease or frontotemporal dementia.

**Editor's Note:** "If further confirmed, habitual glucosamine use may act as a dietary supplement for primary prevention of vascular dementia in the elderly," the authors stated.

\* *Alzheimers Res Ther.* 2023 Sep 9;15(1):152.



## Eating Ultraprocessed Foods Increases Risk of Cancer and Other Diseases

Consuming ultraprocessed food increases the risk of cancers of the upper digestive tract, which includes mouth, throat, and esophageal cancers, according to a study published recently in the *European Journal of Nutrition*<sup>1</sup> and reported on by *CNN* and other news media.

Ultraprocessed foods include soda, chips, instant soups, cookies, ice cream, cereal bars, and many others that include ingredients you wouldn't use in a regular kitchen.

These additives are designed to resist mold and bacteria and to keep ingredients from separating. They also include bulking and bleaching agents, artificial dyes, or added salt and sugar to make the product more appealing.

Participants included 450,111 adults in the European Prospective Investigation into Cancer and Nutrition (EPIC) study. They were recruited from 1992 to 1999 from 10 different European countries and the United Kingdom.

Results showed that people who consumed just **10%** more ultraprocessed foods than others in the study had a:

- **23%** higher risk of head and neck cancers, and a
- **24%** increased risk of esophageal cancer.

These data were collected in the 1990s, when consumption of ultraprocessed food was much lower than it is now, and so the link to health risks is even higher today.

Indeed, as of 2019, ultraprocessed food made up approximately **71%** of the food supply in the United States.<sup>2</sup>

Many studies over the past two years have demonstrated the alarming link between ultraprocessed foods and cancer and other serious health problems. Here are a few examples of the findings:

- Men who consume ultraprocessed food have a higher risk of **colorectal cancer**, heart disease, and early death.<sup>3</sup>
- For every **10%** increase in ultraprocessed food, there is a **2%** increase in developing any *kind of cancer*, and a **19%** increased risk of **ovarian cancer**.<sup>4</sup>
- Eating higher amounts of ultraprocessed animal foods and sweetened beverages increases the risk of having multiple chronic conditions like cancer, diabetes, and heart disease.<sup>5</sup>
- Consuming more ultraprocessed foods is connected to **depression** in women.<sup>6</sup>
- Consuming about **20%** of daily calories in ultraprocessed foods is linked to **28%** increased risk of **dementia**.<sup>7</sup>

In the most recent study, researchers dug deeper to determine if excess weight accounted for the increased cancer risk.

Ultraprocessed foods are calorie dense and can contribute to obesity, and being obese or overweight is connected to an increased risk of 13 different types of cancer.

However, results showed that *weight alone did not account for the increased cancer risk*. Increased hip-to-weight ratio accounted for **5%** of the **23%** increased risk of head and neck cancer.

And increased body mass index (BMI) accounted for **13%** of the **24%** increased risk of esophageal cancer.

This indicates that factors *other* than obesity contribute to the increased cancer risk.

**Editor's Note:** According to a large number of recent studies, ultraprocessed foods are associated with an increased risk of cancer, heart disease, dementia, and more.

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Dryness and loss of firmness are outward signs of normal aging.

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

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

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Youthful-Looking  
**Skin** from the  
**Inside Out**



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

Contains wheat. Gluten free.

Ceratiq® is a registered joint-trademark of PLT Health Solutions and Arco, Robertet Group, France.



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**Super R-Lipoic Acid** is more bioavailable and stable, achieving **10-30 times** higher peak blood levels. This unique **sodium-R-lipoate** can help you reach peak plasma concentrations within just 10-20 minutes of supplementation.

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1 bottle **\$36**  
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# GAME ON

Clinical trials demonstrate that the plant extracts in once-daily **ArthroMax® Elite** help:

- Support a healthy inflammatory response
- Maintain healthy connective cartilage tissue
- Promote comfortable joint function

Take advantage of the benefits of **Mobile-Ease™ Chinese skullcap, catch tree and white mulberry** TODAY!



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

**Item #02138**  
30 vegetarian tablets  
1 bottle **\$22.50**  
4 bottles \$20 each



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# The 'Healthy Aging' Amino Acid



## Essential Youth with L-Ergothioneine

**L-ergothioneine** is an amino acid found in **mushrooms**.

Cell-based studies suggest that **L-ergothioneine** may support healthy aging by:

- Protecting **mitochondrial DNA** function<sup>1</sup>
- Delaying **telomere** shortening<sup>2</sup>
- Supporting **DNA function** in cells subjected to UV exposure<sup>3</sup>

One daily capsule of **Essential Youth** provides **5 mg** of **L-ergothioneine**.

One daily capsule provides as much **L-ergothioneine** as 2 to 5 cups of white button mushrooms.<sup>4,5</sup>



Item #02431

30 vegetarian capsules

1 bottle **\$19.50**

4 bottles \$17.50 each

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

### References

1. *Cell Death Differ.* 2010 Jul;17(7):1134-40.

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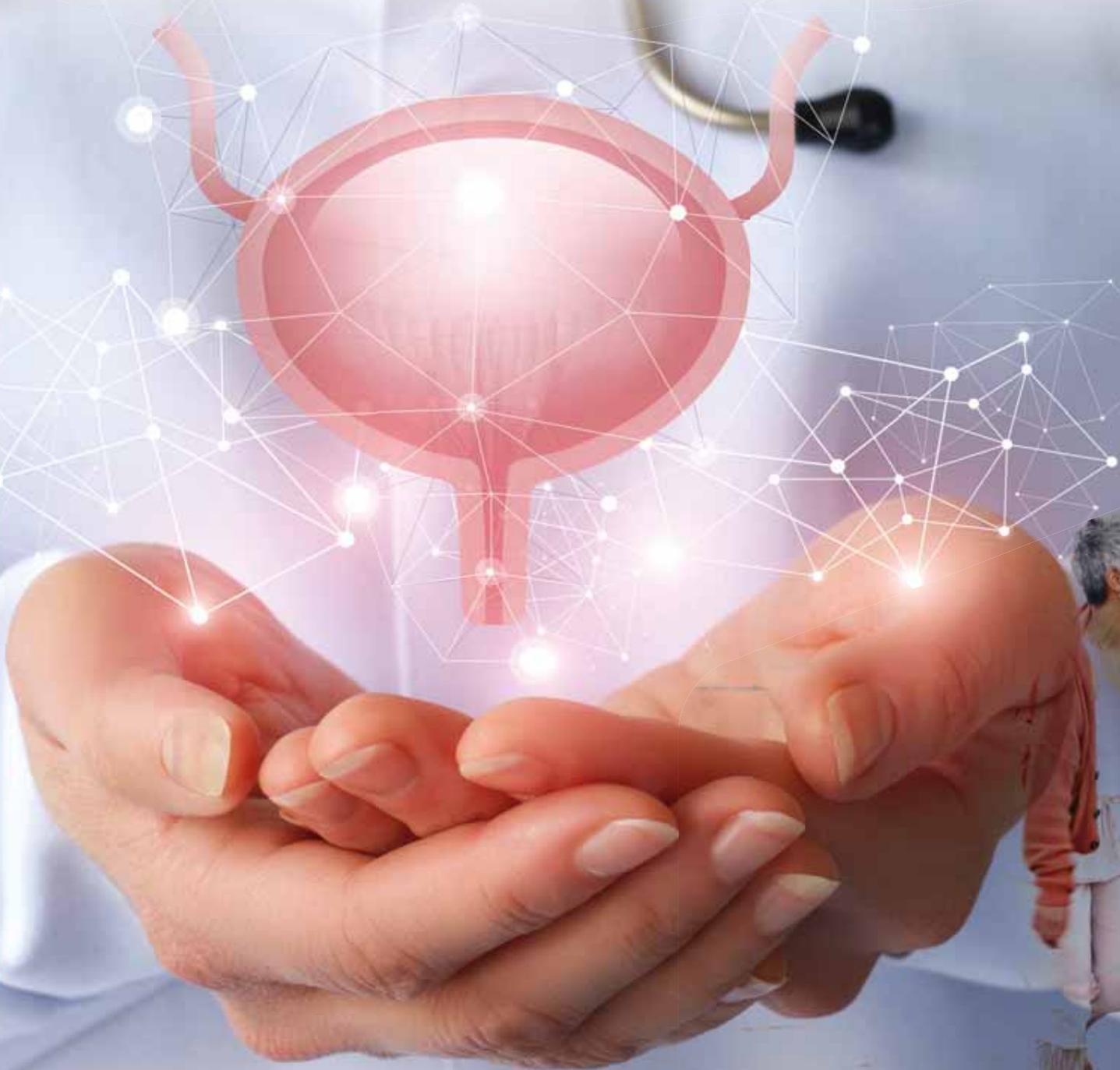
4. *FEBS Lett.* 2018 Oct;592(20):3357-66.

5. *Food Chem.* 2017 Oct 15;233:429-33.



ErgoActive® is a registered mark of Blue California.

# Relief for Women's **URINARY SYMPTOMS**





HORSETAIL



BY HEATHER L. MAKAR

As women get older, many experience **urinary problems**.

They may need to make frequent trips to the restroom or wake up multiple times a night with an urgent need to use the bathroom.

Jogging, lifting a heavy object, or even just having a laugh with friends may cause **urinary leakage**.<sup>1,2</sup>

It doesn't have to be this way.

In an eight-week **clinical trial**, a combination of **three plant-based** extracts dramatically improved these and other **urinary symptoms** in women. Among other improvements, taking this blend once a day:<sup>3,4</sup>

- **Normalized** frequency of daytime urination,
- Decreased episodes of incontinence related to urgency by **65%**,
- Reduced the urgent need to urinate by **57%**, and
- Decreased nightly waking up to urinate by **43%**.

