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Probacillus Revive

Pro-Collagen

Antioxidant

Wound Healing



VEGAN



SEPHORA
CLEAN



CREDO
CLEAN



GLOBALLY
COMPLIANT



COSMOS
COMPLIANT



ISO 16128



THE FEATURES.

As probiotic, prebiotic, and post-biotic concepts continue to gain momentum across both skin and hair care, Probacillus Revive offers a modern, bio-designed approach to this technology platform. Created through the controlled fermentation of *Lactobacillus bulgaricus* and enhanced with *Leuconostoc/Radish Root Ferment Filtrate*, this ingredient reflects the beauty industry's shift toward biotechnological, naturally inspired processes. Designed to support visible skin renewal by promoting collagen synthesis, antioxidant protection, and wound healing, Probacillus Revive is thoughtfully crafted for modern

INCI: Lactobacillus Ferment Lysate

TECHNICAL DATA SHEET.

Probacillus Revive

THE STORY.

Probiotics reshaped the wellness conversation – and today, beauty brands are translating that science into smarter, more biologically aligned formulations. As consumers seek products that support skin and scalp vitality over time, the industry is moving beyond live cultures toward post-biotic technologies that deliver performance in a cosmetic-ready format.

Probacillus Revive is built on this next evolution. Derived from the controlled fermentation of *Lactobacillus bulgaricus*, this ingredient captures the beneficial compounds produced during fermentation, without the live bacteria. This thoughtful shift from stressing microorganisms to allowing them to thrive supports the production of compounds that help promote wound healing, antioxidant protection, and collagen enhancement. A post-biotic solution is designed to work in harmony with the skin and hair has finally entered the space.

Rooted in biotechnology yet inspired by the skin's natural balance, Probacillus Revive offers beauty brands a modern way to participate in the probiotic conversation. With its post-biotic positioning and versatile performance, it enables brands to tell a story of skin intelligence, resilience, and renewal.



THE SCIENCE.

Lactobacillus ferment lysate is a post-biotic derivative obtained from the controlled fermentation of *Lactobacillus bulgaricus*, a well-characterized lactic acid bacterium. Rather than relying on live microorganisms, this approach captures the biologically active metabolites produced during fermentation. These non-viable components are known to interact with epithelial cells and immune signaling pathways, allowing post-biotics to influence skin biology while remaining stable and suitable for cosmetic use.¹

Research specifically involving *Lactobacillus bulgaricus* demonstrates its relevance to cellular renewal and wound healing. In experimental models, post-biotic extracts derived from *L. bulgaricus* fermentation enhanced keratinocyte proliferation, accelerated re-epithelialization, and improved wound closure rates *in vivo*. These effects were accompanied by increased fibroblast activity and collagen deposition, indicating support for extracellular matrix remodeling and tissue maturation – key processes underlying visible skin renewal and repair.¹ Additional *in vivo* research using *L. bulgaricus* in combination with other *Lactobacillus* species further supports its role in modulating inflammation and promoting wound healing through enhanced macrophage and fibroblast responses.²

Beyond regeneration, fermentation-derived *Lactobacillus* metabolites contribute to collagen maintenance and antioxidant defense. Post-biotic extracts have been shown to regulate matrix metalloproteinases (NMPs), reducing collagen degradation while supporting new matrix formation during the repair processes. At the same time, *Lactobacillus*-derived fermentation products demonstrate antioxidant activity by reducing reactive oxygen species (ROS), helping protect cells from oxidative stress that accelerates skin aging and compromises barrier integrity.^{1,3}

Collectively, these mechanisms create a biological foundation not only for healthier-looking skin, but also for hair and scalp vitality. Because the scalp shares similar epithelial characteristics with facial skin, supporting barrier function may contribute to an improved follicular environment and overall hair quality.

THE TECHNICAL DETAILS.

