

FermBiotic™ Series

Microbiome-supporting complexes



Enables bioactives of extracts to be more bioavailable

Boosts efficacy of formulations

Naturally boosts nutrient density of extracts to increase the benefit potential for skin, scalp, and hair

Provides skin and scalp microbiome support by adding postbiotic elements

Supports a balanced skin microbiome

Strengthen skin and scalp barrier function

Recommended applications



Skin care



Makeup



Hair care



Body care

FermBiotic™ Series is a platform of microbiome-supporting complexes derived from extracts and microorganisms.

Through microorganism-induced fermentation, we Bio-TransmogriFY™ botanical biomass— which frees up beneficial components for skin and scalp that may otherwise be trapped.

Bio-TransmogriFY™ describes when the fermentation process begins to reduce the size of the active molecules from extracts, ultimately making botanical actives more bioavailable for topical use.

Fermentation enables bioactives of extracts to be more bioavailable for topical use. This means skin, scalp, and hair can absorb more goodies, more easily—boosting the efficacy of your formulations.

Fermentation naturally boosts the nutrient density of extracts, thus increasing their benefit potential for skin, scalp, and hair.

It also creates new substances, such as amino acids, organic acids, and antioxidants—all of which are beneficial for the skin, hair, and scalp.

This process also provides microbiome support for skin and scalp by adding postbiotic elements into formulations. Postbiotics are beneficial compounds made by good bacteria. They are byproducts of the fermentation process, produced as probiotics feed on prebiotics.



Vantage

Efficacy Proven FermBiotics™

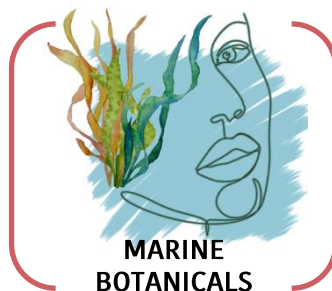
Our scientific studies have concluded specific skin care benefits of the following FermBiotic™ combinations:



**GALACTOMYCES
CANDIDUM**

= Legume FermBiotic™ G.
Hydration Booster

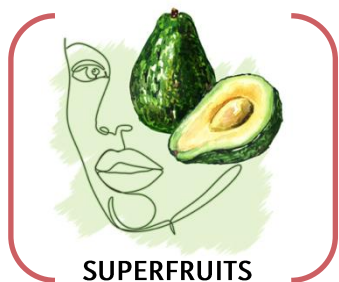
LEGUMES



**LACTOBACILLUS
PLANTARUM**

= Marine FermBiotic™ L.
Energy Booster

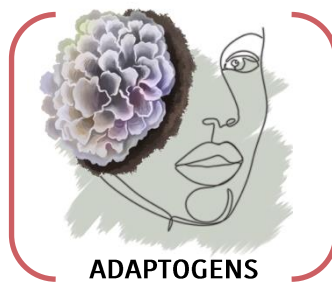
**MARINE
BOTANICALS**



**GALACTOMYCES
CANDIDUM**

= Superfruit FermBiotic™ G.
Protection Booster

SUPERFRUITS



**SACCHAROMYCES
CEREVISIAE**

= Adaptogen FermBiotic™ S.
Collagen Booster

ADAPTOGENS

Adaptogen FermBiotic™ S – Collagen Booster

Boost the natural collagen production of skin with the anti-aging properties of Adaptogen FermBiotic™ S. Adaptogen FermBiotic™ S has shown superior ability to increase Type I Collagen expression in fibroblasts by 28%** based on in-vitro cell studies.

In addition to supporting a balanced skin microbiome through yeast packed *Saccharomyces Cerevisiae*, Adaptogen FermBiotic™ S can help;

- ✓ increase collagen levels in skin cells
- ✓ soften and smooth skin texture
- ✓ restore skin's natural glow
- ✓ diminish the look of fine lines and wrinkles
- ✓ support skin cell renewal and repair
- ✓ boost moisture levels

INCI: Water (and) *Saccharomyces Ferment Lysate Filtrate* (and) *Centella Asiatica Flower/Leaf/Stem Extract* (and) *Beta Vulgaris (Beet) Root Extract* (and) *Tremella Fuciformis Extract*

KEY INGREDIENTS

FRIENDLY-FUNGI (postbiotic) *Saccharomyces Cerevisiae*

TIGER GRASS EXTRACT *Centella Asiatica*

BEET ROOT EXTRACT *Beta Vulgaris*

SNOW MUSHROOM EXTRACT *Tremella Fuciformis*

STUDY DETAILS

Study Type: *In-Vitro / COL1 Assay*

Cell Line: *Normal Human
Dermal Fibroblasts*



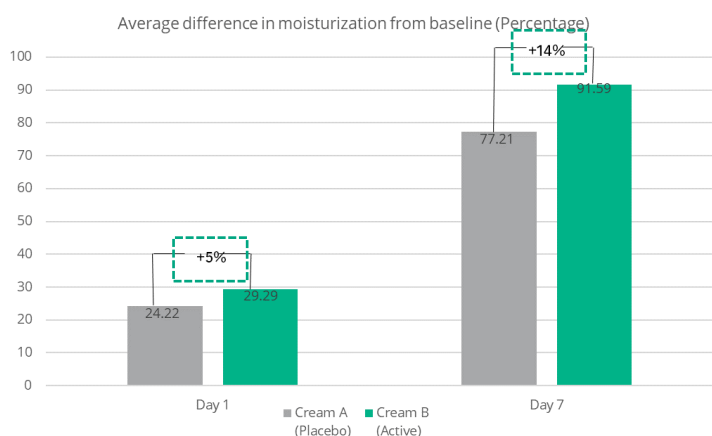
**versus the untreated Control cells

Legume FermBiotic™ G – Hydration Booster

Legume FermBiotic™ G has shown to effectively improve skin's own ability to hydrate itself from within, further leading to potential benefits such as;

- ✓ strengthen skin barrier function
- ✓ enhance skin elasticity
- ✓ promote a plump, youthful, radiant complexion
- ✓ reinforce soft and smooth skin texture

Legume FermBiotic™ G is proven to increase skin moisturization after only 7 days.



