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AC

# WonderShroom

Neuro-boosting

Pro-Aging

Skin Elasticity



VEGAN



SEPHORA  
CLEAN



CREDO  
CLEAN



GLOBALLY  
COMPLIANT



COSMOS  
COMPLIANT



ISO 16128



## THE FEATURES.

Inspired by the profound synergy between mycelial networks and the body's intricate communication systems, AC WonderShroom reshapes beauty standards through adaptogenic and nootropic technology. This advanced formula strengthens the mind-skin connection, combating stress-induced aging while enhancing resilience, balance, and overall well-being. Rooted in nature and backed by science, it unlocks your skin's potential with holistic beauty that nurtures from within.

*INCI: Camellia Sinensis Leaf Extract & Cordyceps  
Militaris Extract & Hericium Erinaceum (Mushroom)  
Extract & Aureobasidium Pullulans Ferment*

TECHNICAL DATA SHEET.

## THE STORY.

Stress is often called the disease of the century<sup>1</sup>, but it's far more than just jitters, it's a constant force shaping our health. While stress is a natural response to challenges, prolonged exposure accelerates cognitive decline, triggers inflammation, and weakens skin barriers.

Research links stress to the exposome<sup>2</sup>, showing how environmental and lifestyle factors impact both mental and physical resilience. Chronic stress can lead to the overproduction of pro-inflammatory cytokines, causing neuroinflammation affecting brain function and skin health. The emerging field of psychoneuroimmunology reveals how stress disrupts both the nervous and immune systems, highlighting the skin-brain connection, with conditions like eczema and psoriasis becoming more prevalent among those experiencing cognitive decline. Strengthening the skin barrier helps counteract these effects.

At our core, we understand this evolution: self-care is no longer just about looking good—it's about feeling strong, empowered, and connected. Whether through mindfulness, cognitive enhancement, or skin-strengthening solutions, we are committed to science-backed, nature-inspired innovations that nurture our self inside and out.



## THE SCIENCE.

Our approach starts with mycelium, the vast underground fungal network that nourishes and protects its environment—an echo of the brain, which coordinates and connects everything in the body.<sup>1</sup> Through the skin-brain axis, this connection becomes especially relevant for beauty: when the mind is supported, the skin appears more harmonious, resilient, and better able to cope with daily stressors.<sup>1</sup>

Mushrooms sit at the heart of this story. They are known to contain antioxidants, anti-inflammatory compounds, and beta-glucans that help defend against oxidative stress and support cellular protection, while many species are also described as adaptogens that help the body respond to stress.<sup>2</sup> In topical concepts, these attributes are often associated with benefits such as improved hydration, smoother texture, and a calmer-looking, more even-toned complexion.<sup>2</sup> AC WonderShroom is crafted within this context to address neuroinflammation and help rebalance communication across neurological, immunological, and cutaneous pathways, with the goal of supporting skin elasticity, collagen, hydration, and perceived vitality.<sup>3</sup>

Within this framework, nootropics and adaptogens play a central role. Nootropics such as L-Theanine and caffeine are studied for their ability to support cognitive functions like thinking, learning, and memory under stress or aging, and are increasingly explored for their potential to influence skin rejuvenation through neurotransmitter modulation, neuroplasticity, and enhanced cellular communication.<sup>4</sup> Adaptogens—herbs, roots, and mushrooms, are traditionally recognized for helping the body adapt to stress and maintain balance by influencing cortisol dynamics and the stress-response system, which may help buffer the impact of chronic stress on immunity, cognition, skin, and overall well-being.<sup>5</sup>

We introduce AC WonderShroom, our innovative active ingredient that strengthens the mind-skin connection, reduces neuroinflammation, and improves overall well-being. This holistic formula tackles signs of aging and stress, improving skin elasticity, collagen, and hydration while promoting mental clarity and vitality for a youthful, resilient state from within.

