

# Natural and effective solutions for anti-aging products

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# CHINA BPC MARKET TREND

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# Stricter cosmetic laws in China 2021

In 2021, the regulations on the supervision and administration of cosmetics and relevant supporting regulations were successively implemented, which means that the requirements of the whole cosmetics industry chains in China are more stringent.

## Apr. 9th

The "China **cosmetic efficacy declaration** evaluation specification" was issued, which stipulates the time node for the submission of various efficacy declaration evaluations.

## May 28th

The catalogue of **prohibited raw materials** for cosmetics was updated, and marijuana ingredients were banned.

## Oct. 8th

The regulations on the supervision and administration of **children's cosmetics** were officially released, which is the first regulatory document specifically for children's cosmetics in China, and will come into force on January 1, 2022.

## Nov. 20th

Phenethyl resorcinol is prohibited in cosmetics..

## Dec. 1st

The "**Little Golden Shield**" logo was announced, which means that China will strengthen the supervision of **children's cosmetics**, especially children's color cosmetics.

# Stricter cosmetic laws in China 2021



According to the supervision of cosmetic raw materials by the China NMPA, we have coordinated and applied for the **reporting codes**, making our active raw materials comply with Chinese laws and regulations.

## 化妆品原料安全信息登记平台

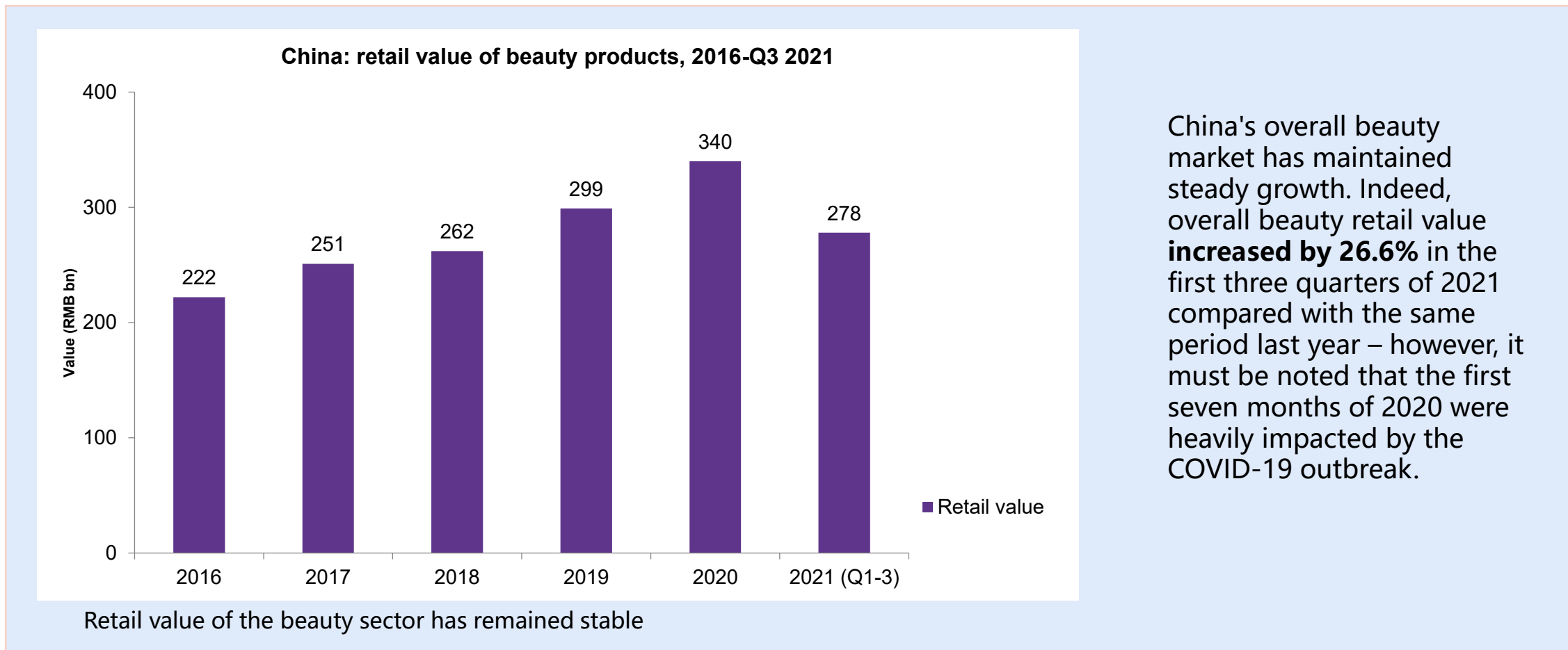
## China cosmetics raw material safety information registration platform