A remarkable **79%** of women who took the extract blend noted a **substantial improvement** in symptoms, compared to just **17%** in a placebo group.<sup>4</sup>



## Aging Worsens Bladder Symptoms

Many women experience **urinary symptoms** as they grow older, typically beginning after age **40**.<sup>5</sup>

The severity and frequency of these symptoms are greater in women than in men. A population study using data from the U.S., UK, and Sweden found that among women aged 40-99:<sup>6</sup>

- **56%** reported experiencing **incontinence**,
- **36%** dealt with **urinary urgency**,
- **34%** complained of **nocturnal urination**, and
- **25%** needed to **urinate frequently** throughout the day.

Most people need to urinate every three to four hours (5-7 times daily).<sup>7</sup> Those with an **overactive bladder** may need to urinate more than **eight times** during the day, and **two times or more** at night.<sup>1</sup>



Available medications provide little help. Only about **13%** of patients taking medications find relief from incontinence symptoms, with many discontinuing use due to **side effects**.<sup>3</sup>

Many women feel **embarrassed** by their symptoms, and simply assume they are an inevitable part of aging.<sup>5,8</sup> But they don't have to be.

A clinical study demonstrated that a blend of **three plant-based extracts**<sup>3,4</sup> made a *significant difference* in urinary symptoms and quality of life, with virtually no side effects.

## Two Decades of Development

More than 20 years ago, Dr. Tracey Seipel, a naturopath and medical herbalist, sought an effective solution for her patients' **urinary problems**.<sup>9</sup> She gradually began administering several traditionally used **plant compounds** to address bladder issues.<sup>3,9</sup>

Feedback from Dr. Seipel's patients led to research to fine-tune a treatment using **three plant extracts**, each with a proven track record of effectiveness:

- **Horsetail** (*Equisetum arvense*), used in Western herbal medicine, contains high levels of silica, which can improve urinary tissue strength and elasticity.
- **Lindera** (*Lindera aggregata*), long used in traditional Chinese medicine, is known for improving kidney and bladder health and may calm feelings of urgency.
- **Three-leaf caper** (*Crateva nurvala*), from Indian Ayurvedic medicine, is known for easing tense muscles and relaxing bladder spasms.

In a rodent model of symptomatic **overactive bladder**, a blend of these three extracts **reversed** changes in multiple biomarkers in urine, the bladder lining, and bladder control muscles.<sup>8</sup>

This improved bladder control symptoms in the:<sup>8</sup>

- **Storage phase** (frequency and urgency, waking to urinate), and the
- **Void and post-void phase** (dribbling, stream weakness, intermittency, hesitancy).

## Validated In Human Trials

Researchers conducted a placebo-controlled **clinical trial** of this three-extract blend. They worked with 88 women with an average age of **62 years** who displayed two or more of these symptoms:

- **10 or more** episodes of daytime urination,
- **One episode or more** of incontinence per day,
- **Two or more** episodes of urinary urgency per day, and
- **Two or more** nighttime urination episodes per night.

Those in the treatment arm of the trial took **840 mg** of the extract blend once daily. After only **eight weeks**.<sup>3,4</sup>

- Daytime urination episodes returned to normal levels, falling from an average of more than **11 times** a day to an average of **under eight times** a day.
- Episodes of incontinence associated with urgency were reduced by **65%**, from an average of **nearly three times** a day to an average of **just once per day**,
- Urgent urinary episodes decreased nearly 60%, from an average of **almost four times** a day to an average of only **1.6 times** a day, and
- Episodes of waking to urinate were reduced **43%**, from an average of **3.8 times** a night to an average of **just over two times** a night.

## Better Quality of Life

Women who took the plant extract blend also reported substantial improvements in their **quality of life**, including.<sup>3,4</sup>

- A **50%** decrease in overactive bladder symptoms,
- A **39%** reduction in incontinence episodes, and
- A **39%** reduction in bladder discomfort.



WHAT  
YOU  
NEED  
TO  
KNOW

## A Solution for Women's Bladder Problems

- Many aging women experience **urinary symptoms**, which include frequent urination, urinary incontinence, urinary urgency, and nocturnal urination.
- In a **clinical trial**, a blend of extracts of the plants **horsetail**, **lindera**, and **three-leaf caper** significantly improved women's urinary symptoms and quality of life without side effects often seen in medication use.
- After only eight weeks, women taking this extract blend had their daytime urination frequency return to **normal**; incontinence episodes decreased by **65%**, urinary urgency episodes were reduced **60%**, and nighttime urination episodes declined **43%**.
- A whopping **79%** of women who took the plant extract blend reported feeling a **significant benefit**, compared to just **17%** of those taking a placebo.

In total, a stunning **79%** of women in the plant extract group reported a dramatic **improvement**, compared to only **17%** of participants taking the placebo.<sup>4</sup>

These benefits came **without side effects** typically seen with medications,<sup>3,4</sup> providing relief for many women who might otherwise have resigned themselves to living with urinary problems.

### Summary

Many women suffer from **urinary symptoms**, especially after age 40.

A clinical study has shown that a blend of extracts of the plants **horsetail**, **lindera**, and **three-leaf caper** was effective in reducing daytime urinary frequency, urinary incontinence, urinary urgency, and nocturnal urination in women.

It achieved these benefits and improved quality of life without side effects that often come with medications. •

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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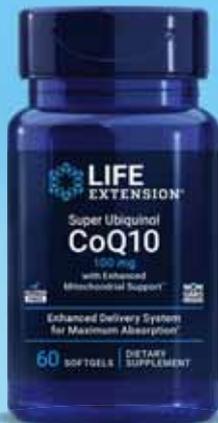
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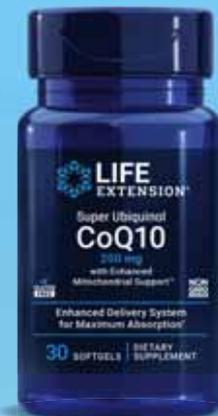
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REVIEW

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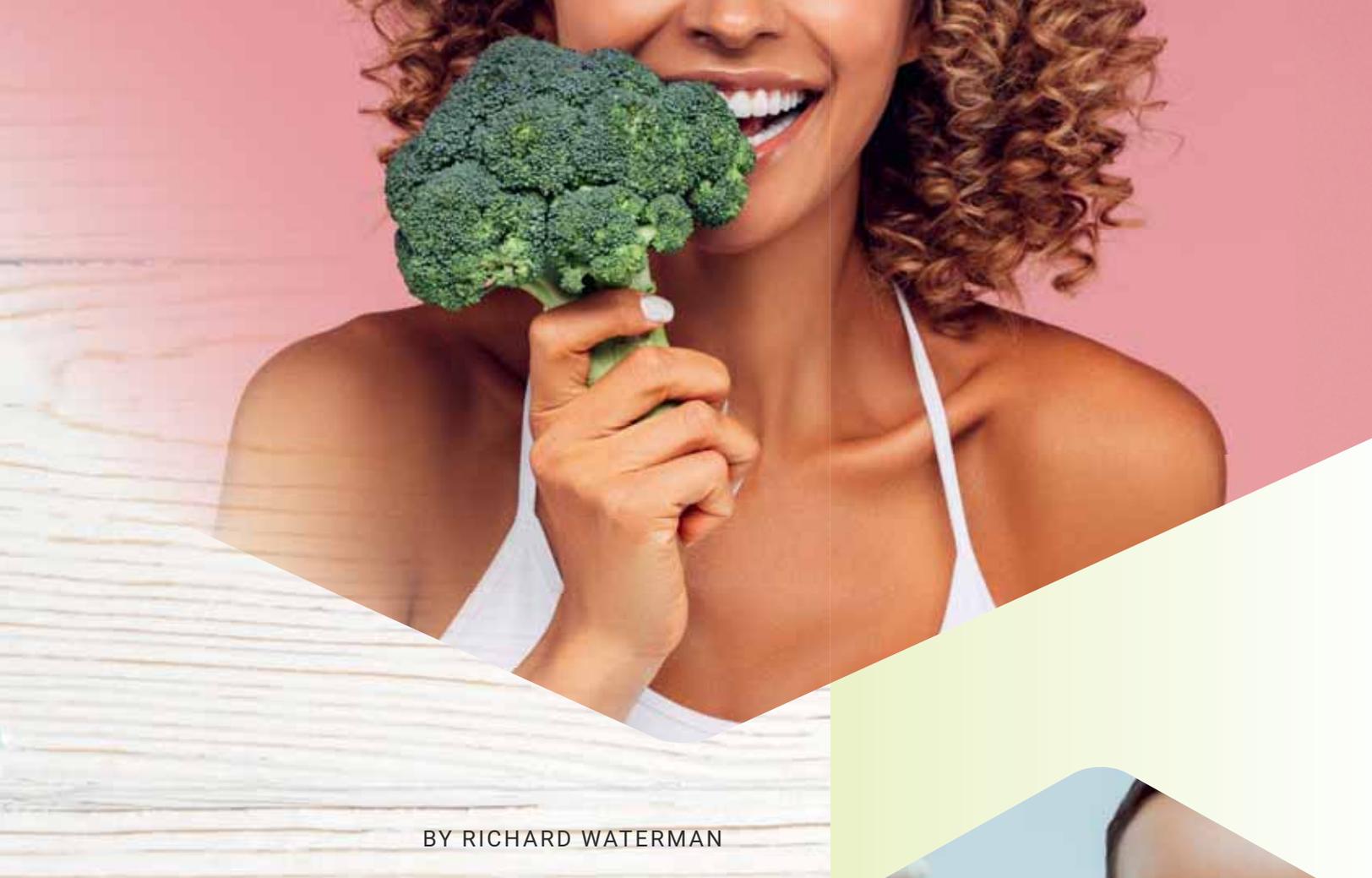
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# OPTIMIZE the Benefits of **BROCCOLI**





BY RICHARD WATERMAN

Most of us grew up being urged to “eat your broccoli.”