## THE TECHNICAL DETAILS.

**INCI.** Camellia Sinensis Leaf Extract & Cordyceps Militaris Extract & Hericium Erinaceum (Mushroom) Extract & Aureobasidium Pullulans Ferment

**CAS.** 84650-60-2 & 999999-99-4 -2 (or) 68917-13-5 & 999999-99-4 (or) 68917-13-5 & N/A (or) 9057-02-7

**EINECS.** 283-519-7 & 310-127-6 (OR) N/A & 310-127-6 (OR) N/A & N/A (OR) 232-945-1

**Origin.** Botanical/Bacteria/Biotechnology

**Natural Antimicrobial.** Lactobacillus Ferment

**Preservatives.** None

**Solvents Used.** Water

**Appearance.** Clear to Slightly Hazy Liquid, Coloreless to Yellow

**EUROPE.** Compliant

**USA.** Compliant

**CHINA.** Contact Us

## THE FORMULATION TIPS.

**pH Stability.** 3 - 7

**Temperature Stability.** Lower temperatures reduces browning. Product may darken if temperature is maintained over 50 °C for an extended period of time

**Use Level.** 1 - 5%

**Ionic State.** Nonionic

**Alcohol Compatibility.** Compatible with up to 10% alcohol at 5%

**Solubility.** Water Soluble

**Pro Tips.** It is recommended that this product is added to the batch in cooldown to maintain appearance

# AC WonderShroom

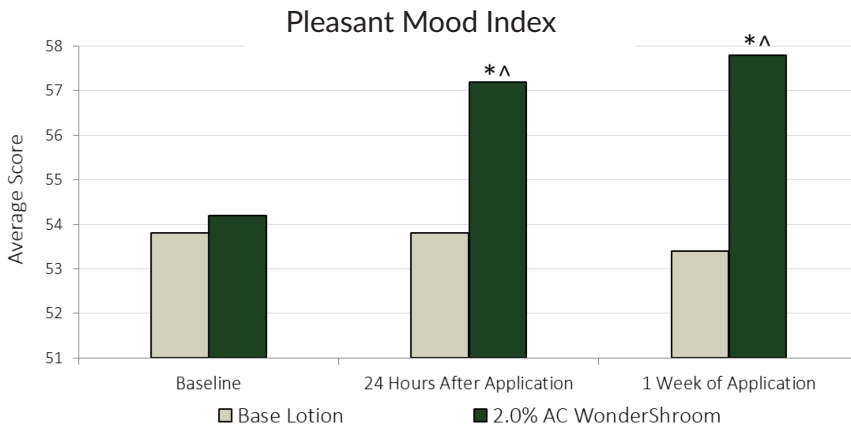
## THE BENEFITS OVERVIEW.

<b>Mental Clarity</b>	Mood Enhancing Survey		<b>Antioxidant</b>	Reactive Oxygen Species (ROS) Assay	
<b>Cognitive Support</b>	EEG Brainwave Study		<b>Anti-Aging</b>	Undereye Study	
<b>Pollution Protection</b>	Airborne Pollutants Assay		<b>Wrinkle Reduction</b>	Neck Wrinkle Study	
<b>Anti-Inflammatory</b>	COX-II Inhibition		<b>Skin Structure</b>	Elasticity Study	
<b>Vascular Health</b>	Endothelial Permeability		<b>Body Support</b>	Cellulite Study	
<b>Energy Production</b>	Oxidative Phosphorylation		<b>Barrier Function</b>	24-Hour Transepidermal Water Loss (TEWL) Study	
<b>Skin Rejuvenation</b>	SA-Beta Gal Assay		<b>Moisturization</b>	24-Hour Moisturization Study	