序号	原料组成	原料报送码
1	铁皮石斛 (DENDROBIUM OFFICINALE) 提取物 丙二醇 .....	1000030*****
2	二裂酵母发酵产物溶胞产物	0021620*****
3	羟基频哪酮视黄酸酯 异山梨醇酐二甲醚	1000060*****
4	金钗石斛 (DENDROBIUM NOBILE) 提取物 丁二醇 .....	1000070*****
5	甜菜碱水杨酸盐	0066660*****
6	抗坏血酸四异棕榈酸酯	0041060*****
	昆诺阿藜 (CHENOPODIUM QUINOA) 籽提取物	

显示第 1 到第 20 条记录, 总共 6319 条记录 每页显示 20 条记录

< 1 2 3 4 5 ... 316 >

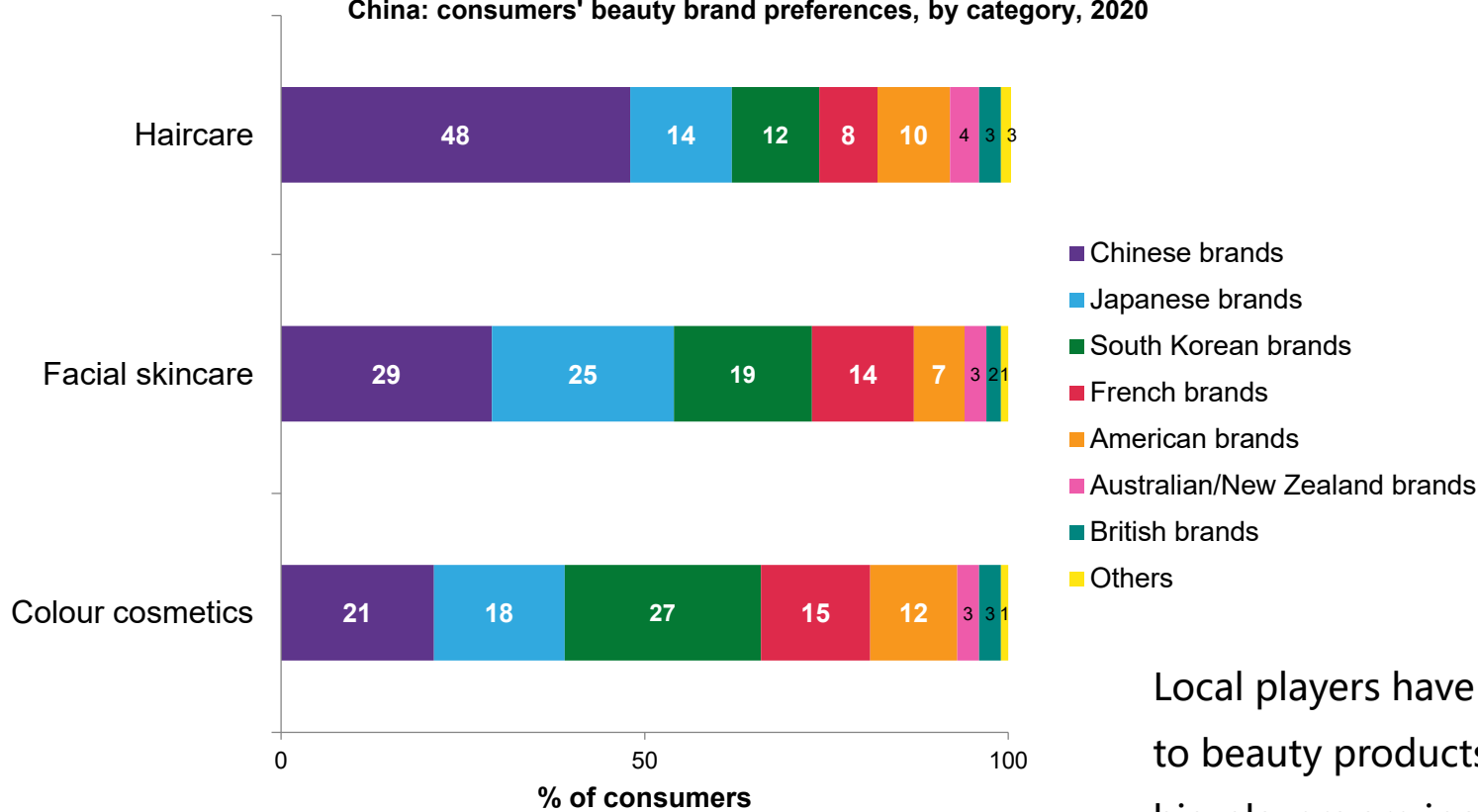
Led by skincare and colour cosmetics, China's beauty market has maintained dynamic growth, with retailing and imports back to pre-COVID-19 levels.