Turns out that was excellent advice.

**Broccoli** is a source of a nutrient called **sulforaphane**.<sup>1,2</sup>

Sulforaphane consumption has been shown to offer wide-ranging health benefits, including protection against:

- Cancer,
- Cardiovascular disease,
- Neurodegenerative diseases,
- Diabetes,
- And more.<sup>1-4</sup>

But getting enough of this nutrient can be difficult, particularly because **cooking** broccoli reduces the availability of **sulforaphane**.<sup>2,3,5</sup>

Scientists have discovered a way around this issue that mimics how nature delivers sulforaphane.

They combined a sulforaphane precursor with an enzyme that converts the precursor into **sulforaphane** in the digestive tract.

This enables more **sulforaphane** to be formed and distributed to cells throughout the body.



## Broccoli's Powerhouse Nutrient

Broccoli contains a sulfuraphane *precursor* called **glucoraphanin**, and an enzyme called **myrosinase**, which converts **glucoraphanin** into **sulforaphane**.<sup>2</sup>

These two compounds are found in *different parts* of broccoli cells. They mix together to form **sulforaphane** *only* when the plant is cut or chewed.

**Cooking** broccoli, as most of us do before eating it, *dramatically* reduces the amount of sulforaphane it can provide.<sup>3,6,7</sup>

**Chopped, raw broccoli sprouts** are the best natural source of sulforaphane. But you would have to eat a massive amount daily to obtain desired levels.

## Maximizing Delivery of Sulforaphane

Cruciferous vegetables are usually consumed cooked, which inactivates the plant enzyme **myrosinase**, required for activating **sulforaphane** inside the gut.<sup>6</sup>

Scientists have found a solution to maximize sulforaphane activation and absorption. They extract the sulfuraphane *precursor* **glucoraphanin** from **broccoli seeds**. Then they combine it with the enzyme **myrosinase** from **mustard seed powder**.<sup>8,9</sup>

Mustard plants belong to the same family of **cruciferous vegetables** as broccoli. The mustard-seed version of myrosinase is more robust than myrosinase from broccoli.<sup>8</sup>

The **sulforaphane precursor** and the **enzyme** only *combine* during **digestion**, rapidly releasing sulforaphane *in the gut*.

This innovative method allows **sulforaphane** to be readily *absorbed* and circulated throughout the body while it is still active.

## How Sulforaphane Protects Health

Sulforaphane has the ability to shield cells and tissues from threats. Think of it as a full-service **detoxification nutrient**.

One of its most crucial functions is to activate **Nrf2**, a protein that regulates over **250 genes** that protect cells from oxidative damage and other stressors.<sup>2,3,10</sup>

**Nrf2** also activates **detoxification** enzymes that protect against a wide range of threats. This includes neutralizing **mutagens**, toxins that can cause mutations that could lead to **cancer**.<sup>11</sup>

Sulforaphane also reduces harmful **chronic inflammation** by inhibiting **NF-kB**, a cellular complex that drives production of **pro-inflammatory** compounds.<sup>2,3,12</sup>

## Anti-Cancer Activity

**Sulforaphane** is one of the widely studied anti-cancer nutrients in the medical literature.<sup>3</sup>

It can help *prevent* cancer by favorably altering gene expression and reducing **chronic inflammation**. It has also been shown to fight against *existing* tumor cells and reduces tumor growth.<sup>4</sup>

In **preclinical** and **clinical studies**, sulforaphane has helped prevent the growth and spread of **cancer** in a few specific ways that include:<sup>2,3</sup>

- Preventing adverse gene expression that can lead to cancer growth,
- Blocking new tumor blood vessel growth,
- Inhibiting cancer cells' ability to reproduce, and
- Promoting the death (apoptosis) of cancer cells.

Many studies show that eating **broccoli** and other **cruciferous vegetables** is associated with a *lower* risk of different cancers in **humans**, including breast, prostate, colorectal, lung, and bladder cancers.<sup>4</sup>





### WHAT YOU NEED TO KNOW

## The Disease-Fighting Power of Broccoli

### Protection Against Other Diseases

**Sulforaphane** has been found to be beneficial against additional illnesses, including:

**Cardiovascular Disease.** Consumption of cruciferous vegetables is associated with reduced risk for cardiovascular disease. Studies have shown that sulforaphane can improve lipid levels, reduce obesity, and slow the progression of atherosclerosis, all actions that reduce risk and progression of heart disease.<sup>13</sup>

**Neurodegenerative Disease.** Preclinical studies have shown that sulforaphane is a neuroprotectant, shielding the brain and spinal cord from injury and disease.<sup>13,14</sup> It is able to cross the blood-brain barrier to exert its protective functions within the brain tissue itself.<sup>14</sup> It also has the potential to defend against neurodegenerative disorders like Alzheimer's and Parkinson's.<sup>2,13,14</sup>

**Type II Diabetes.** Metabolic abnormalities like type II diabetes can lead to cardiovascular disease, dementia, kidney disease, fatty liver disease, eye disease, nerve damage, and more. Studies show that broccoli and sulforaphane have the potential to improve aspects of these metabolic diseases, including reducing blood sugar, improving blood lipid levels, and improving insulin sensitivity.<sup>12</sup> In **human trials**, sulforaphane intake improves levels of fasting blood glucose and hemoglobin A1c (HbA1c), a marker of long-term glucose control.<sup>15</sup>

- **Broccoli** and other cruciferous vegetables are associated with many health benefits, including reduced risk for cancer, cardiovascular disease, neurodegenerative diseases, and type II diabetes.
- Scientists attribute many of broccoli's benefits to a compound called **sulforaphane**.
- When broccoli is cooked, its ability to produce sulforaphane is rapidly lost with processing and cooking.
- A new formula has been developed that combines a sulforaphane precursor found in broccoli with an enzyme from mustard seeds. Consuming this combination produces **sulforaphane** in the digestive tract, where it can be rapidly absorbed into the body.
- This formulation has the potential to maximize the benefits of sulforaphane to shield against metabolic and other chronic disorders.

**Viral Infection.** In cell studies and animal models, sulforaphane inhibits replication and reduces the impact of viruses that can cause respiratory infection in humans.<sup>16-19</sup>

Maximizing the intake of **sulforaphane** may help its ability to fight these pathologies and promote overall health.

## Summary

Many of the health benefits of broccoli and other **cruciferous vegetables** come from a nutrient called **sulforaphane**.

Sulforaphane has been shown to have activity against cancer, cardiovascular disease, neurodegeneration, type II diabetes, and more.

The *enzyme* that converts the precursor to sulforaphane gets degraded when broccoli is cooked.

Scientists have discovered how to formulate the precursor of sulforaphane with the enzyme (myrosinase) that converts to active **sulforaphane in the gut**.

It can then be easily circulated throughout the body. ●



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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"Good stuff!"

Steven

VERIFIED CUSTOMER  
REVIEW

A

# 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.

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

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**Folate** promotes heart and brain health by maintaining already healthy homocysteine levels.

You can get folate from food or folic acid supplements. Either way, your body has to convert folate into **5-MTHF** in order to use it.

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

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“Love the combination of ingredients in this supplement.”

Amy

VERIFIED CUSTOMER REVIEW

# RELEASE the POWER of BROCCOLI



Many of broccoli's benefits come from **sulforaphane**—a compound that is *activated* when the plant is cut or chewed.<sup>1-3</sup>

Mature broccoli provides relatively little sulforaphane precursor compared to broccoli sprouts. Cooking further depletes the sulforaphane precursor.<sup>2,4</sup>

**Optimized Broccoli with Myrosinase** improves conversion of the precursor into **sulforaphane**, and its absorption into the bloodstream.<sup>2,5,6</sup>

Each capsule contains:

**Glucoraphanin**, a sulforaphane precursor found in broccoli seed extract, that is standardized to a high concentration.<sup>3,4</sup>