INCI. Lactobacillus Ferment Lysate

CAS. 9015-54-7

EINECS. 295-635-5

EUROPE. Compliant

USA. Compliant

CHINA. Compliant

Origin. Bacteria

Natural Antimicrobial. Leuconostoc/Radish Root Ferment Filtrate*

Preservatives. None

Solvents Used. None

Appearance. Slightly Hazy to Hazy Semi-Viscous Liquid

THE FORMULATION TIPS.

pH Stability. 3 - 7

Temperature Stability. Product may change appearance if exposed to cold temperatures. Please gently warm to 45-50 °C and mix until normal appearance is restored.

Use Level. 1 - 10%

Ionic State. Nonionic

Alcohol Compatibility. Compatible with 50% alcohol

Solubility. Water Soluble

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

* Please note this product contains Leuconostoc/Radish Root Ferment Filtrate (Tradename: M15008-Leucidal® Liquid) - produced by Active Micro Technologies, LLC - containing 18.0–22.0% Phenolics (tested as Salicylic Acid). Please refer Leucidal® Liquid product literature for additional information.

Probacillus Revive

THE BENEFITS OVERVIEW.

- Stylist-Approved** Salon Half-Head Study
- Free Radical Scavenger** Reactive Oxygen Species (ROS) Scavenging Assay
- Antioxidant Protection** Oxygen Radical Absorbance Capacity (ORAC) Assay

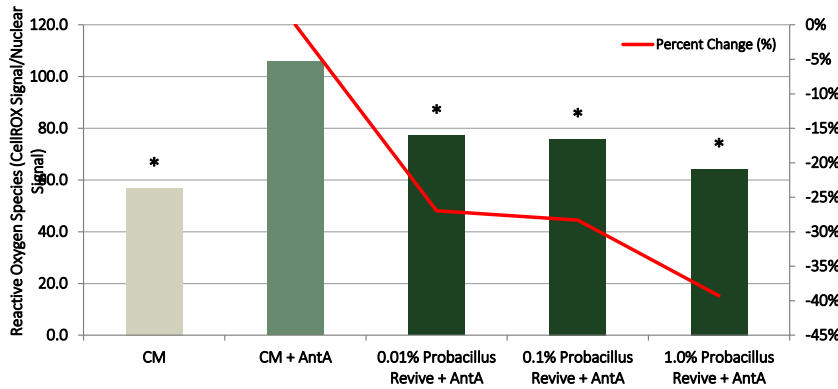
- Cellular Senescence** SA-Beta-gal Activity
- Collagen Enhancing** Sirius Red Fast Green Assay
- Wound Healing** Scratch Assay

THE EFFICACY.

Free Radical Scavenger

A ROS Scavenging Assay was performed to evaluate the ability of Probacillus Revive to reduce excessive oxidative stress in human dermal fibroblasts, a key contributor to cellular aging and skin degradation. Cells were treated with varying concentrations of Probacillus Revive, then exposed to Antimycin A to include elevated mitochondrial and non-mitochondrial ROS. Intracellular ROS levels were quantified using CellROX™ Orange fluorescence and normalized to cell number via Hoechst nuclear staining, allowing assessment of antioxidant activity at a cellular level.

