



# THE STANDOUT ANTIOXIDANT FOR WOMEN'S HEALTH

**How Glutathione Supports Immunity,  
Healthy Aging, and Everyday Wellness  
at the Cellular Level**



# Women Are Rewriting the Rules of Wellness

Women are done waiting around for the health and wellness industry to meet their needs. They're driving the conversation themselves, pushing for products that speak to their actual biology, their specific needs, and their long-term health goals.

According to Nextin Research, more than 80% of U.S. women agree that women's health needs require a different approach than men's, and nearly 70% say there simply aren't enough products on the market built around what their bodies actually need. Other research from Nextin finds that 36% of women in the U.S. are actively trying to include antioxidants in their diet—whether through food, beverages, or supplements. This is a signal that many women already understand the important role these compounds play in the body.

The antioxidants most commonly associated with this space—vitamins C, E, and A, along with minerals like selenium and zinc—are largely valued for their ability to protect cells from free radicals and oxidative stress. But emerging science points to an even more foundational player in the body's antioxidant defenses: glutathione. Studies have shown that the body's natural ability to neutralize free radicals can be meaningfully supported by increasing glutathione levels, making it a compelling target for brands developing the next generation of women's health products.

This report explores what the science says about that relationship. More specifically, how glutathione has been shown to support some of the most important health and wellness needs facing women today.

## Terms to Know:

### Free radicals:

Unstable molecules produced by normal metabolic processes, environmental pollutants, and stress. Left unchecked, they can damage a variety of cells.

### Oxidative stress:

The imbalance between free radicals and the body's ability to neutralize them. This state of imbalance is linked to accelerated aging, inflammation, and chronic disease.

### Glutathione:

A naturally occurring antioxidant produced within cells, composed of three amino acids: glycine, cysteine, and glutamate. It is a standout antioxidant that plays a central role in protecting cellular health.





Specific nutrition for women’s health has been a growing topic over the past few years, and the data suggests it will only continue to grow. Women across the U.S. are increasingly vocal about what they need from the health and wellness industry, and they aren’t shy about letting brands know when they aren’t getting what they need.

→ **83%**

of U.S. women agree that “Women’s health needs require a different approach than men’s health.”

→ **68%**

of U.S. women agree “there should be more products available to support women’s specific health needs.”

Source: Nextin Research, 2025

The picture begins to sharpen when looking at women who take supplements daily. These women tend to be more proactive about their health overall. According to Nextin Research, they are 22% more likely to have attended a checkup or screening. This suggests that these consumers view quality healthcare and supplements as critically important to maintaining their well-being.

The science backs up why this population gravitates toward antioxidants. They are the body’s most powerful internal defense against oxidative stress. Glutathione is a particularly powerful and important antioxidant that neutralizes free radicals, recycles other antioxidants, and plays a central role in immune function. Studies show that maintaining natural glutathione levels through supplementation may help with immune support.<sup>1</sup>