**Myrosinase**, an enzyme found in mustard seed that converts **glucoraphanin** to **sulforaphane**.<sup>2-6</sup>

**Vitamin C**, a cofactor for the myrosinase enzyme for more efficient *enzymatic conversion*.<sup>7</sup>

Item #02368

30 vegetarian capsules

1 bottle **\$27.75**

4 bottles \$26.50 each

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

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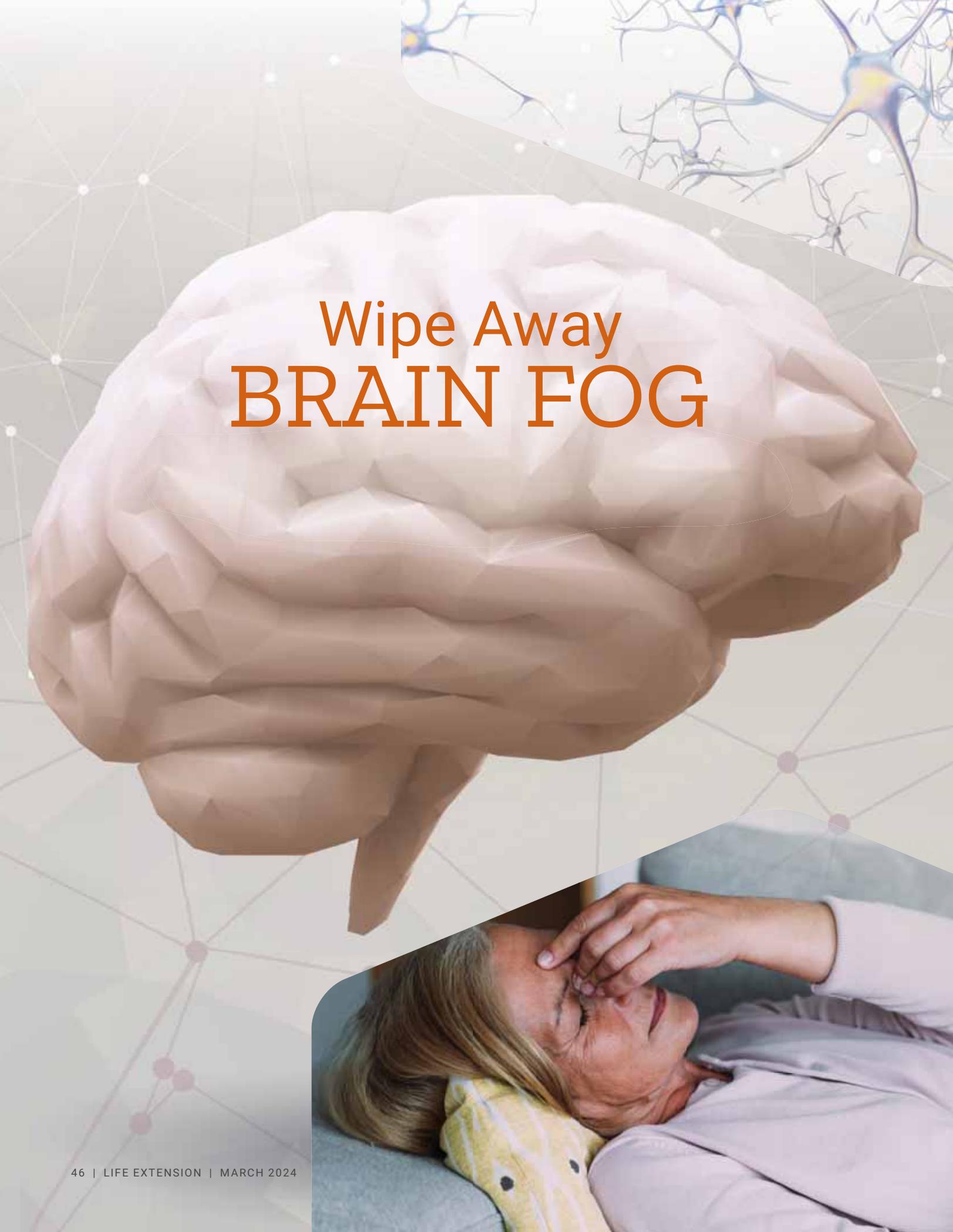
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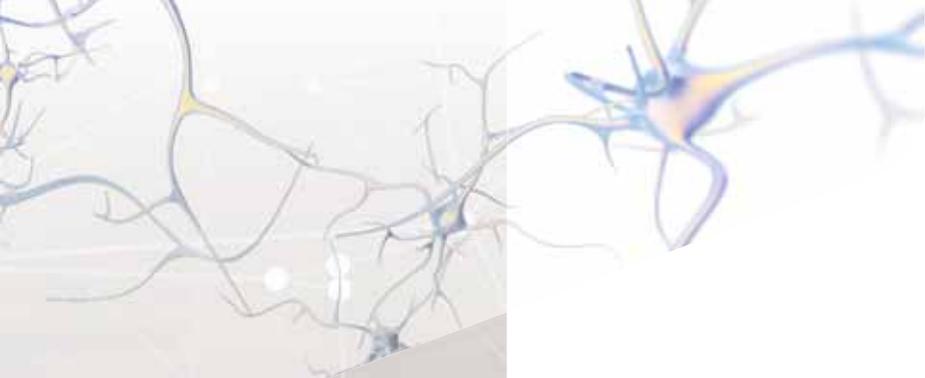


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# Wipe Away BRAIN FOG





BY MICHAEL DOWNEY

Have you had days when thinking seemed “fuzzy” and you couldn’t concentrate?

If it interferes with daily life, you may be suffering from **brain fog**.<sup>1,2</sup>

Brain fog refers to an overall feeling of **decreased focus** and **low mental energy**.

After pinpointing **biological changes** in the brain that may trigger brain fog, researchers identified two **plant-based nutrients** that can prevent or reverse these changes to boost alertness and mental sharpness.

In clinical trials, **mango leaf extract**:<sup>3,4</sup>

- Improved reaction time,
- Reduced mental fatigue,
- Boosted attention,
- Increased performance accuracy, and
- Enhanced working memory.

In additional clinical studies, **peppermint oil**:<sup>5</sup>

- Reduced development of mental fatigue,
- Improved aspects of memory, and
- Boosted attention levels.

Taken together, **mango leaf extract** and **peppermint oil** may help replace that fog with focus.



## Origins of Brain Fog

**Brain fog** is more than an annoyance. The feeling of mental fatigue, difficulty concentrating, and foggy thinking can impair cognitive performance and get in the way of school, work, family time or day-to-day activities.

To understand brain fog better, scientists studied medical conditions that produce some of the same **mental symptoms**.

Complaints consistent with **brain fog** have been reported by people with:<sup>2,6-12</sup>

- Various inflammatory disorders,
- Allergies (including seasonal allergies),
- Immune disorders, which increase inflammation, and
- Dietary sensitivities.

After analyzing the **biological alterations** associated with these conditions, scientists proposed that brain fog may be caused by:<sup>6-8,13</sup>

- Release of **histamine** (the chemical that causes allergic symptoms),
- **Inflammation**, and
- **Neurotransmitter** imbalance and impairments in neuronal activity.

## Reversing Harmful Changes

Based on this research, scientists began studying compounds that met **two criteria**:

- They could prevent or reverse the biological alterations seen in conditions that lead to brain fog, and
- They have been shown in animal or human studies to improve symptoms of brain fog.

They identified two plant-derived ingredients that met **both** of these conditions and seemed the most promising:

- **Mango leaf extract** has been clinically shown to improve reaction time, mental fatigue, attention, performance accuracy, and working memory,<sup>3,4</sup> and
- **Peppermint oil** has been clinically shown to reduce mental fatigue and improve aspects of attention and memory.<sup>5</sup>

## Mango Leaf's Protective Effects

**Mango leaf** has long been used in Asia and Africa to treat fatigue. It has neuroprotective, anti-inflammatory, and anti-diabetic properties, which scientists suggest may help prevent brain fog.<sup>3</sup>

These effects are believed to be largely attributable to the polyphenol compound **mangiferin**.

In animal and human studies, **mangiferin** showed a capacity to **protect the brain** by:<sup>3,14-18</sup>

- Decreasing neuroinflammation,
- Reducing oxidative stress,
- Providing neurotransmitter support,
- Preventing cognitive and memory impairment,
- Improving key brain fog symptoms, and
- Exhibiting anti-allergic properties.




 WHAT YOU NEED TO KNOW

## Fight Brain Fog

- **Brain fog** is the feeling of reduced mental energy, clarity, focus, and performance.
- Preclinical studies show that **mango leaf extract** and **peppermint oil** each counter the underlying mechanisms thought to contribute to brain fog.
- In clinical studies, **mango leaf extract** and **peppermint oil** improve symptoms of brain fog, reducing mental fatigue and improving attention, memory, and cognitive performance.
- A combination of these two ingredients may maximize their brain-supporting power and help lift **brain fog**.

### Clearing Mental Fog

To explore the ability of mango leaf to treat symptoms of **brain fog**, scientists conducted controlled **human** trials.

In one study, healthy adults were randomized into four groups. Each group was given one of the following:<sup>3</sup>

- **Mango leaf extract** containing **60% mangiferin**,
- **Caffeine**,
- **Mango leaf extract and caffeine**, or
- A **placebo**.

The **mango leaf extract** group had, compared to baseline:<sup>3</sup>

- A striking **47% reduction** in fatigue, and
- An almost **5% improvement** in reaction time.

These results were significantly *greater* than those observed with **caffeine** alone or with a combination of caffeine and mango extract.

Additionally, brain electrical activity tests showed that taking mango leaf extract increased activity in regions associated with **attention, complex cognitive processing, and memory**.<sup>3</sup>

In another clinical study, healthy young adults took either **300 mg of mango leaf extract** or a **placebo**.

The mango leaf improved several areas of **cognitive function**, including aspects of:<sup>4</sup>

- Attention,
- Performance accuracy, and
- Working memory.

Improvements were also accompanied by a more relaxed mood. This is critical, because many people who take **caffeine** to counter brain fog find that it increases nervousness and jitters.

These findings demonstrate that **mango leaf extract** boosts brain activity, decreases mental fatigue, and supports mental focus and performance.

## Peppermint's Brain Effects

The herb **peppermint** has traditionally been used to promote digestion and induce calm.

Placebo-controlled studies have shown that plants rich in **monoterpenes** provide cognitive benefits.<sup>19-21</sup> Peppermint oil contains many compounds from this group, including **menthol** and **menthone**.<sup>21</sup>

Human studies show that **peppermint teas**:<sup>22</sup>

- Improve memory, and
- Boost mental alertness.

In addition, mint species have shown the ability to modulate various **neurotransmitters** in the brain, such as **acetylcholine** and **GABA**, which play roles in cognition, mood, and mental alertness.<sup>5</sup>

## Boosting Brain Power

In a clinical trial, healthy adults took either **peppermint oil** containing **60% monoterpenes** or a **placebo**.<sup>5</sup>

Tests were administered to assess aspects of memory, attention, and mood.

Participants who took the **peppermint oil** showed significant benefits, including:<sup>5</sup>

- Reduced development of **mental fatigue**, and
- Enhanced aspects of **attention** and **working memory**.

By contrast, those who took the **placebo** were fatigued within a few hours after performing various cognitive tasks.<sup>5</sup>

Taking peppermint oil and mango leaf extract together may maximize their ability to banish brain fog.

## Summary

Two plant-based ingredients can improve symptoms of **brain fog**.

**Mango leaf extract** and **peppermint oil** have each been shown in clinical studies to help bring back mental clarity, energy, and focus.