Reactive Oxygen Species Scavenging Assay

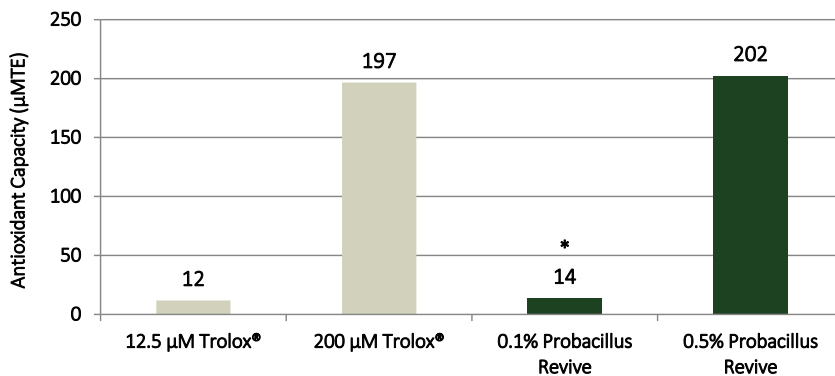


Reduced ROS levels by -28% at a 0.1% use level

Antioxidant Protection

An Oxygen Radical Absorbance Capacity (ORAC) Assay was conducted to quantify the antioxidant capacity of Probacillus Revive by measuring its ability to neutralize peroxy radicals. The assay monitors the protection of fluorescein fluorescence from radical-induced decay generated by AAPH, with antioxidant activity calculated relative to Trolox®, a vitamin E analog used as the standard. ORAC values were expressed as Trolox® equivalents based on the area under the fluorescence decay curves, providing a quantitative measure of free radical scavenging.

Oxygen Radical Absorbance Capacity Assay



Increased antioxidant activity by +2.5% at 0.5% use level

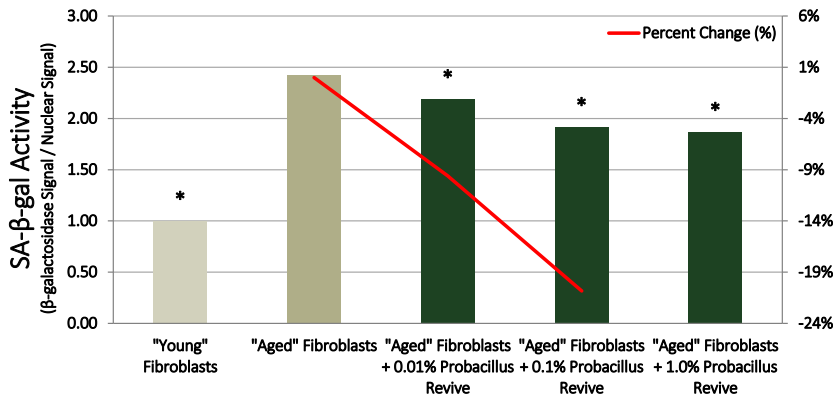
Probacillus Revive

THE EFFICACY CONTINUED.

Cellular Senescence

A Cellular Senescence Assay was performed to evaluate the ability of Probacillus Revive to reduce aging-associated SA-β-galactosidase activity in human dermal fibroblasts. Aged fibroblasts (high passage, P8) were treated with Probacillus Revive and compared to young fibroblasts (low passage, P4), which serve as a physiological benchmark for youthful skin. Cellular senescence was quantified using SPiDER-βGal fluorescence normalized to Hoechst nuclear staining, allowing assessment of senescence attenuation at the cellular level.

SA-Beta-gal Activity

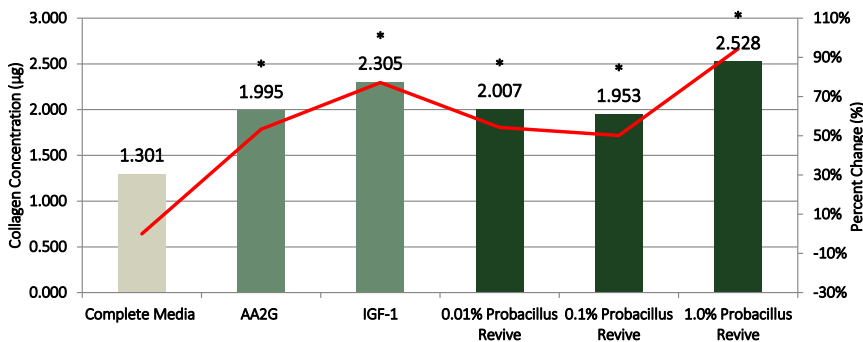


Elicited a -21% reduction in SA-beta-gal activity at 0.1% use level

Collagen Enhancing

A Sirius Red/Fast Green Collagen Assay was performed to evaluate the effect of Probacillus Revive on collagen synthesis in human dermal fibroblasts. Fibroblasts were treated with varying concentrations of Probacillus Revive, with AA2G and IGF-1 used as positive controls, and collagen and non-collagenous proteins were selectively stained and quantified by optical density. Collagen content was calculated from dye absorbance values, providing a semi-quantitative measure of collagen production following treatment.