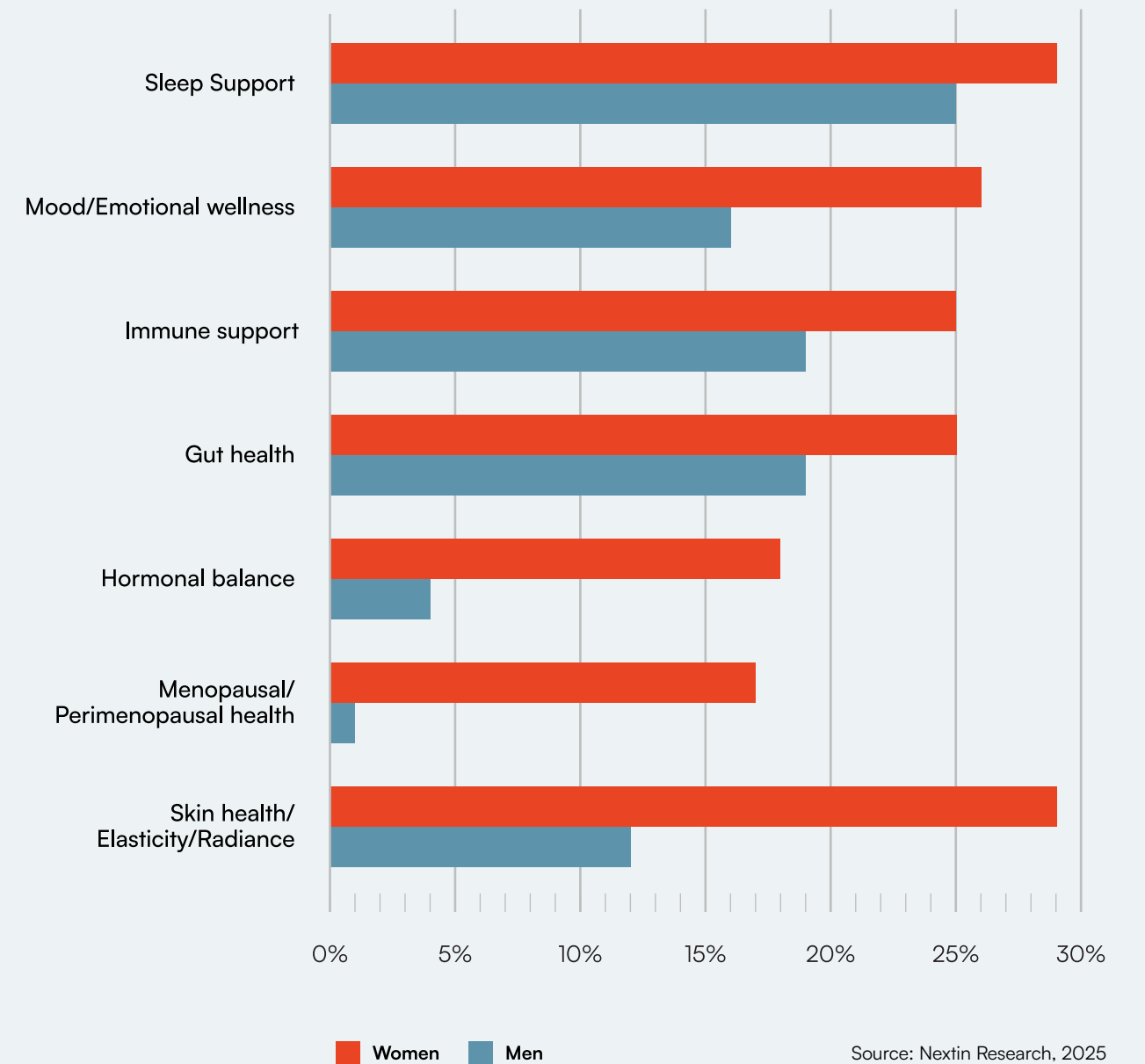
# Why We Need A Different Approach

Why have so many women concluded that their health needs a different approach? Part of the answer is historical. Research on nutrition and wellness was largely built on decades of health sciences led by men—determining what was studied, what was funded, and ultimately, what products made it to market.

That gap has driven women to take things into their own hands. They're researching and prioritizing their health in ways that look very different from men. According to a Nextin report, women are 20% more likely than men to seek out antioxidants. They are also more interested in and active about their health and what it takes to stay healthy.

Several of the areas where women show the greatest unmet need—immune support, healthy aging, and skin health—are precisely where glutathione's documented effects are most relevant.

### Women vs. Men: Self-Reported Health Need States



# Immune Health is Non-Negotiable

Nobody wants to get sick, but for many women, work, family, and caregiving responsibilities rarely go on pause when life gets hard. For those already juggling a busy schedule, even a minor illness can quickly feel like it carries high stakes.

Women are also significantly more likely than men to report high stress levels and to have subsequently taken a supplement in the past three months. Chronic stress can affect how the immune system functions—over time, elevated stress hormones can suppress immune cell activity and increase susceptibility to illness.<sup>1</sup>

## Methods Women Use to Protect Their Immune System

Behaviors	Women Interested in Immune Health	All Female Consumers
Take supplements daily	62%	52%
Made a dietary change for their health in the last year	41%	39%
Started or increased physical activity in the last year	48%	36%
Started taking a new supplement in the last year	36%	27%

Source: Nextin Research, 2025

→ **35%**

of U.S. women agree with the statement “I cannot afford to get sick”

→ **67%**

higher than men who agree with the statement “I cannot afford to get sick”

