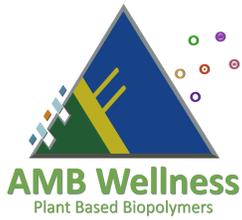


AMBIOME™ SKC Aloe fermented Mechanism of Action

The cosmetic segment is a rapidly growing industry that has been challenged in recent years due to the origin and impact of its ingredients and manufacturing techniques. Biotechnology, and fermentation as the core technology, is a solution to support and drive more sustainable growth for the cosmetic industry. The latest research and development in fermentation applied to cosmetics and showcases multiple examples throughout all classes of ingredients: from functional compounds, such as oil and surfactants, to multi-faceted molecules with a wide spectrum of formulations and skin benefits derived from their emulsifying, antimicrobial or antioxidant properties, fermentation has emerged as a technological field disrupted with new innovations which enable more efficacious ingredients. Skin-related benefits from fermentation are attributed to different factors.

AMBIOME™ SKC Aloe Fermented increases the bioavailability of nutrients in the final fermented product. Aloe is well known for skin care preparations, become available and prone to be absorbed by the skin. There an existing INCI NAME for aloe fermented as Ingredient: Lactobacillus/Aloe Barbadensis Ferment Filtrate (芦荟叶汁发酵滤液) is a filtrate of the product obtained by the fermentation of Aloe Barbadensis by the microorganism Lactobacillus, Functions as Skin conditioning. AMBIOME™ SKC Aloe Fermented had the following effects in various types of beauty cosmetics: whitening, sun protection, anti-aging and antioxidant, moisturizing, and regulating water and oil balance.





AMBIOME™ SKC Aloe Fermented, is Aloe fermented with active ingredients created by the precise fermentation from AMB Wellness, using a proprietary culture of strains isolated from our plant aloe vera and deactivated benefit bacteria with state of the art, High Pressure Processing (HPP), which is a non-thermal (5°C – 20°C) aloe vera gel preservation method that guarantees food safety and achieves an increased shelf life, while maintaining the organoleptic and nutritional attributes of fresh products.

The combined effect of SCFA and organic acid production, along with aloe's beneficial properties, can lead to:

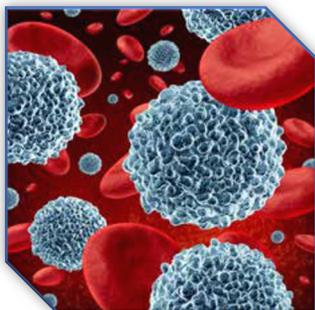
- **Reduced inflammation:** SCFAs can help regulate inflammation in the skin, potentially benefiting conditions like atopic dermatitis.
- **Enhanced skin health:** By improving the skin's microbiome and maintaining a healthy pH, fermented aloe can contribute to overall skin health.
- **Antimicrobial protection:** The antimicrobial properties of SCFAs and the beneficial bacteria they support can help protect against infections.
- **Improved skin barrier function:** SCFAs can contribute to the integrity of the skin barrier, which is crucial for maintaining moisture and protecting against environmental stressors.
- **Antioxidant** Fermented aloe vera extract enhances with its antioxidant properties, aiming to improve skin clarity, texture, and elasticity.
- **Skin Activating Treatment:** Leveraging the power of fermented ingredients, this product is designed to nourish, hydrate, and strengthen the skin's foundation to resist signs of aging. Features a complex of pre- and metabolites derived from fermentation processes, designed to strengthen the skin's barrier and improve its resilience against aging, skin-smoothing benefits, improving skin tone and texture. AMBIOME™ SKC Aloe Fermented due low pH, and multiple nutrients from natural aloe vera barbadensis miller gel.



Mechanisms of Action

Enhanced Bioavailability

The fermentation process breaks down complex compounds into simpler, more easily absorbed molecules, thereby enhancing their bioavailability. This means that the skin can more readily absorb these beneficial compounds, making them more effective in nourishing and revitalizing the skin.