Sirius Red Fast Green Assay



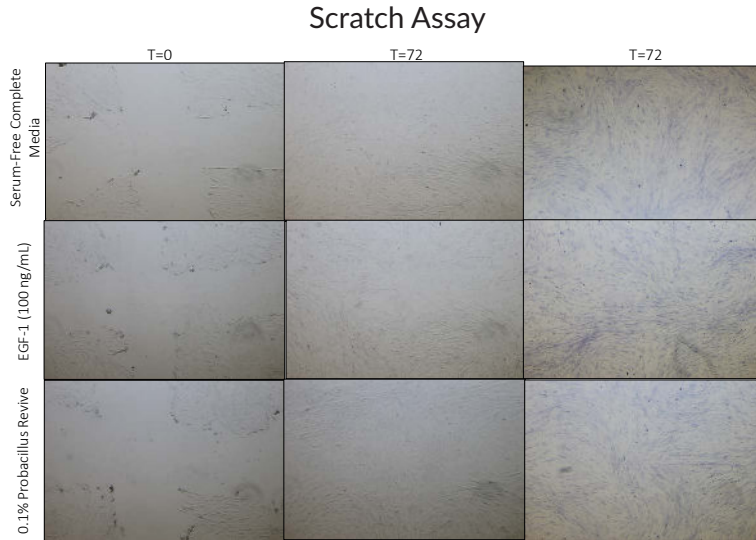
Increased collagen concentration by +40% at 0.1% use level

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THE EFFICACY CONTINUED.

Wound Healing

A Scratch (wound healing) assay was performed to evaluate the effects of Probacillus Revive on fibroblast migration and wound closure *in vitro*. Confluent human dermal fibroblast monolayers were scratched and treated with Probacillus Revive, with EGF-1 as a positive control, and wound closure was monitored over 72 hours. Cell migration and scratch closure rates were quantified from time-lapse images using ImageJ analysis.



Increased cell migration comparable to the EGF-1

Stylist-Approved

A Salon Half-Head Study was conducted to evaluate the perceived hair benefits of Probacillus Revive when incorporated at 2.0% into a shampoo and conditioner. Five blinded volunteers (ages 21-54) had one side of their hair treated with a base shampoo and conditioner, while the other side received the same base formulations containing Probacillus Revive. Wet and dry sensory evaluations, along with before-and-after photography, were used to assess multiple hair appearance and feel parameters.



**+68% Anti-Frizz,
+62% Overall Feel,
+54% Shine**

References:

- Zhang W, Yu W, Li X, Yu Y, Feng J, Xu Y, Zhao M, Jin Y. Cutaneous Wound Healing Facilitated by Postbiotic Extract Through Antimicrobial Action and Extracellular Matrix Regulation. *Int J Mol Sci.* 2025 Oct 30;26(21):10556. doi: 10.3390/ijms262110556. PMID: 41226591; PMCID: PMC12610344.
- Mohtashami M, Mohamadi M, Azimi-Nezhad M, Saeidi J, Nia FF, Ghasemi A. Lactobacillus bulgaricus and Lactobacillus plantarum improve diabetic wound healing through modulating inflammatory factors. *Biotechnol Appl Biochem.* 2021 Dec;68(6):1421-1431. doi: 10.1002/bab.2064. Epub 2020 Nov 17. PMID: 33125785.
- Kim, H. S., et al. "Antioxidant activity of some yogurt starter cultures." *Asian-australasian journal of animal sciences* 18.2 (2005): 255-258.

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

Social Media
@activeconceptsglobal

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