Source: Nextin Research, 2025



# The Setria® Advantage for Immune Support

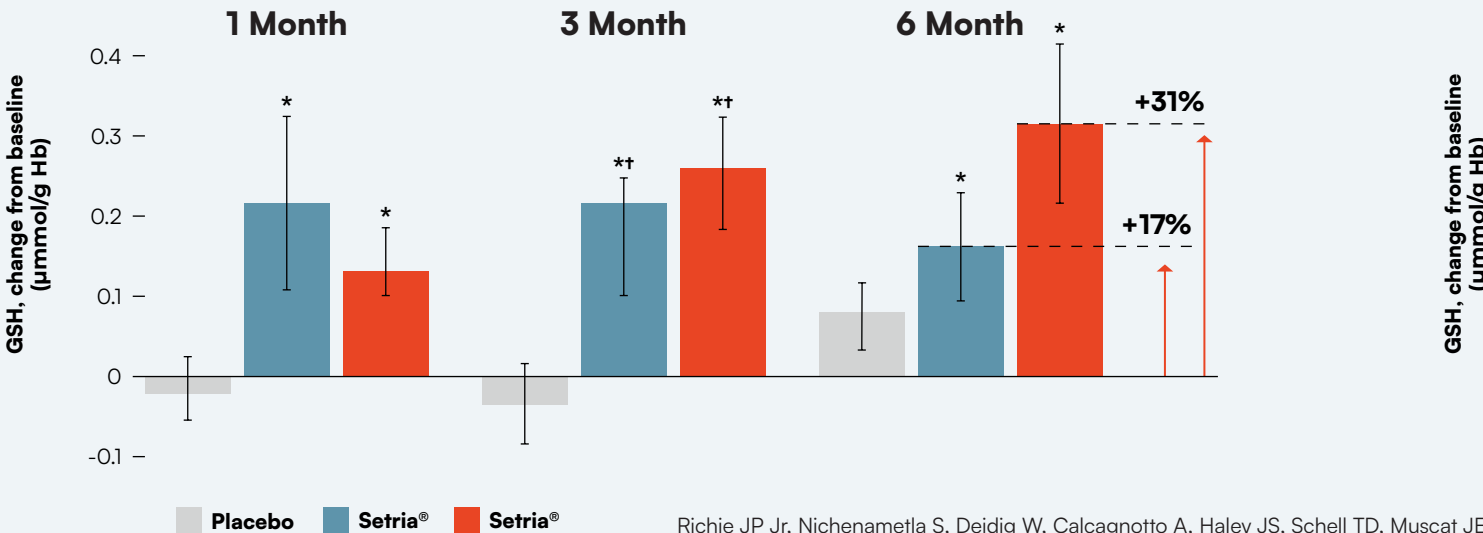
It's no surprise, then, that women prioritizing immune health also over-index for antioxidants. Among this segment, 55% are actively trying to include antioxidants in their nutrition, 19 percentage points higher than women in general. But that doesn't mean they're looking for any generic solution. Branded ingredients are a shortcut to confidence in efficacy and quality. According to Nextin Research, **22% of these women said they'd be more likely to purchase a product if they knew it contained Setria®**—a leading branded form of glutathione.

Maintaining adequate glutathione levels is associated with optimal immune cell function. Glutathione binds to heavy metals and fat-soluble toxins, helping the blood carry them to the kidneys for excretion—an important detoxification mechanism that supports the immune system's ability to do its job. Glutathione is also essential to the function of lymphocytes, the white blood cells responsible for coordinating the body's immune response.<sup>2</sup>