Combined, they may help reduce, or even *eliminate*, symptoms of **brain fog**. •

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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## Introducing Life Extension® DOG

We've been passionate about health for over 40 years. We're now proud to offer soft chews for dogs, made with the same quality and attention to detail as all our supplements.

### Multivitamin & Probiotics

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



Item #02524 • 90 soft chews  
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1 jar \$29.25 | 4 jars \$27.50 each

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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 skin<sup>6</sup> and to maintain a healthy coat.<sup>6-8</sup>



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Food Supplement  
1 jar \$29.25 | 4 jars \$27.50 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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**PEA** is a fatty acid found in the body that works at the site of discomfort.

Clinical studies show **PEA** can combat stubborn, minor pain and discomfort within **14-30 days** of supplementation.<sup>1-3</sup>

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4 bottles \$23 each

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

**References**

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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**.<sup>1-5</sup>
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- **Alpha-carotene** further helps support **macular density**.<sup>1</sup>



MacuGuard® Ocular Support  
with Saffron + Astaxanthin

Item #01993 • 60 softgels

1 bottle \$32.25 • 4 bottles \$29 each



MacuGuard® Ocular Support  
with Saffron

Item #01992 • 60 softgels

1 bottle \$18 • 4 bottles \$17 each

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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(Each bottle lasts for two months.)

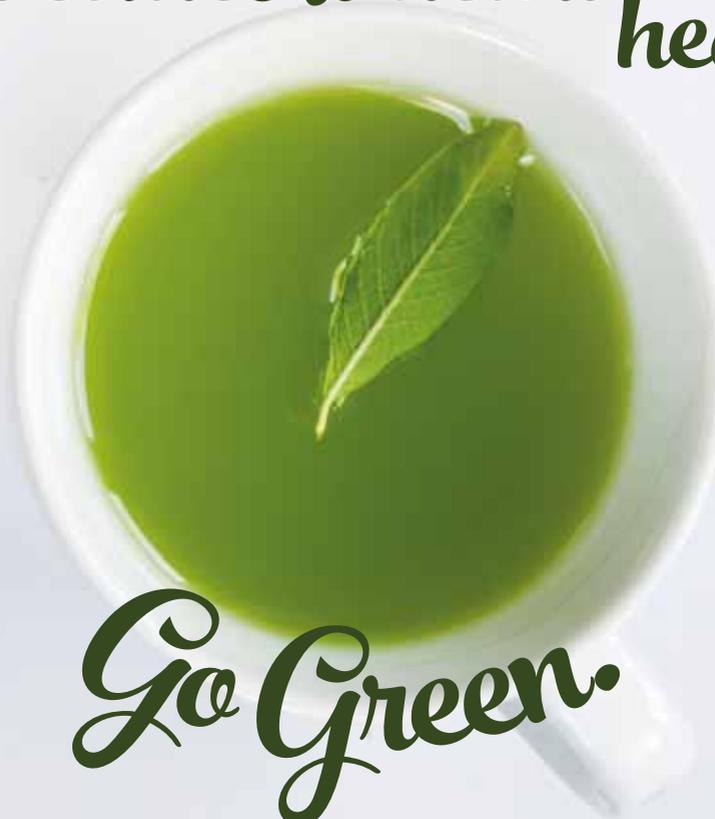
**MacuGuard® Ocular Support is available with or without astaxanthin.**

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](http://www.consumerlab.com).



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# CLEAR YOUR MIND



**Brain Fog Relief** restores mental clarity and focus with **mango leaf extract** and **peppermint oil**.

In clinical trials...

#### **MANGO LEAF EXTRACT:**<sup>1,2</sup>

- Sharpened thinking
- Reduced mental fatigue
- Improved focus and attention, and
- Improved working memory

#### **PEPPERMINT OIL:**<sup>3</sup>

- Reduced mental fatigue
- Improved attention and memory

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

#### **References**

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3. *Nutrients.* 2018 Aug 7;10(8).

Zynamite® is a registered trademark of Nektium Pharma SL. Patents and patents pending.



**ITEM #02510 • 30 softgels**

1 bottle **\$21** • 4 bottles \$19 each

For full product description and to order **BRAIN FOG RELIEF** call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

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

NAD<sup>+</sup> facilitates the production of ATP, which your body uses for fuel.

**NAD<sup>+</sup> Cell Regenerator™** formulas help maintain *healthy* levels of NAD<sup>+</sup>.

## **NAD<sup>+</sup> Cell Regenerator™ and Resveratrol Elite™**

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

**Item #02348 • 30 veg. caps.**

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NAD<sup>+</sup> Cell Regenerator™ has met ConsumerLab.com standards for ingredient and product quality for Nicotinamide Riboside in independent testing. More information at [www.consumerlab.com](http://www.consumerlab.com).



For full product description and to order **NAD<sup>+</sup> Cell Regenerator™** or **NAD<sup>+</sup> Cell Regenerator™ and Resveratrol Elite™**, call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

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# Restore Youthful Cellular Energy with

# PQQ

**PQQ** (pyrroloquinoline quinone) activates genes involved in the production of cellular energy.<sup>1-5</sup>

Studies show **PQQ** supports heart health and cognitive function, complementing CoQ10.<sup>6,7</sup>

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

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](http://www.LifeExtension.com)



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

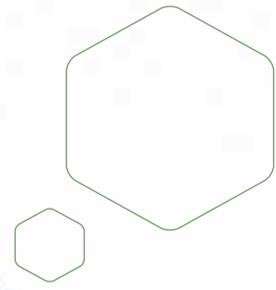
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Reduce  
**COLD, FLU,**  
and **ALLERGY**  
Symptoms



BY HEATHER L. MAKAR



**Colds and allergies** make millions of people miserable every year.

The **flu** causes tens of thousands of U.S. deaths in a typical year.<sup>1</sup>

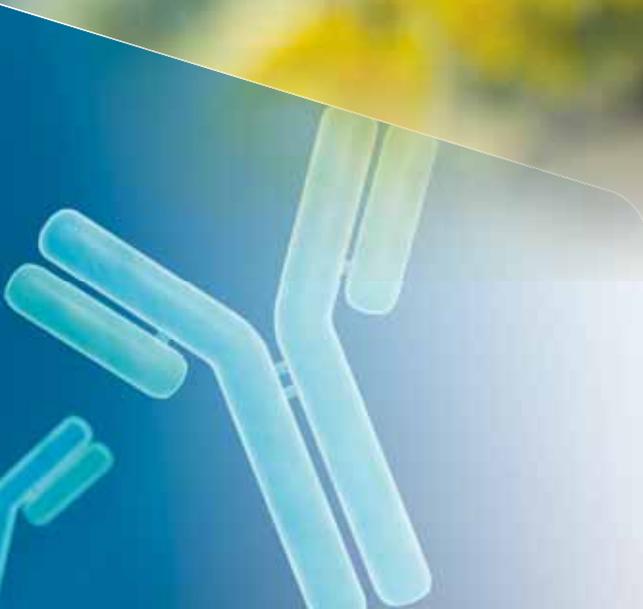
**Human** studies demonstrate how two ingredients help **prevent** colds and flu and **reduce the severity and duration** of symptoms when they do occur.

In a clinical study of school children, consumption of yogurt containing the **probiotic *L. rhamnosus* CRL1505** resulted in approximately:<sup>2</sup>

- **55% fewer** cold and flu occurrences, and
- **48% fewer** cases of fever.

In other **human** studies, **yeast fermentate** cut days of suffering from nasal congestion during peak allergy season by **43%**<sup>3</sup> and reduced cold and flu symptoms during winter.<sup>4</sup>

Both these ingredients boost the activity of an **antibody** that provides **immune** responses against viruses and bacteria.<sup>5,6</sup>



## Fighting Colds and Flu

American adults get an average of two to four colds annually.<sup>7</sup>

**Colds, flu, and seasonal allergies** cause **75%** of all employees to miss some work, with an average time out of work of two to three days per upper respiratory episode.<sup>8</sup>

Researchers have identified two compounds, a **probiotic**<sup>2</sup> and a **dried yeast fermentate**,<sup>4</sup> that can help prevent colds and flu and their symptoms *and* reduce their **severity** and **duration** when they occur.

**Probiotics** are beneficial bacteria and yeast. Their formal definition is “living microorganisms that promote health when ingested in sufficient amounts.” The specific strain ***Lactobacillus rhamnosus* CRL1505** can enhance immunity against respiratory infections.<sup>5,9</sup>

Using a proprietary fermentation process, scientists created a special dried **fermentate** of baker’s **yeast** (*S. cerevisiae*).

The **fermentate** helps promote the body’s healthy **immune response** by increasing the antibody **secretory IgA**.<sup>10,11</sup>

**Secretory IgA** is known to block pathogens from penetrating mucosal surfaces,<sup>12,13</sup> which may provide protection from environmental triggers of allergies, such as pollen.

Yeast fermentate is rich in **beta-glucans**, complex carbohydrates shown to have **immune-enhancing** effects such as supporting activity of **natural killer cells**.<sup>14,15</sup>

## Avoid Allergy Drug Side Effects

While over-the-counter medications can provide temporary relief from cold, flu, and allergy symptoms, they don’t impact the frequency or duration of these illnesses.

**Side effects** from drugs for seasonal flu and allergic rhinitis include drowsiness, headaches, rapid heartbeat, and sleep problems.<sup>16</sup> Some allergy medications, such as **anticholinergics**, are associated with increased risk of cognitive impairment.<sup>17,18</sup>

The **probiotic** *Lactobacillus rhamnosus* CRL1505 and yeast fermentate are associated with little to no adverse effects.