Local players maintain growing momentum

Local brands are consumer preference

China: consumers' beauty brand preferences, by category, 2020



Local brands are winning more consumers, resulting in rising market shares. This is particularly true of personal care categories (such as haircare), where close to half of product users choose local brands.

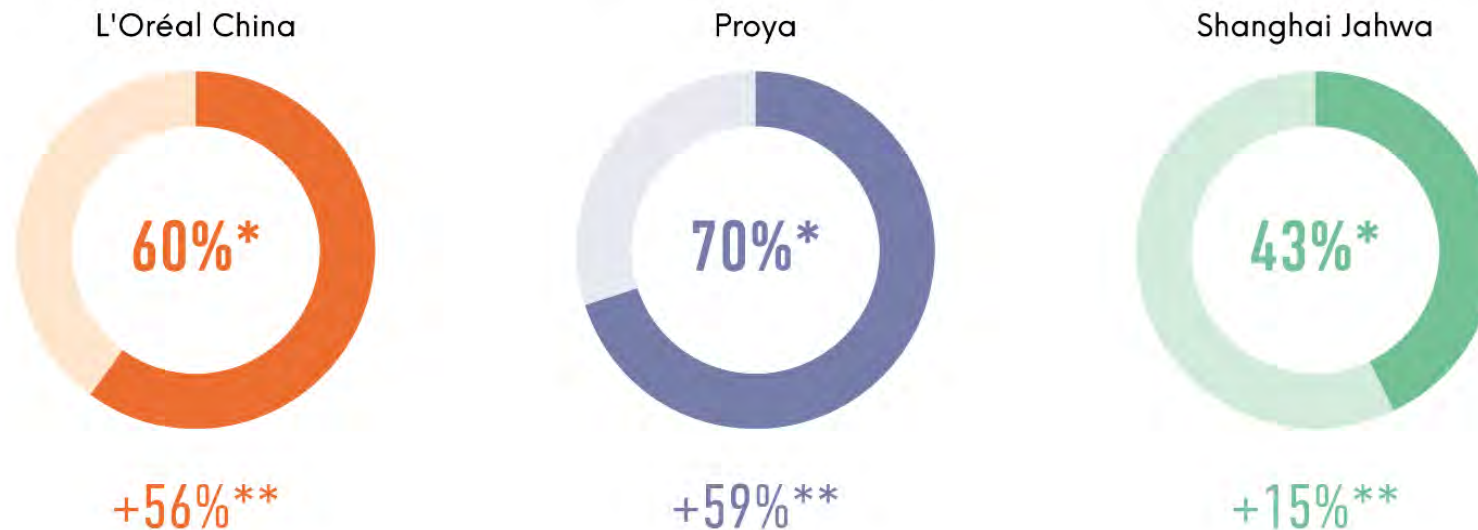


Local players have the greatest appeal to consumers when it comes to beauty products and continue to grow their market share. While big players are incubating new and potential brands, some leading emerging brands are starting their expansion overseas.

## Digital transition accelerates further, like TikTok (Douyin), KOL

Beauty brands are accelerating their digital transition. For key players, the contribution from digital channels continues to rise with a high growth rate.

% of digital retailing in total, 2020



### Beauty brands via TikTok live stream shopping

Source: Beijing News/L'Oréal; Proya; Shanghai Jahwa



### Skincare benefits needed in different sub-categories

Skincare benefits and associated claims can particularly elevate innovations in face makeup, eye makeup and even haircare. As well, the whitening and anti-aging products are famous in China.