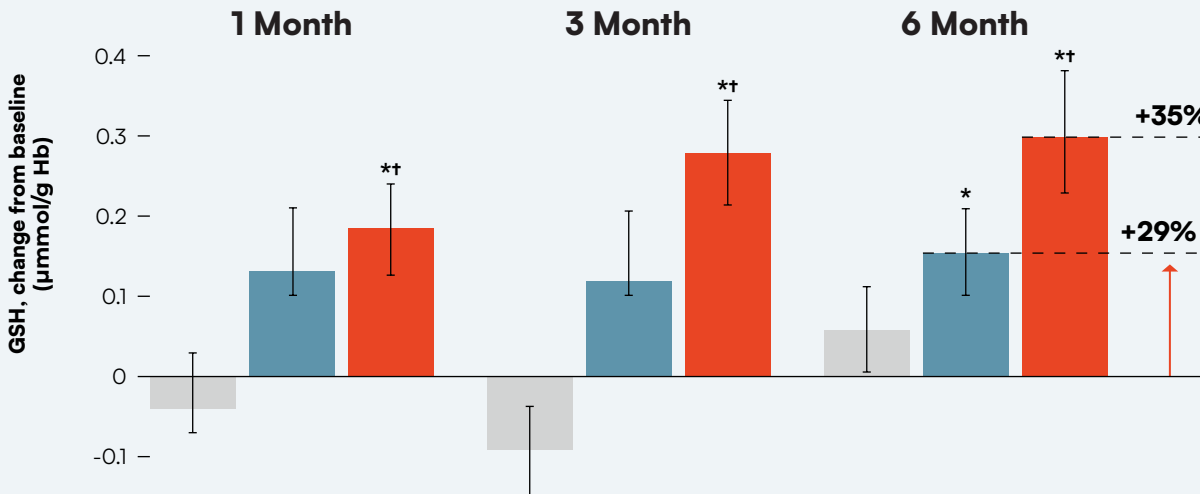
## Setria® Human Clinical Trial Study

Randomized controlled trial of oral glutathione supplementation on body stores of glutathione.

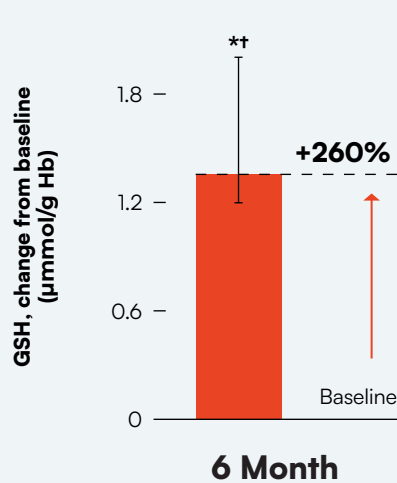
Whole Blood



Erythrocytes (Red Blood Cells)



Buccal Cells

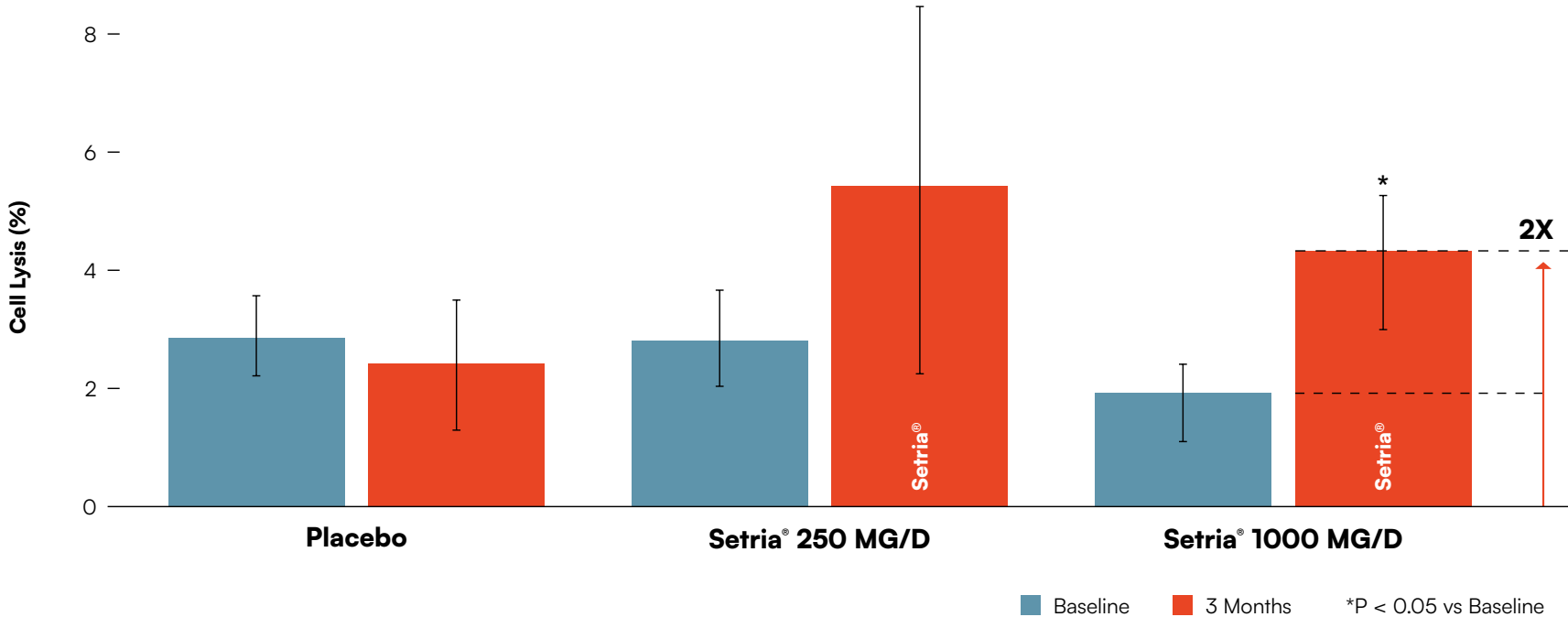
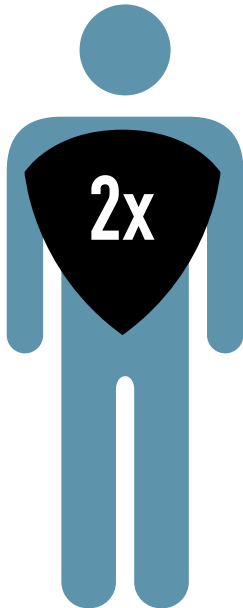