## THE EFFICACY.

### Mental Clarity

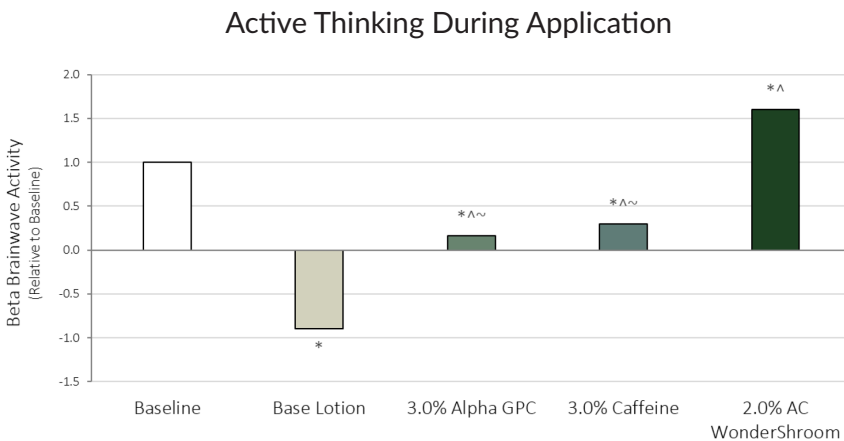
This test evaluates the impact of AC WonderShroom on mood enhancement, using the Pleasant Mood Index (BMIS) to measure shifts in emotional well-being. Higher scores indicate a more pleasant mood, highlighting the ingredient's potential role in emotional self-awareness, stress resilience, and overall well-being.



**Boosts pleasant mood by +7%**

### Cognitive Support

An EEG Brainwave Study was conducted to evaluate properties of AC WonderShroom application. A headband is placed on the forehead of participants and brainwaves are monitored as products are applied to the skin. The Beta brainwaves (targeting awareness and focused mental effort) are isolated and analyzed to provide insight to the psychological state during product application.



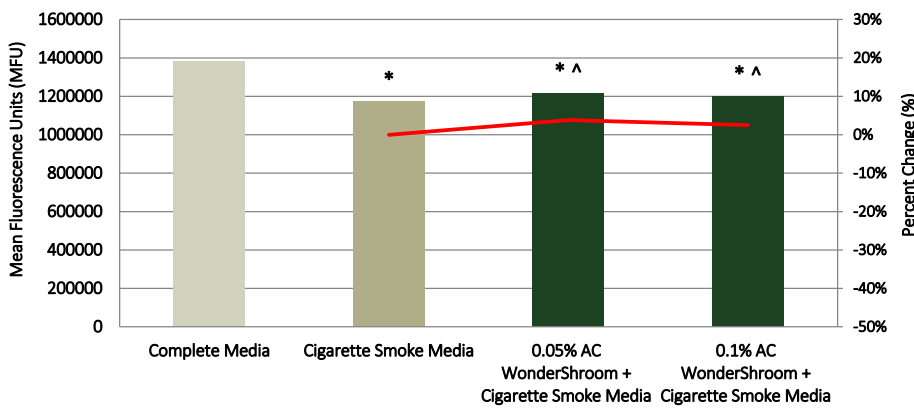
**Increases  $\beta$  brainwaves by +1.6%**

## THE EFFICACY CONTINUED.

### Pollution Protection

The in vitro airborne pollution protection assay evaluated whether AC WonderShroom could protect dermal fibroblasts from damage induced by soluble cigarette smoke pollutants. Fibroblasts exposed to Cigarette Smoke Media showed a 15% decrease in viability compared to untreated control cells, confirming the detrimental impact of airborne pollutants on cellular homeostasis. Pre-treatment with AC WonderShroom at 0.05% and 0.1% significantly improved cellular viability by 4% and 3%, respectively, versus Cigarette Smoke Media alone ( $p \leq 0.05$ ), indicating a protective effect against pollution-induced damage. Collectively, these results demonstrate that AC WonderShroom helps preserve fibroblast viability under airborne pollution stress, supporting its role as a cosmetic active for pollution defense and maintenance of skin health.