## An Immunity-Boosting Probiotic

***L. rhamnosus* CRL1505** was originally isolated from goat’s milk in Argentina.<sup>5</sup>

Cell and animal research has found that this probiotic can improve innate **respiratory immunity**, increase levels of **anti-pneumococcal antibodies** (which fight a wide range of infections),<sup>19</sup> and reduce the **inflammatory** response that causes some cold/flu symptoms.<sup>20,21</sup>

A **human study** found that oral use of this probiotic significantly increases levels of antibodies known as **immunoglobulin A (IgA)**.<sup>2</sup>

These antibodies are secreted from mucous membranes including the nose, mouth, and lungs, and can block viruses that cause **colds** and **flu** from invading cells and causing infection.



WHAT  
YOU  
NEED  
TO  
KNOW



### Preventing Infections

In Argentina, scientists enrolled preschool children attending day care centers in a **placebo-controlled** study of a yogurt containing the *L. rhamnosus* **CRL1505** probiotic strain.

Over a six-month period, compared to a group receiving yogurt *without* the probiotic, children receiving **100 million CFUs** (colony-forming units) of *L. rhamnosus* **CRL1505** five days a week had:

- **55%** fewer cold and flu occurrences,
- **48%** fewer instances of fever,
- **49%** fewer overall infections, and
- **47%** *higher* levels of beneficial **secretory IgA**.

The treatment group also had **61%** fewer cases of **tonsillitis** and **pharyngitis** (a throat infection).

These results captured the attention of the Argentinian government, which has been distributing the probiotic yogurt to more than **200,000 children annually** since **2008**.<sup>2</sup>

## Reduce the Misery of Colds, Flu, and Allergies

- In a clinical trial, the probiotic strain *Lactobacillus rhamnosus* CRL1505 reduced cold and flu occurrences by **55%**, infections by **49%**, and fevers by **48%** over six months.
- Taking dried yeast fermentate also reduced cold and flu symptoms and dramatically reduced symptoms of seasonal allergies, leading to **43%** fewer days with nasal congestion.
- These ingredients boost aspects of the immune system, including natural killer cell activity and antibodies against viruses and bacteria.
- A combination of yeast fermentate and *L. rhamnosus* CRL1505 may help decrease the frequency, duration, and severity of allergies, colds, and flu.

## Yeast Fermentate Strengthens Immunity

The effects of **yeast fermentate** were discovered unintentionally when it was noticed that factory workers in Cedar Rapids, Iowa, who inhaled the yeast daily, took significantly **fewer sick days** than their office-worker counterparts.<sup>6</sup>

This observation led to multiple **human** studies, which found that oral intake of dried yeast fermentate resulted in:<sup>3,6,15,22,23</sup>

- Increased levels of **secretory IgA**, the antibody providing mucosal immune defense against viruses and bacteria, and
- Increased activity of **natural killer cells**, immune cells that are part of the first line defense against infected cells.

A company in Iowa went on to develop a dried **yeast fermentate** using baker's yeast. At least **five placebo-controlled** clinical trials have since validated its protection against **colds, flu, and allergies**.<sup>15,22,23</sup>

In one clinical trial, taking **500 mg of dried yeast fermentate** daily from January through March (peak cold and flu season) led to a **13% reduction** in cold or flu symptoms, compared to a placebo group.<sup>4</sup>

In a similar study, the same dose reduced the **duration** of cold and flu symptoms by **17%**.<sup>24</sup>

## Relief for Allergy Symptoms

Yeast fermentate also helps relieve symptoms of seasonal **allergies**.

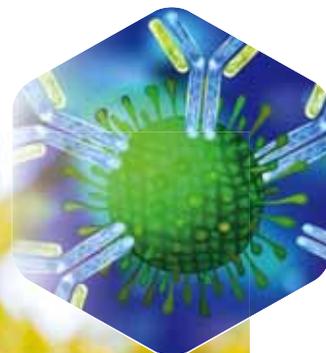
Allergy symptoms are primarily caused by **immunoglobulin E (IgE)** antibodies, which trigger the body's release of chemicals such as **histamine** that cause these reactions.

**Yeast fermentate** has shown an ability to *prevent* IgE levels from rising too much, reducing allergic reactions.<sup>23</sup>

In a pilot study, adults were given a placebo or **500 mg of dried yeast fermentate** daily for five weeks during allergy season. Symptoms were unchanged in the placebo group, while **half** of those taking yeast had a **complete absence of allergy symptoms**. Symptoms returned within two weeks after stopping the yeast fermentate.<sup>23</sup>

A larger clinical study of adults with seasonal allergies and hay fever showed that those taking **500 mg** of dried **yeast fermentate** daily had **43%** fewer days with nasal congestion and reduced severity of runny noses and congestion.<sup>3</sup>

Taking **yeast fermentate** and ***L. rhamnosus* CRL1505** together may help provide broad protection against colds, flu, and allergies.



## Summary

In separate clinical studies, **dried yeast fermentate** and the probiotic ***L. rhamnosus* CRL1505** significantly reduced the severity, frequency, and duration of symptoms associated with **colds** and **flu**.

**Yeast fermentate** also reduced **allergy** symptoms.

These two ingredients have been found to enhance **immune defenses** against viruses and bacteria in numerous ways. •

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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# Coriander

BY LAURIE MATHENA



Coriander, known more commonly in the U.S. as *cilantro*, is an herb that has been used for more than 3,000 years for both culinary and medicinal purposes.<sup>1</sup>

This tart and citrusy herb is a common ingredient in Asian dishes like those with garam masala and Thai curry.

In traditional medicine, coriander (*Coriandrum sativum*) has been utilized for gastrointestinal disorders such as diarrhea, dysentery, vomiting, dyspepsia, flatulence, and more.<sup>2,3</sup> Modern science and recent medical evidence affirm its health benefits.

In a trial, individuals with irritable bowel syndrome received an herbal blend containing coriander, spearmint and lemon balm or a placebo (both groups received Loperamide or psyllium) three times per day for eight weeks. Significantly lower severity and frequency of abdominal pain and bloating were observed in the herbal blend group.<sup>4</sup>

Coriander also provides a variety of heart-health benefits, with documented anti-dyslipidemic, anti-hypertensive, anti-inflammatory, and diuretic activities.<sup>4</sup>

In a study of rats fed on a high-fat diet with added cholesterol, they experienced significant increases in total cholesterol and triglycerides.<sup>5</sup> However, the rats given coriander seeds had decreased levels of LDL and very low density lipoprotein (VLDL) cholesterol, and an increase in beneficial HDL cholesterol compared to the control group.

This study showed that coriander appears to work by enhancing the breakdown of cholesterol for removal from the body.

Another study of rats that were fed a regular or high calorie diet, and received either coriander seed extract or glibenclamide (antidiabetic drug) found that coriander seed extract decreased insulin resistance and decreased blood sugar by **72 mg/dL** in just six hours in both groups. Results were more promising in the group that was fed a high calorie diet. After 21 days significant improvements in metabolic health markers were observed in the extract group as compared to glibenclamide group.<sup>6</sup>

Coriander's ability to help regulate blood lipids has been demonstrated in human studies as well.

In a study of patients with cardiovascular disease, taking coriander seed powder (**2 grams** per day) for 40 days significantly decreased body mass index (BMI), total cholesterol, LDL cholesterol, and systolic blood pressure. It also contributed to a beneficial increase in HDL cholesterol.<sup>7</sup>

In a trial, diabetic patients who were given coriander seed powder or placebo, showed significant reduction in blood glucose and cholesterol markers after six weeks. Improvement in metabolic health markers and cardioprotective indices show that coriander seed powder may have cardiovascular protective effects in diabetic patients.<sup>8</sup>

There are a variety of ways to incorporate coriander into your diet. It works well in bean dips, soups, or salsa. And fresh cilantro leaves pair well with foods like avocado, corn, tomatoes, and chicken.

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# The Alliance for Longevity Initiatives

BY DYLAN V. LIVINGSTON AND BRENDA EAP, PHD



The Alliance for Longevity Initiatives is an independent 501(c)(4) nonprofit organization, dedicated to “advancing legislation and policies that aim to increase healthy human lifespan, with a focus on accelerating equitable access to next-generation therapies,” according to its mission statement.

Founded in 2022, **the Alliance for Longevity Initiatives** advocates for policies and initiatives that extend **human** healthspan and end the threat of **age-related** diseases (e.g., cancer, cardiovascular disease, and Alzheimer’s disease). It was created to advance biomedical technology and increase its accessibility to the public.

The **Alliance for Longevity Initiatives** fosters the collaboration between policy advocates and longevity scientists in academic institutions and biotechnology companies to ensure legislative action is supporting the needs of scientists and entrepreneurs.

## Formation of the First Longevity Science Caucus

In February 2023, the **Alliance for Longevity Initiatives** was the driving force behind the formation of the first Longevity Science Caucus, made up of a bipartisan group of Congressional House members representing districts with a prominent biotech industry presence.

The caucus was formed to promote an increase in appropriations for biology of aging research, support aging and longevity biotechnology, and facilitate streamlined regulations, all of which will help Americans sustain a healthy lifespan.

The bipartisan caucus is made up of members of the Energy and Commerce Committee which has jurisdiction over biomedical research in the U.S.

### State of Montana Expands ‘Right-to-Try Act’

The **Alliance for Longevity Initiatives** worked closely with Montana’s State Senate in the passage of Senate Bill 422 — an expansion in access under the existing Right-to-Try federal law.

As of October 1, 2023, all patients (not just terminally ill patients) in Montana have the right to access therapeutics that have passed Phase I safety trials, cutting down the theoretical time it takes for therapies to go from bench to bedside.

The expansion of this bill seeks to amend several sections of Montana’s law, allowing a manufacturer of an investigational drug, biological

product, or device to provide the treatment to an eligible patient who has requested it.