# Setria® Human Clinical Trial Study

Randomized controlled trial of oral glutathione supplementation on body stores of glutathione.

Richie JP Jr, Nichenametla S, Deidig W, Calcagnotto A, Haley JS, Schell TD, Muscat JE.

## Natural Killer (NK) Cell Cytotoxicity Increased 2-fold from Baseline at 3 Months



Clinical research has confirmed that Setria® can raise glutathione levels in the body—specifically in lymphocytes, red blood cells, and plasma—supporting the immune system at a cellular level. In a clinical study, after three months of 1,000mg per day supplementation, the cytotoxicity of NK cells increased twofold compared to placebo, suggesting that Setria® at higher dosages may offer meaningful support to immune function.<sup>3</sup>

## What Are NK Cells?

Natural killer (NK) cells are a type of white blood cell that serves as one of the body’s first lines of defense. Optimal NK cell levels are an essential component of immune resilience.





## Longevity Starts Early

Healthy aging is top of mind for a growing number of women, and they're thinking about it earlier than most brands assume. While a slightly higher number of women than men identify healthy aging as a current personal health priority (28% vs. 23%), the women in this group skew younger than their male counterparts. That's a meaningful signal that women are not waiting until they feel the effects of aging to start acting on it. They're proactively investing in longevity. In fact, most women in this segment (74%) view healthy aging as a topic under the umbrella of "women's health."

This perspective shapes how they shop. Women in this segment are more discerning about the products they choose, and they place a premium on credibility. "Ingredients I recognize" ranks as the second most important attribute when selecting health products, and 41% say that clinical validation and scientific support matter to them—compared to just 31% of women overall. For this consumer, a compelling claim isn't enough. Credible science has to back it up.

### Top 5 Supplement Attributes for Women Interested in Healthy Aging

→ **57%** Price / Affordability

→ **50%** Recognizable Ingredients

→ **45%** Recommended by a Healthcare Professional

→ **42%** Taste

→ **41%** Clinical Validation / Support by Scientific Studies

Source: Nextin Research, 2025

# How Setria® Supports Healthy Aging

Aging is broadly associated with the gradual decline of the body's biological functions, which, among other things, can be driven by increasing oxidative stress and cellular damage. As the body ages, it becomes less efficient at producing glutathione from its constituent amino acids, creating a gap that widens over time.<sup>4</sup> Given glutathione's central role as a regulator of redox balance and detoxification, that progressive decline can carry consequences for long-term cellular health.<sup>5</sup>

For women interested in longevity, this makes supporting glutathione levels a smart strategy. Research has shown that oral supplementation with Setria® effectively replenishes glutathione stores in the body which supports the body's ability to neutralize free radicals, recycle other antioxidants, and maintain the cellular environment associated with healthy aging.<sup>3</sup>

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**For a consumer segment that specifically values ingredients with scientific backing, that's a story brands can tell with confidence.**

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## How Hormones Change Health Priorities

Hormonal health is an underserved but growing category. According to Nextin Research, 18% of U.S. women identify hormonal health as a current personal health need, and 12% have already taken the step of purchasing a specific supplement, food, or beverage to address it. These are active, informed consumers looking for products that can meet them where they are.

Women in or approaching perimenopause are the core of this segment. Perimenopause brings a cascade of changes—irregular periods, mood shifts, hot flashes, and night sweats, to name a few. These changes prompt many women to become more engaged with their health and more intentional about what they put in their bodies, making this a highly motivated and receptive audience.