Cellular Viability After Airborne Pollutant Exposure

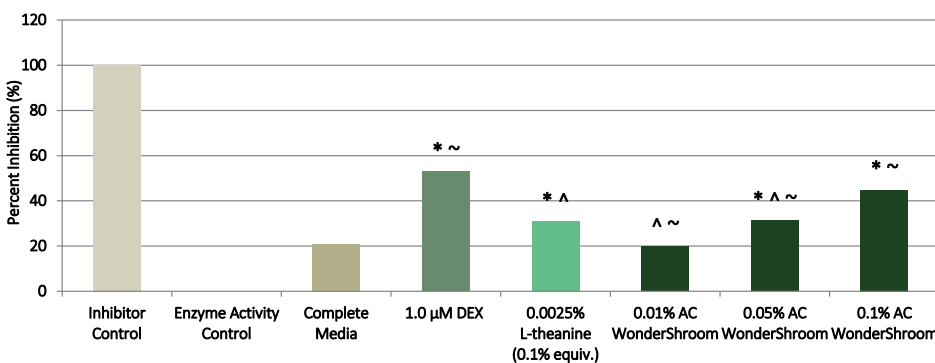


**Increases cell viability by +3%**

### Anti-Inflammatory

The COX-II inhibition assay evaluated whether AC WonderShroom can modulate inflammatory signaling in human epidermal keratinocytes by reducing COX-II activity. Keratinocytes treated with 0.01%, 0.05%, and 0.1% AC WonderShroom showed 19.9%, 31.4%, and 44.9% COX-II inhibition, respectively, all significantly greater than Complete Media alone and comparable to the steroid control DEX at 53.0%. L-theanine at the level standardized in 0.1% AC WonderShroom achieved only 30.9% inhibition and was significantly less effective than 0.1% AC WonderShroom, demonstrating the superior performance of the full complex over the isolated active. Collectively, these findings indicate that AC WonderShroom meaningfully inhibits COX-II-associated inflammatory pathways, supporting its potential to help reduce inflammation-driven signs of aging and photodamage.

COX-II Inhibition



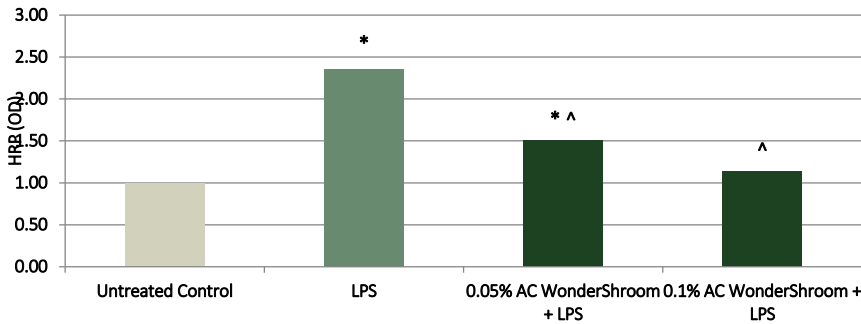
**Increases COX-II Inhibition by +44.9%**

## THE EFFICACY CONTINUED.

### Vascular Health

The endothelial permeability assay evaluated whether AC WonderShroom could reduce endothelial leakiness associated with dark circles under the eyes. Fibroblast-conditioned media from cells treated with 0.05% and 0.1% AC WonderShroom was applied to dermal microvascular endothelial cells challenged with LPS, an inflammatory stimulus that increased permeability versus untreated control. Treatment with 0.05% and 0.1% AC WonderShroom reduced LPS-induced endothelial permeability, indicating improved vascular integrity and potential support for reducing undereye discoloration.

Endothelial Cell Permeability

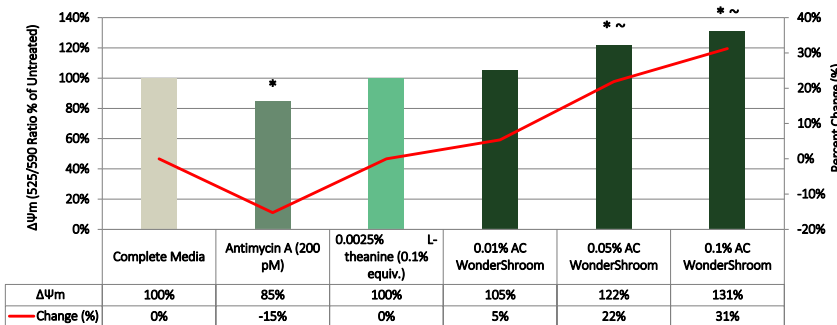


**Reduces endothelial permeability by -51%**

### Energy Production

The oxidative phosphorylation assay evaluated whether AC WonderShroom can boost mitochondrial function in dermal fibroblasts by increasing mitochondrial membrane potential ( $\Delta\Psi_m$ ). Fibroblasts exposed to Antimycin A showed a 15% decrease in  $\Delta\Psi_m$ , confirming assay sensitivity to mitochondrial disruption. In contrast, AC WonderShroom increased  $\Delta\Psi_m$  in a dose-dependent manner, with 0.01%, 0.05%, and 0.1% raising mitochondrial membrane potential by 5%, 22%, and 31%, respectively, versus untreated cells, while L-theanine alone produced no change. These results demonstrate that AC WonderShroom stimulates oxidative phosphorylation and supports mitochondrial health, helping maintain cellular energy, homeostasis, and resistance to aging-related damage.