PREFER PRODUCTS BY  
SKINCARE BRANDS

54%

of Chinese female face  
makeup users [prefer base  
makeup products from  
skincare brands](#)

WHITENING FACE  
MAKEUP

44%

of Chinese female face  
makeup users are  
interested in [whitening  
benefits in base makeup](#)

ANTI-AGEING HAIRCARE

31%

of Chinese haircare users  
are interested in [anti-  
ageing benefits in  
haircare products](#)

*Base: China: 2,988 female internet users aged 18-49 who have used face makeup products in the last six months; 2,993 internet users aged 18-49 who have used haircare products in the last six months*

*Source: KuRunData/Mintel, April 2021, November 2020*

# China BPC market trends in 2021

- More natural and more effective products are appealing to customers
- In the post-epidemic era, **anti-aging** and **repair** have become the hot claims of efficacy
- Improving **skin immunity** and **mitochondrial repair** has become a new claim
- The concept of microecology is accepted by consumers, and fermented raw materials, especially **probiotics** **fermented raw materials** are sought after
- Among all the scientific and technological components that meet the consumers' expectations, the top 3 are **Pro-Xylane**, **Bifida Ferment Filtrate**, and **L-ergothioneine**, followed by Pitera and Retinol



**HELENA RUBINSTEIN**  
RE-PLASTY AGE RECOVERY  
(containing 35% Pro-xylane)



**ELIZABETH ARDEN**  
ANTI-AGING DAILY SERUM  
(containing idebenone & L-ergothioneine)



**ESTÉE LAUDER**  
ADVANCED NIGHT REPAIR  
(containing bifida ferment lysate)



**su:m 37°C**  
LosecSumma  
Elixir Essence Secreta  
(containing 18 fermentation ingredients)

# Bloomage Biotech Introduction

# Company profile

Bloomage Biotechnology Corp., Ltd. (formerly Bloomage Freda Biopharm Co., Ltd.), has devoted more than 20 years' efforts in the biotechnology field and now Bloomage have become the leading provider of Sodium Hyaluronate (HA).

**2000**

Company established



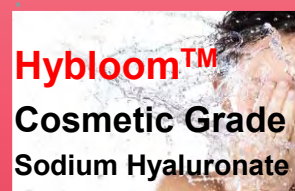
**2017**

Bloomage Delisted from Hong Kong, Bloomage 100% holding



**2018**

The brand of HA upgraded from **Freda** to **Hybloom**



**1990**

Dr. Guo started to study the production of HA by fermentation.

**2008**

Listed on H.k. Stock

**2019**

Chaged to Bloomage Biotech listed on the STAR Market on Shanghai Stock Exchange.

# Company profile

- ◆ High-Tech Enterprise
- ◆ 3 facilities are in operation (Total capacity 470T/Y)
- ◆ Providing bioactive materials to pharmaceutical, personal care, and nutritional supplements industry
- ◆ HA technology Platform and Fermentation technology Platform