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**Women across age groups are actively seeking products to support hormonal health**

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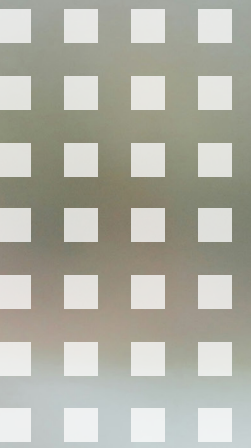
## Antioxidants and Hormonal Health

The biology involved in this stage helps explain why antioxidant support is particularly relevant here. As women move through perimenopause and menopause, the progressive loss of estrogen contributes to declining glutathione levels and rising oxidative stress.<sup>6</sup> This shift compounds the physiological changes already underway.<sup>7</sup> Research suggests this pattern: postmenopausal women tend to have lower glutathione levels and higher oxidative stress than perimenopausal women, suggesting the body's antioxidant defenses weaken progressively during this transition.<sup>8</sup>

A recent systematic review published in the British Journal of Nutrition found that postmenopausal women with higher dietary total antioxidant capacity (TAC) experienced fewer symptoms, including sleep disruption and anxiety. This research suggests the idea that broad

antioxidant support may be a meaningful and multidimensional component of hormonal health management during perimenopause and menopause.<sup>9</sup>

For brands developing products for this segment, Setria® offers a compelling and differentiated ingredient story. While research specific to glutathione and hormonal health is still emerging, the well-documented relationship between estrogen loss, declining glutathione levels, and rising oxidative stress during perimenopause and menopause makes a case for antioxidant support during these stages of life. Supporting glutathione levels, and by extension, the body's broader antioxidant defenses, is a strategy grounded in biology.



# Staying Stronger Longer

The sports nutrition market is no longer a male-dominated space. According to Innova Insights, female-targeted sports nutrition product launches grew 10% globally between 2020 and 2024, representing a meaningful shift in how brands are thinking about this category. The conversation around women and fitness is also evolving. In December of 2025, Women’s Health magazine reported on research showing that strength training can make the body biologically eight years younger. That’s the kind of headline that resonates with the same women who are already thinking seriously about longevity and healthy aging.

According to Nextin Research, 15% of U.S. women identify muscle mass maintenance as a current personal health need—a number that will only grow as awareness around strength training and its long-term benefits continues to build.

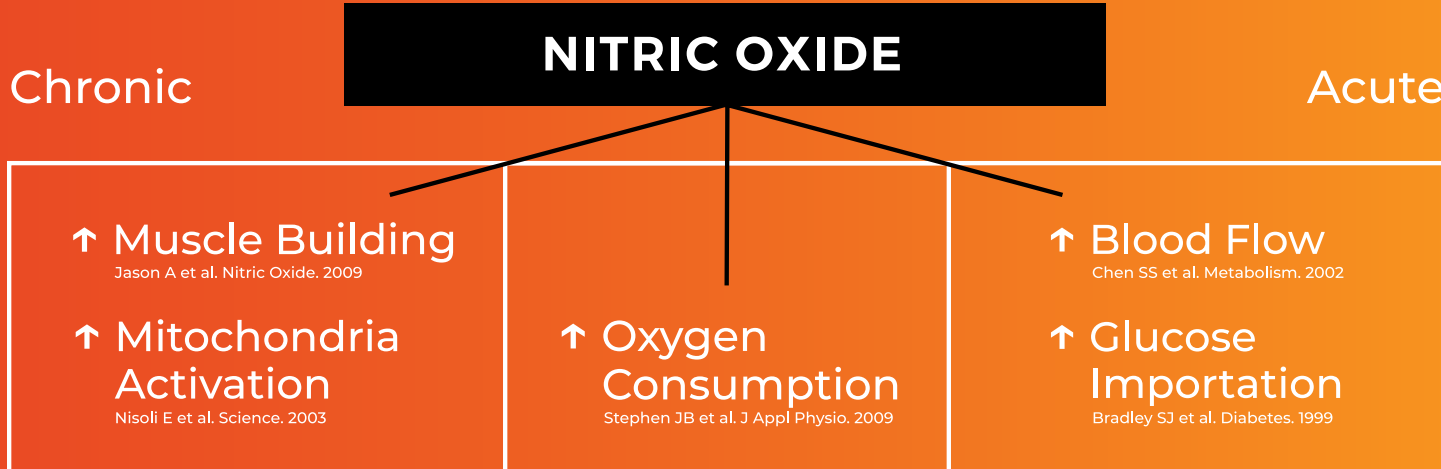
## How Setria® Supports Active Women

One of the less commonly discussed but scientifically compelling aspects of glutathione’s role in the body is its relationship to nitric oxide (NO) function. Nitric oxide is a key regulator of vasodilation—the widening of blood vessels that increases blood flow and oxygen delivery to muscles during exercise. Supporting NO production is a meaningful target for sports nutrition, and research suggests that glutathione plays a role in that process.

