

# Majime Bio – Prebiotic bio-fermented fruit extract

AmphoChem has a personal care portfolio that offers sustainable and innovative ingredients from global producers such as Adeka. Adeka has more than a century of experience in the cosmetics and detergent market providing unique products globally with high technical strength and reliable quality.



One of their latest products is Fermented Majime Bio fruit extracts that are prebiotic and thus extremely beneficial to the skin microbiome. Fermentation using probiotic lactic acid bacteria give rise to biofunctional compounds, which synergistically help the skin become healthier.



The progress in the cosmetic and personal care industry has showcased an impressive growth of fermented functional ingredients in the recent years, providing exceptional skin care properties to cosmetic products. Naturally transformation of fruits by fermentation, particularly using probiotic lactic acid bacteria (LAB), changes both profile and type of bioactive compounds in a natural and sustainable way.

The improvement of the functional properties of our new Majime Bio extracts by LAB fermentation results from several mechanisms: elimination of antinutritional factors, production of skin-effective metabolites (Alpha Hydroxy Acids, AHA), improvement of absorption of bioactive compounds, increased available micronutrients (vitamins, minerals and phenolic compounds) and beyond that an increase in the antioxidant capacity of the ingredient.

Moreover, interactions between topical applied fermented ingredients and skin microflora represent a straightforward approach that may balance the skin microbiome leading to healthy skin and well-being.

## **The benefits of lactic acid bacteria – LAB**

Fermentation technology involving LAB is known to be useful for producing or improving the function of many kinds of cosmetic ingredients. Advances in LAB science are continuously being used to improve the safety and function of cosmetic ingredients, and these ingredients are expected to keep skin in good condition and healthier overall.

- Safe Bacteria (non-GMO)
- Self-preservation
- Strengthen the skin microbiome

## The benefits of LAB- Fermentation

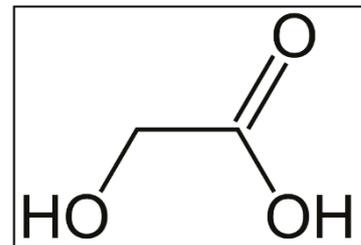
Using fermented products is an excellent way to provide nutritional and protective factors to the skin without the worry of skin irritation. LAB fermentation involves the oxidation of carbohydrates to organic acids, in particular lactic acid (AHA). The prebiotics in LAB fermented fruits can help to harmonize skin microflora, while antioxidants in fermented fruits can help to clear harmful free radicals, which play a major role in degenerative processes of stressed and aged skin.

- Increased micronutrient content after fermentation by LAB
- Biosynthesis of organic acids (AHA) and bioactive molecules
- Improved bioavailability of bioactive compounds

## The benefits of Alpha Hydroxy Acids - AHA's

AHAs exert benefits both to the outer layer of the skin (epidermis) and the deep layer (the dermis). AHAs have an exfoliative effect, increasing the shedding of dead skin cells retained at the surface. They do this by gently cleaving the retained bonds between dead skin cells, triggering of cell renewal and epidermal metabolism.

- Exfoliate the skin
- Natural moisturizer
- Support skin firmness



Picture 1: Basic Structure of Alpha Hydroxy Acids

## Demonstrated efficacy

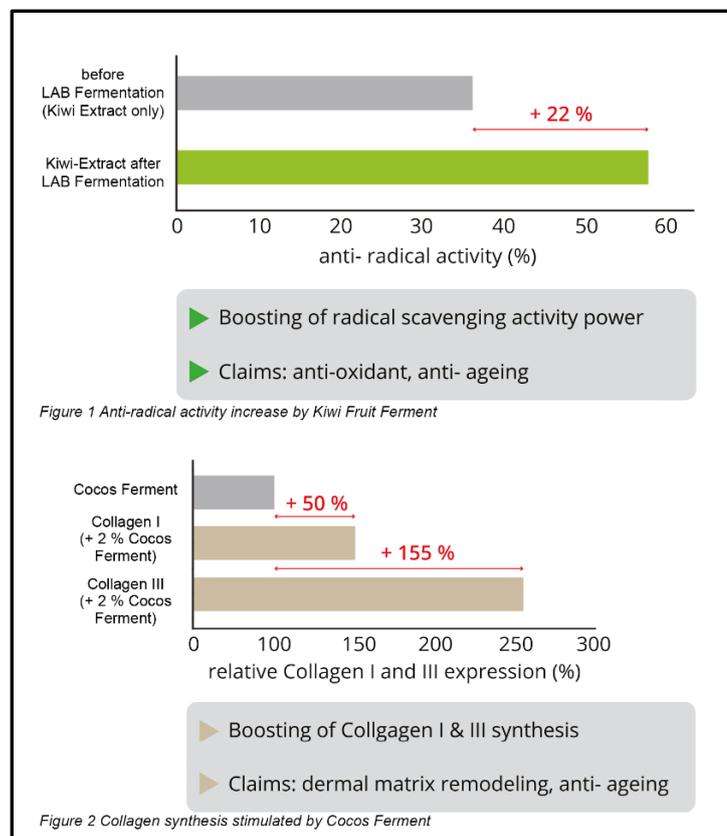
### Majime Bio

#### 1. Majime Bio Kiwi (INCI: Actinidia chinensis (Kiwi) Fruit Water, Lactobacillus Ferment)

LAB fermentation leads to 22 % increased anti-radical scavenging activity of Kiwi Fruit Ferment.

#### 2. Majime Bio Cocos (INCI: Cocos nucifera (Coconut) Fruit juice, Lactobacillus Ferment)

Majime Bio Cocos stimulates Collagen I synthesis by 50 % and Collagen III synthesis by 155 % compared to untreated control in human dermal fibroblasts.



**3. Majime Bio Green Tea/ Ginger  
(INCI: Camellia Sinensis Leaf  
Extract, Zingiber officinale  
(Ginger), Water, Lactobacillus  
Ferment)**

Majime Bio Green Tea/ Ginger shows protection against cellular photo-aging by up to 40 % in human dermal fibroblasts.

**4. Majime Bio Cranberry  
(INCI: Vaccinium Macrocarpon  
(Cranberry) Fruit Juice,  
Lactobacillus Ferment)**

LAB fermented Cranberry increases cell viability by 33 % in human dermal fibroblasts after LPS- mediated cell death.

**5. Majime Bio Apple/Matcha  
(INCI: Pyrus malus (Apple), Fruit  
Water, Camellia Sinensis Leaf,  
Lactobacillus Ferment)**

Majime Bio Apple/Matcha inhibits activity of pro-inflammatory lipoxygenase enzyme by up to 57 %.