Oxidative Phosphorylation



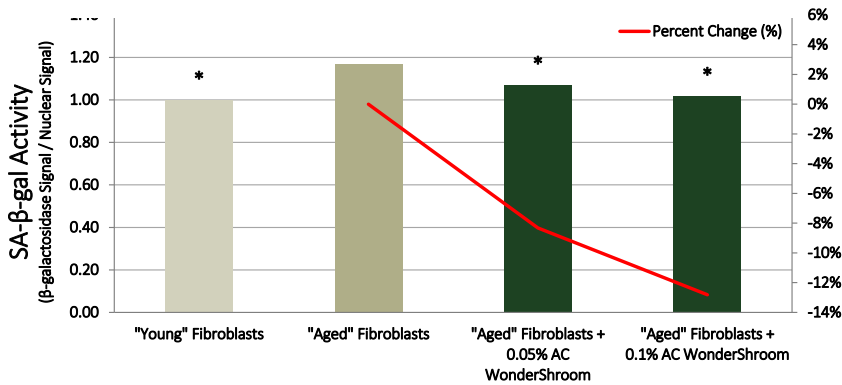
**Increases  $\Delta\Psi_m$  by +31%**

## THE EFFICACY CONTINUED.

### Skin Rejuvenation

The SA-β-gal cellular aging model evaluated whether AC WonderShroom can reduce senescence in “aged” dermal fibroblasts. “Aged” fibroblasts showed 17% higher SA-β-gal activity than “young” fibroblasts, confirming increased senescence with passage. Treatment of “aged” fibroblasts with AC WonderShroom reduced SA-β-gal activity by 8% at 0.05% and 13% at 0.1% versus untreated “aged” cells, demonstrating that AC WonderShroom attenuates cellular senescence associated with skin aging.

Cellular Senescence Levels

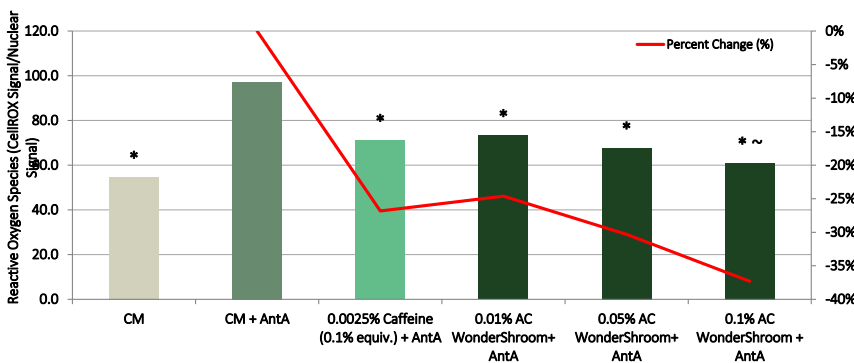


Reduces Senescence by -13%

### Antioxidant

The reactive oxygen species (ROS) scavenging assay evaluated whether AC WonderShroom can reduce oxidative stress in dermal fibroblasts. Antimycin A increased ROS levels by 78% versus untreated cells, confirming strong oxidative challenge. AC WonderShroom significantly reduced Antimycin-induced ROS in a dose-dependent manner, lowering ROS by 25%, 30%, and 37% at 0.01%, 0.05%, and 0.1%, respectively, while caffeine alone reduced ROS by 27% and was significantly less effective than 0.1% AC WonderShroom. These findings show that AC WonderShroom effectively scavenges excess ROS and outperforms its standardized caffeine component.