# What is Nitric Oxide?

Nitric oxide (NO) is a molecule that signals blood vessels to relax and widen, improving circulation and oxygen delivery to working muscles. Supporting NO levels is associated with better exercise performance, faster recovery, and improved endothelial function.

Clinical research has shown that supplementation with glutathione, combined with L-citrulline, helps sustain NO levels for a longer-lasting effect.<sup>10</sup> Similar research involving resistance training with glutathione and L-citrulline supplementation showed significant improvements in lean muscle mass over four weeks, with a trending increase over eight weeks compared to a placebo group.<sup>11</sup>



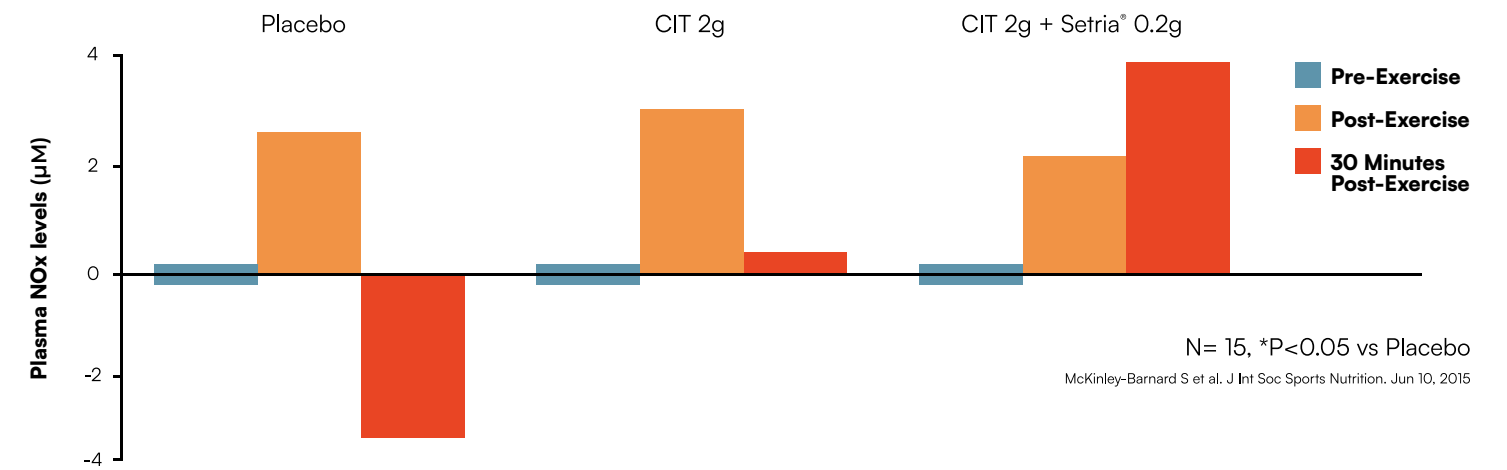
## Clinically Studied Performance

These studies provide supporting evidence for the value of Setria® in performance nutrition formulations and demonstrate its ability to support NO levels when combined with the common vasodilator L-citrulline. Setria® offers an ingredient story grounded in the kind of clinically backed differentiation this consumer actively seeks out.