With the establishment of the Longevity Science Caucus, the Alliance for Longevity Initiatives is working towards making promising longevity therapeutics in the pipeline accessible and equitable to the public.

One example is the whitepaper on **“The Advanced Approval Pathway for Longevity Medicine”** which is a fast-track approval pathway that aims to expedite the market entry of anti-aging therapies.

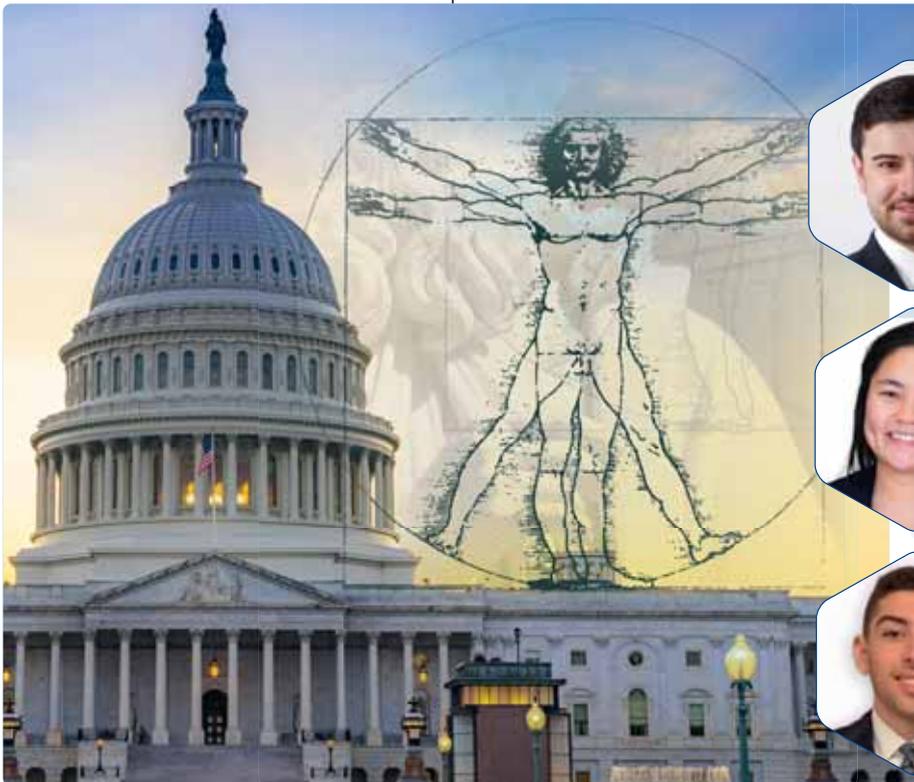
The briefings held on Capitol Hill provided the opportunity to educate dozens of offices. The successful expansion of the ‘Right-to-Try Act’ in Montana has created a dialogue around advocating for the same expansion across the U.S., ensuring that many more people have the right to access health and longevity therapeutics as soon as possible.

“The **Alliance for Longevity Initiatives** is very proud of what we have accomplished... since its public launch,” said founder and CEO Dylan V. Livingston.

“But the work done so far is just the tip of the iceberg. We must sustain and expand their legislative impact. We must reorient the U.S. government’s priorities so that its main focus is keeping its citizenry as healthy as possible for as long as possible.”

To read more, please visit: <https://a4li.org/>

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



Dylan V. Livingston  
Founder & CEO



Brenda Eap, PhD  
VP of Operations



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# Paige MacEachern

## The UCLA Swimmer's Secrets to Success



BY LAURIE MATHENA



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Some people wait until they're older to start making healthy choices for their lives.

At 21 years old, Paige MacEachern is harnessing a healthy lifestyle and targeted nutrients to help boost her success as a competitive swimmer at the University of California, Los Angeles (UCLA).

This past summer, MacEachern swam for Team USA at the University Games in Chengdu, China, where she took home a silver medal in the 800-meter free relay, and a bronze medal in the 400-meter individual medley (IM).



She broke UCLA's school record in the 400-meter IM, won All-American Honors in the 400 IM, and placed fourth in the 2021 Olympic Trials Wave I.

Now, as an Olympic Trial Qualifier, she has her sights set on the 2024 Olympic Games.

### A Competitive Edge

In a sport where tenths of a second can make a difference between a podium finish and last place, little factors can make a big difference in success.

Consistent practice, pool and dryland training, and an intense focus on technique are foundational.

MacEachern's training regimen includes up to 20 hours of training per week. This consists of one or two two-hour swim practices per day, plus one hour of dryland training (such as strength training) three days a week.

In addition to her intense training, MacEachern's recipe for success under the demands of such grueling physical and mental stress includes a healthy lifestyle, mental toughness, and targeted nutrient support.

"My whole life, swimming has helped me stay on a constant routine of waking up early, working out, and eating healthy," said MacEachern.

As a competitive athlete, MacEachern benefits from extra support from nutrients for muscle and mineral recovery. And due to the demanding physical schedule, she values extra immune support as well.

"Taking these nutrients has helped me stay competitive and perform at the highest level as it has kept me feeling strong, healthy, and staying away from sickness," said MacEachern.

Based on these specific needs, MacEachern’s current nutrient list includes the following:

- **Tart cherry, potassium, and magnesium** (for muscle and mineral recovery after workouts)
- **Probiotic** (for GI support and a healthy stomach)
- **Vitamin C, vitamin D, and zinc** (for immune system health)
- **B-Vitamin Complex** (for extra energy production)
- **Chocolate protein bar** (for protein on the go)

“Taking these nutrients every day has helped me maintain my busy schedule between school and swimming. As I get older, I anticipate them continuing to help support my body in new ways,” said MacEachern.



## Family Legacy

For MacEachern, swimming is more than a sport—it’s a legacy.

Before her, Paige’s mother, Channon MacEachern, swam collegiately at Southern Methodist University. She was a finalist in the 200-meter breaststroke at the 1984 Olympic Trials and represented the U.S. at the 1985 World University Games in Kobe, Japan.

And her uncle, Thomas Hermstad, served as a water polo referee at the Olympics from 1972 to 1988.

“My mother is a huge inspiration regarding my swimming career. It helped me to be able to talk with her about the challenges that come with competitive swimming,” said MacEachern. “My father is also my inspiration, as he is one of the most hard-working and supportive dads I could ever ask for. I am very grateful to have them both in my life.”



As MacEachern looks to the future, her next major goal is to qualify for the 2024 Summer Olympics in Paris, France.

In the meantime, she can also look back at the accomplishments that brought her this far.

“I am very proud of what I have accomplished in the pool and in the classroom in the past two years,” said MacEachern. “It has taught me to be gritty and work for everything and not give up when times are hard.” •

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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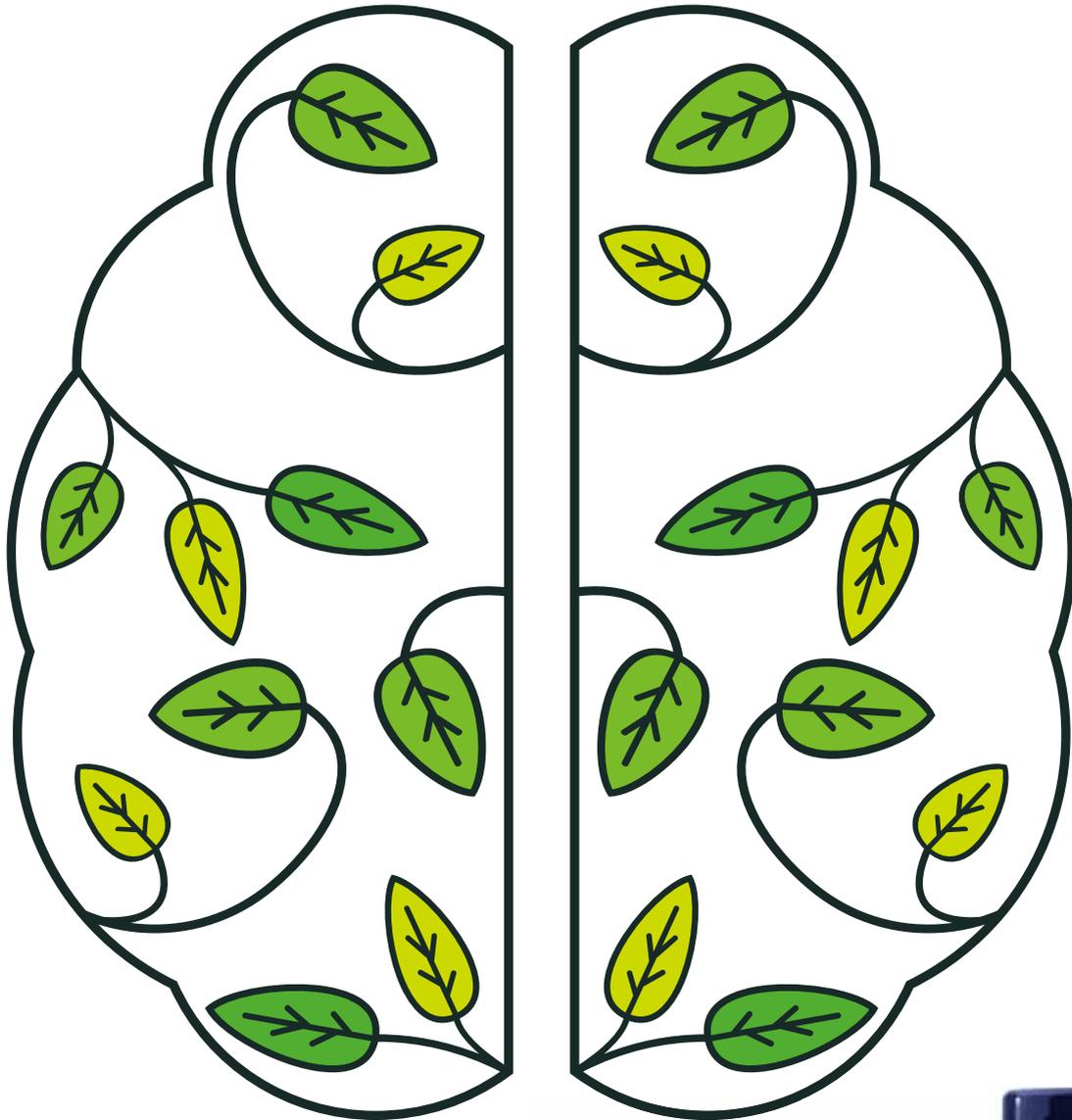
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- 02171 Rainforest Blend Whole Bean Coffee