ROS Scavenging Capacity



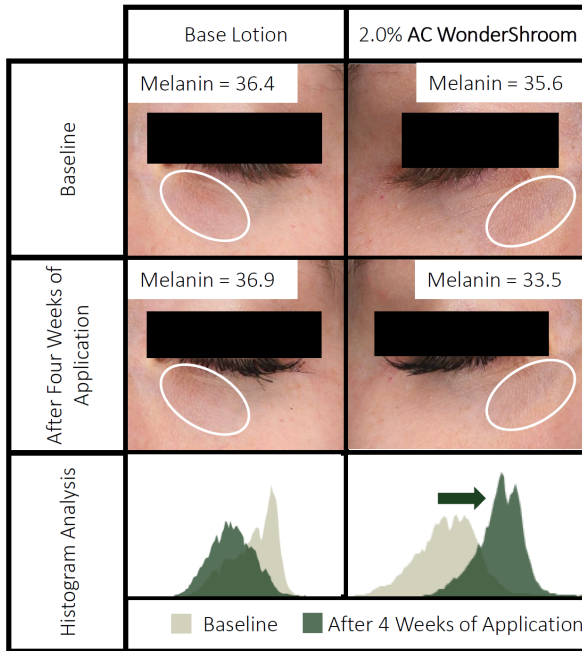
Reduces ROS by -37%

## THE EFFICACY CONTINUED.

### Anti-Aging

An in-vivo, four-week VISIA pigmentation study in 10 female volunteers (ages 24–45, Fitzpatrick I–IV) evaluated 2.0% AC WonderShroom in a base lotion versus base lotion alone applied twice daily to the undereye area. Base lotion showed no significant change in undereye melanin or dark circle intensity over four weeks, confirming it as a neutral vehicle. In contrast, 2.0% AC WonderShroom significantly reduced undereye melanin by 3% from baseline ( $p = 0.009$ ) and produced consistently lower melanin values than base at every timepoint (all  $p \leq 0.034$ ). AC WonderShroom also reduced visual dark circle intensity by 5% from baseline ( $p = 0.041$ ) and significantly outperformed base after weeks 2, 3, and 4 ( $p \leq 0.046$ ), with histogram analysis showing a shift toward lighter tones in the undereye region. Together, these results demonstrate that AC WonderShroom use visibly improves the appearance of undereye dark circles and discoloration.

#### Change in Undereye Pigmentation and Discoloration

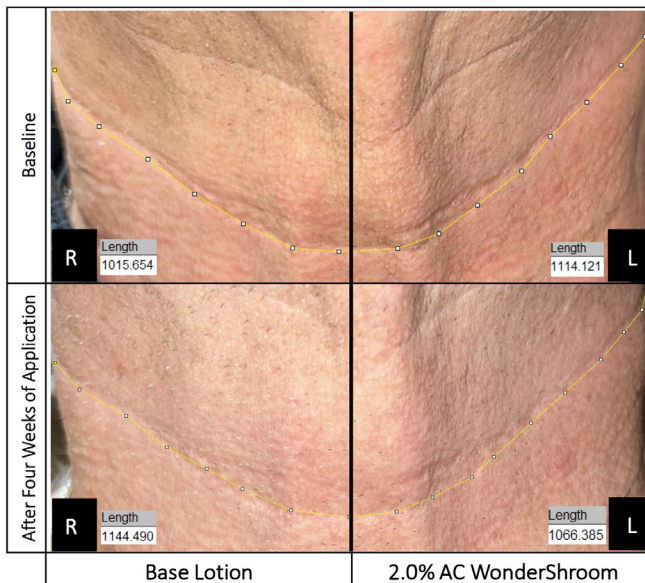


**Reduces undereye discoloration by -5%**

### Wrinkle Reduction

An in vivo, four-week neck study in 10 volunteers compared 2.0% AC WonderShroom in a base lotion to base lotion alone applied twice daily. Base lotion produced no significant changes in neck wrinkle length, collagen parameters, or elasticity versus baseline. In contrast, 2.0% AC WonderShroom reduced horizontal neck wrinkle length by 14% after four weeks ( $p = 0.040$  vs baseline;  $p = 0.015$  vs base), increased collagen fiber density by 9% ( $p = 0.003$  vs baseline;  $p = 0.018$  vs base), and increased dermal collagen thickness by 4% ( $p < 0.001$  vs baseline;  $p = 0.023$  vs base). Skin elasticity also improved, rising by 6% versus baseline with AC WonderShroom and significantly outperforming base lotion at week four ( $p = 0.008$ ), indicating a firmer, more youthful neck appearance.