Antioxidant Properties

Fermented bioactives are rich in antioxidants, which are crucial in fighting oxidative stress caused by free radicals. Oxidative stress accelerates the aging process by damaging cells, including those in the skin. By neutralizing free radicals, antioxidants protect skin cells from damage, thus preventing premature aging signs like wrinkles, fine lines, and loss of elasticity.

Anti-inflammatory Effects

Chronic inflammation is another factor that contributes to aging. Fermented bioactives exhibit strong anti-inflammatory properties that help soothe the skin, reduce redness and irritation, and promote a more even skin tone. This makes them effective in addressing age-related skin conditions, such as rosacea and age spots.

Hydration and Skin Barrier Enhancement

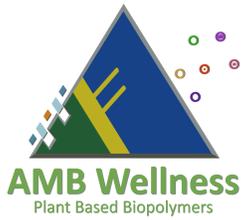
Many fermented bioactives help improve skin hydration by enhancing the skin's natural barrier function. This barrier protects against environmental aggressors and prevents moisture loss, which is crucial for maintaining plump, resilient, and youthful-looking skin.



Versatile Applications in Anti-Aging

Fermented bioactives find applications in a wide range of anti-aging products and treatments, including:

Skincare Products: From serums and creams to masks, fermented bioactives are incorporated into skincare formulations for their rejuvenating properties. They are known



to improve skin texture, enhance firmness, and reduce the appearance of wrinkles and fine lines.

Dietary Supplements: Recognizing the gut-skin axis, fermented bioactives are also available in the form of dietary supplements. These supplements support gut health, which in turn, reflects on skin health, demonstrating a holistic approach to anti-aging.

Professional Treatments: In the realm of aesthetic medicine, fermented bioactives are being explored for use in professional treatments such as facials and peels, offering a natural alternative to chemical-based procedures.

Research shows fermentation substantially increases biochemical activity by converting high-molecular compounds into low-molecular structures. Your skin absorbs these ingredients more effectively as they work with your skin's natural processes.

Fermented ingredients offer several key benefits:

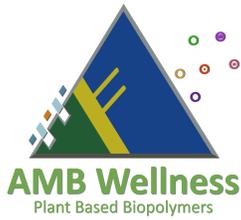
- **Enhanced nutrient absorption** - Smaller molecular size allows deeper penetration into skin layers
- **Increased concentration of active compounds** - Fermentation can boost antioxidant levels, with free radical scavenging activity increasing with longer fermentation time
- **Superior moisturizing effects** - Research demonstrates certain fermented ingredients can increase skin hydration by up to 400%
- **Microbiome support** - These ingredients provide beneficial postbiotics in the form of peptides, acids, and enzymes
- Fermented AMBIOME™ SKC Aloe Fermented **improves barrier function** by 13% and boosts skin radiance by 11%.

Gentle humectants and hydrators

A well-hydrated environment helps beneficial microorganisms thrive. Skincare companies can focus AMBIOME™ SKC Aloe Fermented for gentle humectants that attract and bind moisture without disturbing the skin's microbial balance.

AMBIOME™ SKC Aloe Fermented, provides both hydration and microbiome support through its unique properties. Beyond soothing effects, it contains polysaccharides that support beneficial bacteria. Lactobacillus plantarum-fermented aloe shows remarkable moisturizing power compared to unfermented versions.





The pH Connection: Balancing Your Skin's Acid Mantle.

Your skin has an invisible acid mantle that acts as a protective shield and home for billions of tiny microorganisms. This thin acidic film (pH ~5.5) creates the perfect environment where good bacteria thrive and harmful one's struggle to survive.

Why pH matters for microbiome health

Your skin's natural acidity determines which microorganisms make their home on your skin. The acidic environment (pH around 5.6) creates conditions that help some bacteria grow while stopping others.