**GLUCOSE MANAGEMENT**

- 01503 CinSulin® with InSea<sup>2</sup>® 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 with Myrosinase
- 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 HEALTH SUPPORT**

- 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®
- 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®

- 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™

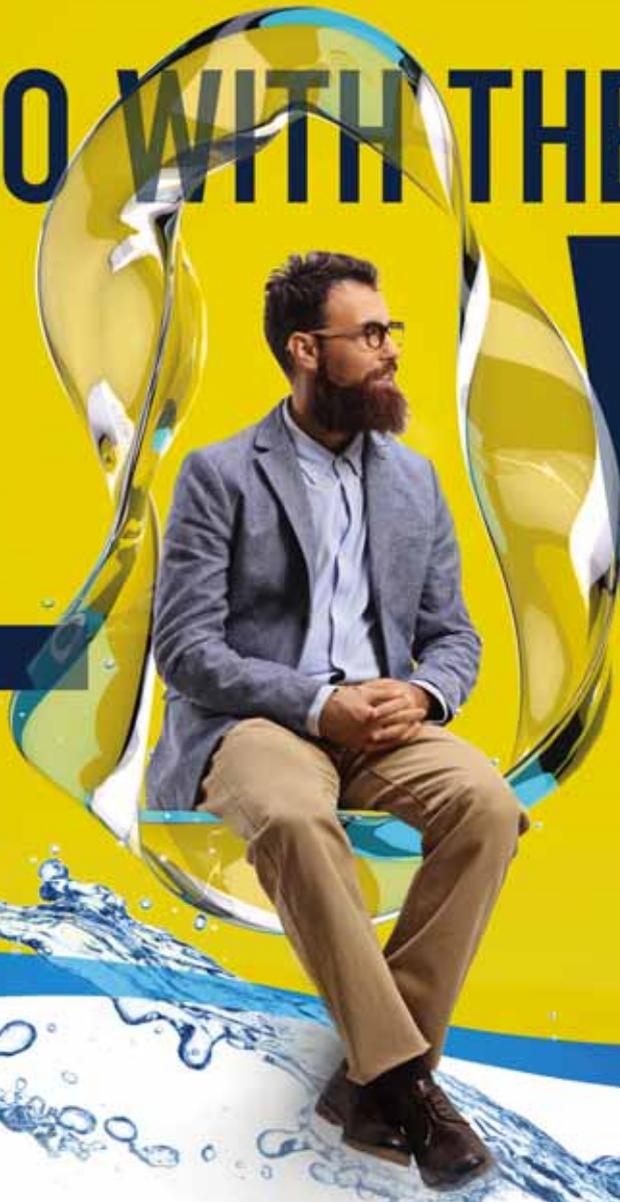
**WEIGHT MANAGEMENT & BODY COMPOSITION**

- 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

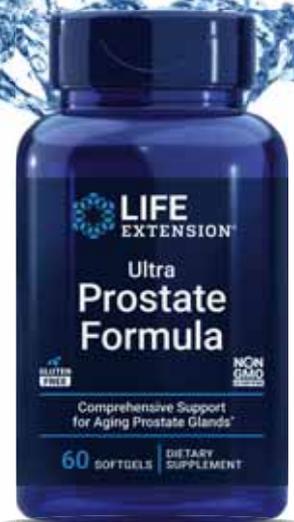
# GO WITH THE FLOW



**Ultra Prostate Formula** is designed to address essential factors involved in prostate health: size & function, hormone metabolism and yes, even nighttime flow.

It is the most advanced prostate-health supplement.

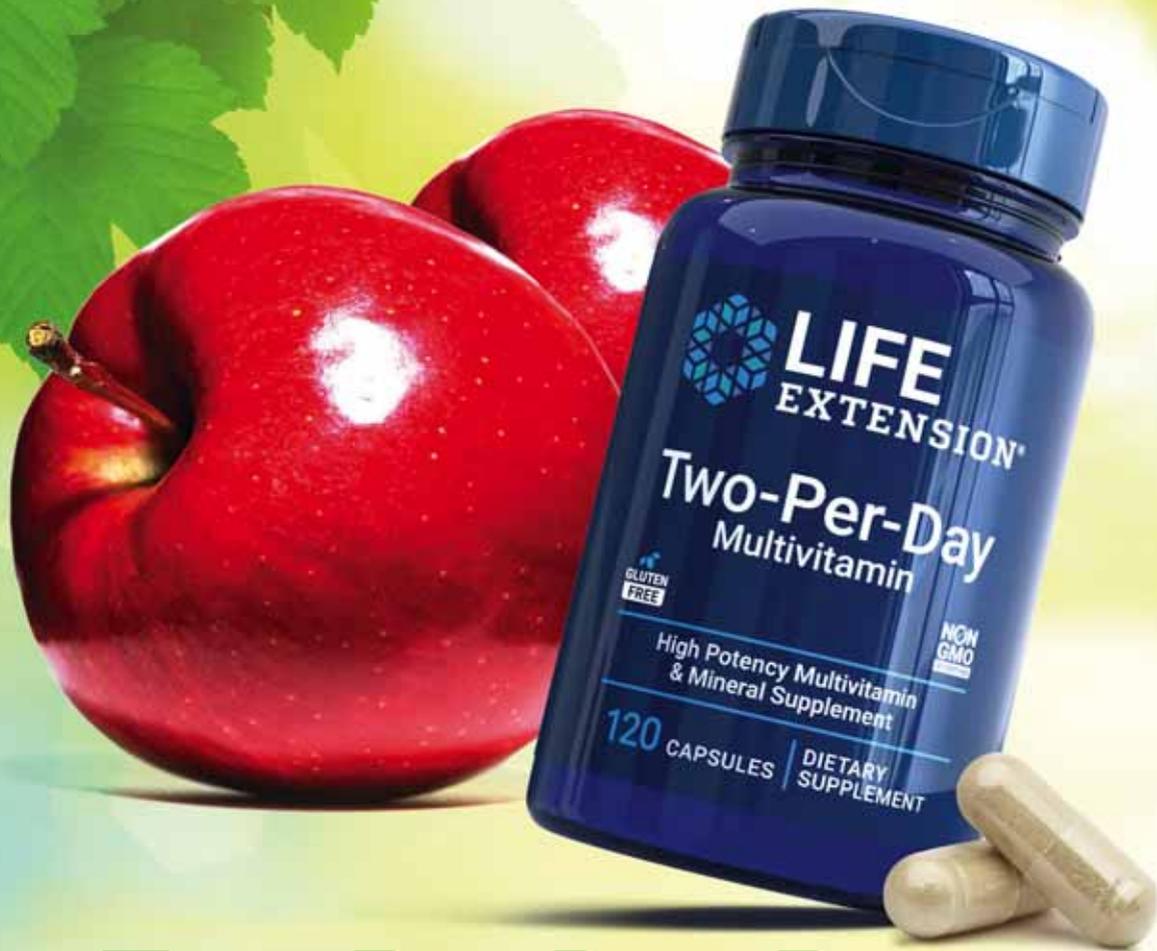
Item #02029  
60 softgels  
1 bottle **\$29.25**  
4 bottles \$27 each



For full product description and to order **Ultra Prostate Formula**, 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.



# 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.\***

**Item #02314** • 120 capsules | 1 bottle **\$19.13** | 4 bottles \$17 each

**Item #02315** • 120 tablets | 1 bottle **\$18.38** | 4 bottles \$16.25 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**,  
call 1-800-544-4440 or visit [www.LifeExtension.com](http://www.LifeExtension.com)

**CAUTION:** Individuals consuming more than 50 mcg (2,000 IU)/day of vitamin D (from diet and supplements) should periodically obtain a serum 25-hydroxy vitamin D measurement. Vitamin D supplementation is not recommended for individuals with high blood calcium levels.



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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.



## IN THIS EDITION OF *LIFE EXTENSION* MAGAZINE®



### 7 **SECOND-HAND SMOKE**

Second-hand smoke causes 13-times more innocent deaths than alcohol-impaired drivers. **Cruciferous vegetables** help reduce the damage of second-hand smoke.

### 26 **RELIEF FOR WOMEN'S URINARY SYMPTOMS**

In a clinical study, three plant extracts improved women's daytime and nighttime **urinary** symptoms, with **79%** of women reporting improvements.



### 36 **OPTIMIZE THE BENEFITS OF BROCCOLI**

Mature broccoli contains relatively little **sulforaphane**. Researchers combined a sulforaphane precursor with an *enzyme* that delivers more sulforaphane to the digestive tract.

### 46 **CLEAR AWAY BRAIN FOG**

Two plant ingredients, in separate clinical trials, reduced mental fatigue, boosted attention levels and improved aspects of memory.



### 58 **FIGHT BACK AGAINST COLDS, FLU, AND ALLERGIES**

A probiotic and a dried yeast fermentate helped prevent colds and flu and reduce severity and duration in clinical trials.

### 67 **WHAT IS THE ALLIANCE FOR LONGEVITY INITIATIVES?**

This nonprofit organization works to accelerate delivery of promising lifesaving therapeutics to the public.