#### Reduction in Neck Wrinkles



**Improves neck appearance by +4%**

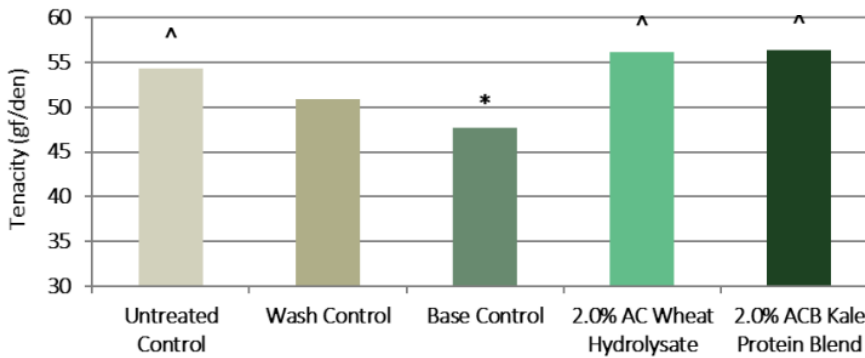
# AC WonderShroom

## THE EFFICACY CONTINUED.

### Skin Structure

An in vivo elasticity study in 20 volunteers (ages 23–50, Fitzpatrick I–IV) compared 2.0% AC WonderShroom in base lotion with untreated skin, base lotion alone, and 2.0% caffeine, applied twice daily for four weeks. Untreated, base lotion, and caffeine sites showed no significant change in elasticity versus baseline, indicating stable skin mechanical properties over the study period (all  $p \geq 0.613$ ). In contrast, 2.0% AC WonderShroom increased skin elasticity by 7% versus baseline ( $p < 0.001$ ) and was significantly superior to all other conditions at week four ( $p = 0.018$  vs untreated,  $p = 0.007$  vs base,  $p = 0.047$  vs caffeine). These findings demonstrate that AC WonderShroom measurably enhances skin elasticity and improves retraction behavior with repeated use.

Change in Skin Elasticity



**Increases skin elasticity by +7%**

### Cellulite

An in vivo four-week cellulite study in 10 women (ages 23–40, Fitzpatrick I–III, stage 2–3 cellulite) compared CelluBlue base versus CelluBlue plus 2.0% AC WonderShroom applied twice daily to the thighs. CelluBlue alone did not significantly change collagen fiber density, dermal collagen thickness, or skin elasticity relative to baseline. In contrast, 2.0% AC WonderShroom increased collagen fiber density by 5.8% ( $p = 0.045$  vs baseline;  $p = 0.032$  vs CelluBlue), increased dermal collagen thickness by 0.13% ( $p = 0.047$  vs baseline;  $p = 0.041$  vs CelluBlue), and improved skin elasticity by 1.37% ( $p = 0.041$  vs baseline;  $p = 0.047$  vs CelluBlue). Ultrasound and photography showed a visible reduction in thigh cellulite with AC WonderShroom compared to CelluBlue alone, supporting its role in firming and smoothing the appearance of cellulite-prone skin.