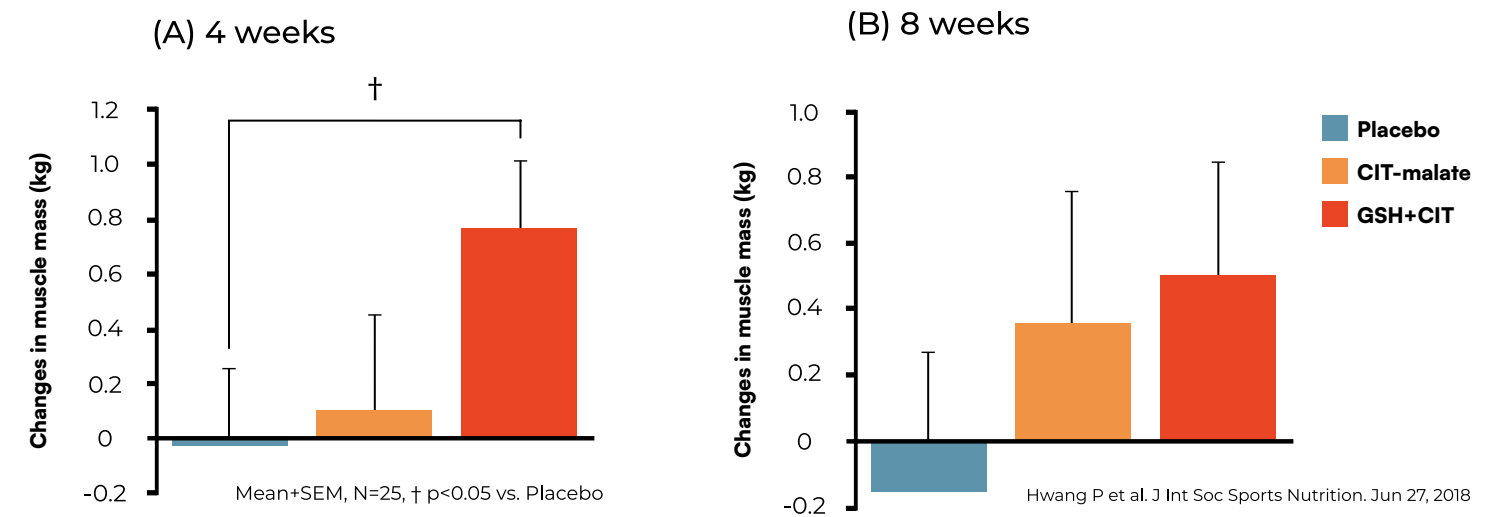
### Nitrate/NO Levels Post-Exercise

Double-blind randomized placebo controlled trial



### Changes in Lean Mass at 4 Weeks (A) and 8 Weeks (B) Following Resistance Training and Supplementation

Double-blind randomized placebo controlled trial



# About Setria® Glutathione

Setria® Glutathione, developed by Kyowa Hakko Bio., Ltd., is a clinically researched, patented antioxidant that supports cellular and mitochondrial health. Backed by over 65 years of research, development, and application experience with Setria®, Kyowa leverages its deep expertise in glutathione science. Combined with Kyowa's 75-year legacy of biotech innovation and Kirin Holdings' century-long fermentation expertise, Setria® is produced through state-of-the-art fermentation technology, ensuring exceptional purity and efficacy.

Clinically shown to replenish glutathione reserves depleted by stress, aging, or lifestyle factors, Setria® helps maintain a healthy cellular environment from oxidative stress and toxins, supporting overall wellness. Non-GMO, vegetarian, and allergen-free, this premium ingredient is trusted by global partners in the nutraceutical and wellness sectors, advancing Kirin's Health Science mission to enhance health and well-being and create shared value.

The science behind Setria® supports the priorities that matter most to women's health. For brands looking to develop products that speak authentically to women's health and fill the gaps in the category, Setria® offers a compelling ingredient story with the clinical evidence to back it up.

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**For more information visit**  
**[SetriaGlutathione.com](https://SetriaGlutathione.com)**

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# Setria® Glutathione Structure/Function Claims

## Antioxidant & Oxidative Stress<sup>1-13</sup>

- Setria® increases the body's natural production of glutathione, helping the body fight oxidative stress
- Help your body fight oxidative stress with Setria®
- Setria® Glutathione is a vital antioxidant

## Immune Health<sup>1,5,7,14,15</sup>

- Setria® supports immune health by replenishing your body's primary defense molecules
- Setria® supports immune health
- Setria® supports your body's natural defense system

## Respiratory<sup>16-18</sup>

- Setria® Glutathione, as an important antioxidant, helps support respiratory health

## Sports<sup>19-22</sup>

- Setria® Glutathione plays a role in supporting NO function
- Setria®, in combination with citrulline, helps sustain NO levels for a longer-lasting effect
- Setria®, in combination with citrulline, aids in vasodilation to fuel muscles
- Setria®, in combination with citrulline, supports NO levels 30-minutes post-exercise compared to citrulline alone
- Setria®, in combination with citrulline, supports lean body mass as part of resistance training
- Setria®, in combination with citrulline, supports cardiovascular health

## Function Claim References

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### Additional Resources: [SetriaGlutathione.com](http://SetriaGlutathione.com)

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