Research shows that your skin's barrier repair ability drops substantially when pH levels rise from regular cleanser use. Higher skin pH levels let harmful bacteria spread while disrupting the helpful bacteria that normally live there. This imbalance often shows up as inflammation, dryness, and skin problems. Skin bacteria play their part in keeping this vital acidity balanced.

Some beneficial bacteria produce short-chain fatty acids (SCFAs) through fermentation. These acids help maintain the skin's acidic pH and create a self-regulating ecosystem. Let's break down the benefits of some of these key acid families produced from fermentation of aloe vera. AMBIOME™ SKC Aloe Fermented, contains organic acids: lactic Acid, Alpha-Hydroxy Acids (AHAs), Acid, Glycolic Acid, Malic Acid, Citric Acid, Pyruvic Acid, Pyroglutamic Acid (PCA) and SCFA: Acetic Acid, Propionic Acid, Butyric Acid, Formic Acid.

AMBIOME© SKC had a good moisturizing efficacy, and its natural moisturizing factors, hyaluronic acid, and other substances extracted from it could serve as effective components of moisturizing skincare products.



AMBIOME™ SKC Aloe Fermented, provides both hydration and microbiome support through its unique properties.

Anti-oxidation and anti-aging

Skin aging is mainly caused by oxidative damage induced by reactive oxygen free radicals (ROS). Excessive ROS can induce excessive oxidative stress, leading to biomolecule denaturation and cell death. For example, hydroxyl free radicals can cause oxidative damage to adjacent biomolecules. When the body's antioxidant defense system declined, free radicals couldn't be cleared in time and accumulated gradually, leading to cell damage and skin aging ultimately. Therefore, removing reactive ROS and inhibiting oxidation is one of the means of anti-aging.

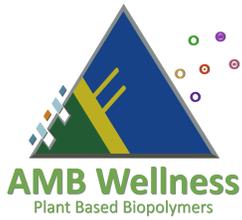


AMBIOME[®] SKC, has the ability to stimulate collagen synthesis via induction of fibroblasts in the dermis. The increased production of collagen makes skin smoother, reduces wrinkles, and improves skin elasticity and longevity. It has also been found that the dendritic AMBIOME[™] SKC Aloe Fermented, fermented by *Lactobacillus plantarum* exhibited more significant anti-wrinkle ability than before fermentation, which might be related to the decomposition of macromolecular polysaccharides into small molecules during the fermentation process, making it easier for them to enter fibroblasts and exert their effects. Other research showed that fermentation of AMBIOME[™] SKC Aloe Fermented considerably reduced the production of pro-inflammatory factors TNF- α and IL-1 β and significantly increased the yield of the anti-inflammatory factor IL-4 in animal serum. The abundant carbohydrates and amino acids in AMBIOME[™] SKC Aloe Fermented had the function of repairing collagen. Then, collagen could maintain the elasticity and firmness of the skin, decompose the aging elastic fibers, and promote the restoration and regeneration of its own tissues, thereby delaying the aging of the skin.

Sun protection

AMBIOME[™] SKC Aloe Fermented was a broad-spectrum natural sunscreen that could effectively reduce the damage of UV radiation to the skin. AMBIOME[™] SKC Aloe Fermented can not only inhibit the proliferation of melanocytes and reduce skin pigmentation, but also decrease the damage of UV rays to the human immune system and reduce the possibility of skin cancer, hence, AMBIOME[™] SKC Aloe Fermented could effectively resist the damage of UV rays to the skin.





If you want to receive more information related to AMBIOME™ SKC Aloe Fermented, please do not hesitate to contact us.

Oscar Lozano

Global Sales Manager

oscar@amb-wellness.com

+528713154092



This Marketing Material is only a Commercial reference and intended for the addressee, anyone who receives this information by mistake is bound to confidentiality. All displayed images and registered brands are property of its owners,

www.amb-wellness.com