Change in appearance of Cellulite



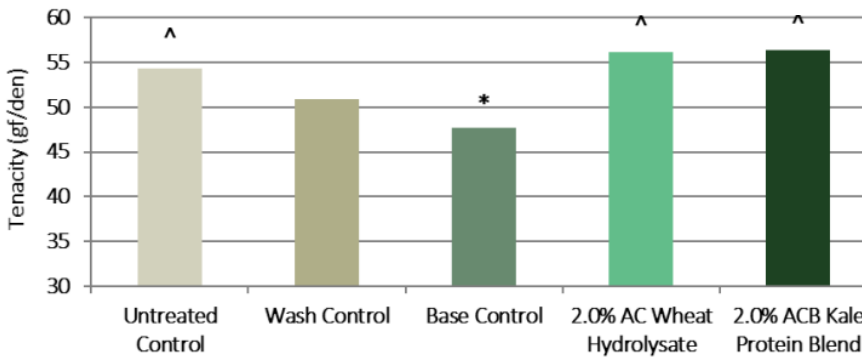
**Improves appearance of cellulite**

## THE EFFICACY CONTINUED.

### Moisture Retention

An in vivo, 24-hour TEWL study in 18 volunteers (ages 23–45, Fitzpatrick I–IV) compared untreated skin, base lotion, and base lotion with 2.0% AC WonderShroom applied once to the forearm. TEWL remained unchanged for the untreated and base-only sites over 24 hours, indicating no inherent moisturization from the vehicle. In contrast, a single application of 2.0% AC WonderShroom significantly reduced TEWL by 25% at 8 hours and 23% at 24 hours versus baseline ( $p = 0.005$  and  $0.011$ , respectively) and was significantly lower than both untreated and base at 8 hours ( $p < 0.001$  vs each). These results show that AC WonderShroom provides immediate and short-term moisture retention and supports barrier function after just one application.

Transepidermal Water Loss

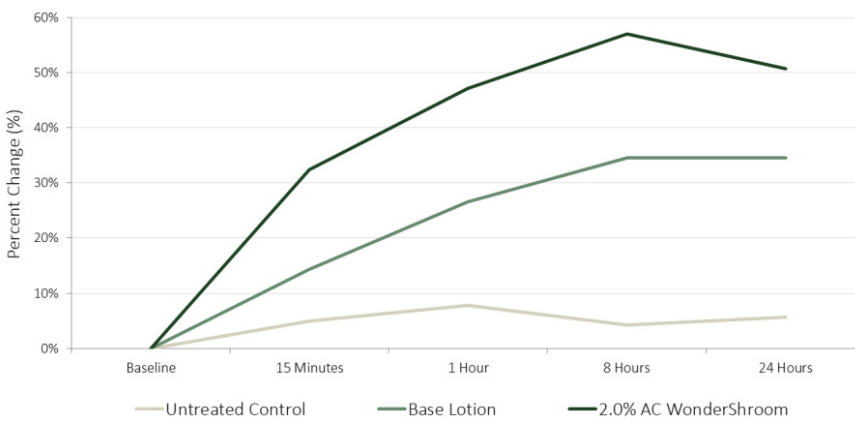


Reduces TEWL by -25%

### Moisturization

An in vivo 24-hour moisturization study in 18 volunteers (ages 23–45, Fitzpatrick I–IV) compared untreated skin, base lotion, and base lotion with 2.0% AC WonderShroom applied once to the forearm. Untreated and base-only sites showed no significant change in hydration versus baseline at either 8 or 24 hours ( $p \geq 0.054$ ), indicating minimal inherent moisturizing from the vehicle. In contrast, a single application of 2.0% AC WonderShroom increased skin hydration by 57% at 8 hours and remained significantly elevated at 24 hours (both  $p < 0.001$  vs baseline), and was significantly more hydrating than both untreated and base at 8 hours ( $p < 0.001$  for each comparison). These results show that AC WonderShroom delivers immediate and short-term skin hydration after just one use, supporting barrier function and a healthier skin appearance.

Skin Hydration



Increases moisture by +57%

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**Active Concepts LLC**  
Lincolnton, NC - USA  
Tel +1 704-276-7100  
info@activeconceptsllc.com

**Active Concepts SRL**  
Bareggio, (Milano) ITALY  
Tel +39 02 90360719  
info@activeconcepts.it

**Active Concepts LLC, Asia**  
Kaohsiung, Taiwan  
Tel + 886 73599900  
info-asia@activeconceptsllc.com.tw

**Website**  
[www.activeconceptsllc.com](http://www.activeconceptsllc.com)

**Social Media**  
[@activeconceptsglobal](https://www.instagram.com/activeconceptsglobal)