Inspired by veganism, Legume FermBiotic™ G has proven to increase Hyaluronic Acid Synthase-1 (HAS1) expression by 71% in an in-vitro study conducted on Keratinocytes (primary cell type on the epidermis—the outermost layer of skin). HAS1 is the enzyme produced by keratinocytes and it is responsible for naturally producing Hyaluronic Acid in the skin.

INCI: Water (and) Galactomyces Ferment Filtrate (and) Hydrolyzed Cicer Seed Extract (and) Pueraria Lobata Root Extract (and) Medicago Sativa (Alfalfa) Extract

KEY INGREDIENTS

FRIENDLY-FUNGI (postbiotic) *Galactomyces Candidus*
CHICKPEA EXTRACT *Hydrolyzed Cicer Seed*
KUDZU ROOT EXTRACT *Pueraria Lobata*
ALFALFA EXTRACT *Medicago Sativa*

STUDY DETAILS

Study Type: In-Vitro / HAS1 Assay
Cell Line: Normal Human Epidermal Keratinocytes



Marine FermBiotic™ L – Energy Booster

Boost the vitality of skin cells with the efficacious Marine FermBiotic™ L.

Through the established MTT Assay, which measures how ingredients impact the vitality of growing cells, Marine FermBiotic™ L has been proven to stimulate both epidermal (keratinocytes) and dermal (fibroblasts) skin cells by 21% **.

Along with skin microbiome support through bacteria *Lactobacillus Plantarum*, Marine FermBiotic™ L can help;

- ✓ boost skin radiance
- ✓ enhance skin tone and texture
- ✓ support skin cell renewal
- ✓ strengthen cell metabolism
- ✓ energize skin cells
- ✓ reinforce skin cell performance
- ✓ improve overall skin health and appearance

INCI: Water (and) *Lactobacillus Ferment Lysate* (and) *Spirulina Platensis Extract* (and) *Laminaria Digitata Extract* (and) *Ulva Lactuca Extract*

KEY INGREDIENTS

FRIENDLY-BACTERIA (postbiotic) *Lactobacillus Ferment Lysate*
BLUE-GREEN ALGAE EXTRACT *Spirulina Platensis*
BROWN SEAWEED EXTRACT *Laminaria Digitata*
SEA LETTUCE EXTRACT *Ulva Lactuca*

STUDY DETAILS

Study Type: In-Vitro / MTT Assay
Cell Line: Normal Human Epidermal Keratinocytes and Normal Human Dermal Fibroblasts



**versus the untreated Control cells

FermBiotic™ Series

Microbiome-supporting complexes

	Adaptogen FermBiotic™ S	Legume FermBiotic™ G	Marine FermBiotic™ L	Superfruit FermBiotic™ G
Appearance @ 25°C	Medium Amber Liquid	Medium to Dark Amber Liquid	Clear to Slightly Hazy, Light Yellow to Medium Amber/Brown Liquid	Medium to Dark Amber Liquid
Odor	Characteristic			
Specific Gravity (@ 25°C)	1.04 - 1.08	1.05 - 1.10	1.03 - 1.08	1.05 - 1.10
pH	4.5 - 6.5	4.5 - 6.5	4.0 - 6.5	4.5 - 6.5
Recommended Use Level	1 - 5%			

Superfruit FermBiotic™ G – Protection Booster

Superfruit FermBiotic™ G is a fermented, phytonutrient- and antioxidant-rich, complex that offers optimal environmental protection with postbiotic properties for skin microbiome wellness.

With a HORAC EC50 test value of 7.8 ug/ml**, Superfruit FermBiotic™ G can help;

- ✓ protect skin against environmental stressors by reducing and counteracting production of free radicals that cause oxidative stress
- ✓ maximize protection against UV damage when used along with sunscreen
- ✓ help maintain a healthy skin barrier
- ✓ reduce skin inflammation to support even-skin tone
- ✓ diminish the look of dullness
- ✓ help combat premature aging
- ✓ aid in reducing the look of fine lines and wrinkles
- ✓ improve overall skin texture, tone and clarity

INCI: Water (and) Galactomyces Ferment Filtrate (and) Terminalia Ferdinandiana Fruit Extract (and) Adansonia Digitata Fruit Extract (and) Persea Gratissima (Avocado) Fruit Extract

KEY INGREDIENTS

FRIENDLY-FUNGI (postbiotic) Galactomyces Candidus

KAKADU PLUM EXTRACT Terminalia Ferdinandiana

BAOBAB FRUIT EXTRACT Adansonia Digitata

AVOCADO FRUIT EXTRACT Persea Gratissima

STUDY DETAILS

Study Type: In-Situ / HORAC Assay
(Hydroxy Radical Antioxidant Capacity)



**Trolox (a water-soluble Vitamin E derivative) has an EC50 value of 300 micrograms/ml. Higher the EC50 value, the less potent the antioxidant power.

Formulation guidelines

The ferments within the FermBiotic™ Series are water-based ingredients that will formulate into the aqueous phase of emulsions. Not compatible with anhydrous systems. Add the ferments during the cool down phase of the product production at temperatures below 45°C. These ferments are stable to pH, but should not be used in formulations with extreme pH above 10 or below 4. The ferments are compatible with most formulating ingredients. Strong anionic surfactants such as SLS should be avoided to minimize denaturing the available fermentation proteins.