1<sup>st</sup> facility



2<sup>nd</sup> facility



3<sup>rd</sup> facility



# Bloomage innovative product lines



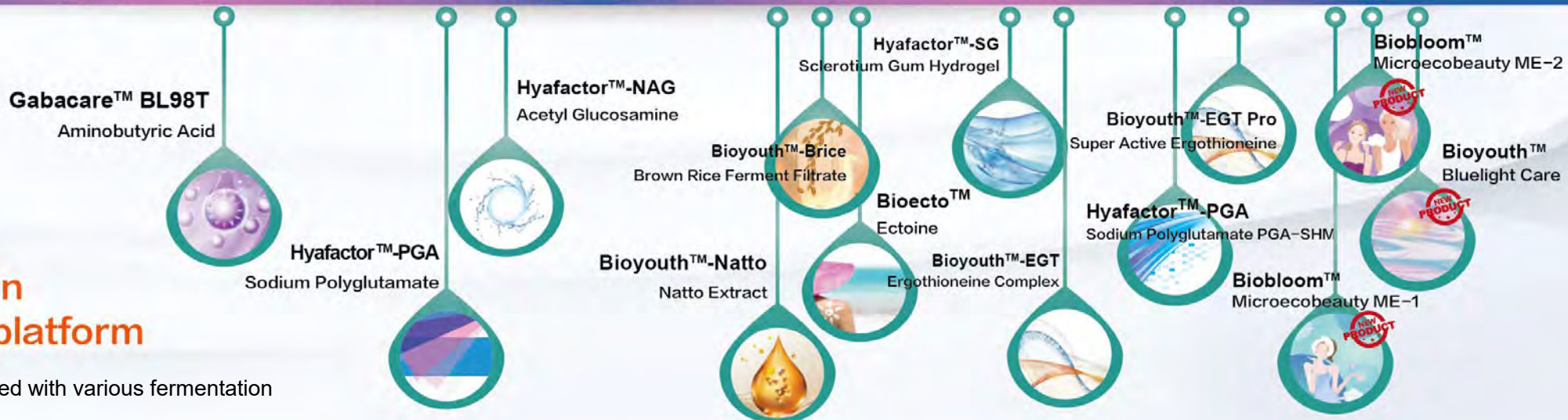
## HA technology platform

Enzyme technology  
 Crosslinking technology  
 Modified Technology  
 Microsphere encapsulation technology



## Fermentation technology platform

Various strains fermented with various fermentation substrates

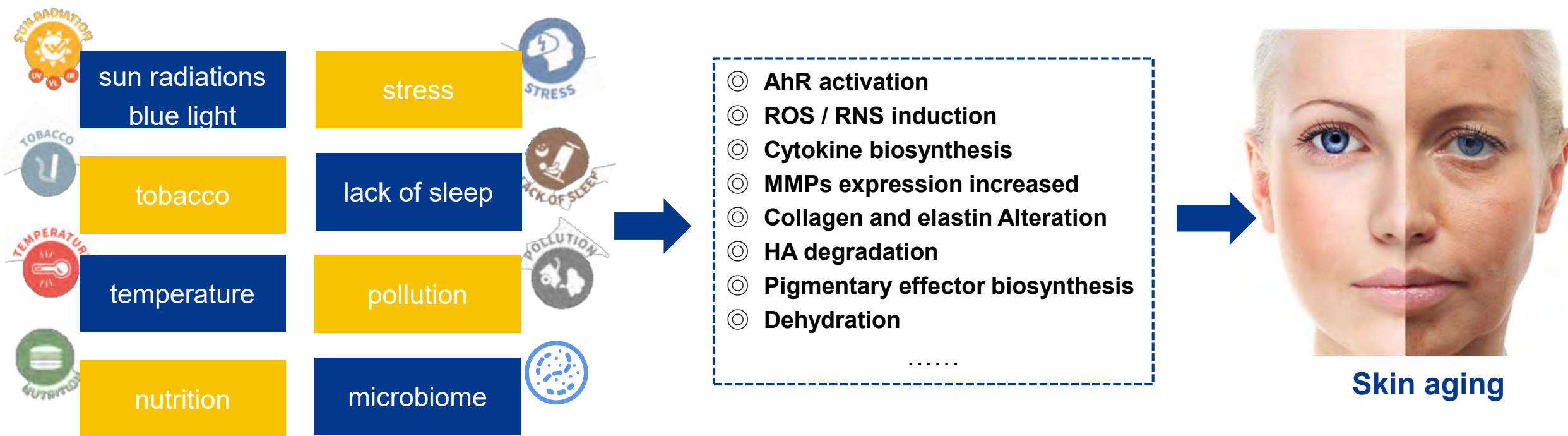


# Natural and effective anti-aging solution

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# Skin aging is a complex biological process

● Skin aging is a complex biological process influenced by a combination of intrinsic and extrinsic factors





# How to fight aging safely and effectively ?

## Natural and effective anti-aging solution from Bloomage



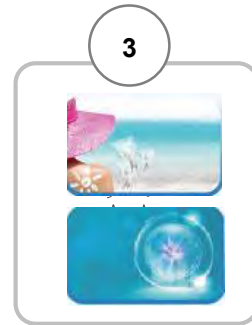
**Hyacorss+AcHA+Ectoine**

**Anti-pollution**  
strengthen skin  
barrier



**Microecobeauty ME-2**

**Antioxidant**  
The power of  
Probiotics



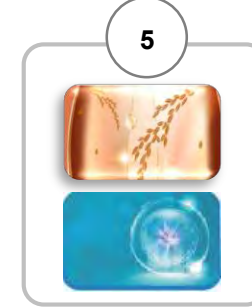
**Ectoine+microHA**

**Anti-inflammation**  
Inhibit release of  
inflammation factors  
.....



**Gabacare+microHA**

**Fight Against  
Intrinsic Aging**  
Promote viability of  
fibroblast and synthesis of  
HA, collagen and elastin



**microHA+Bioyouth-Brice**

**Anti-damage**  
Repair damaged cells  
& skin



**Skin aging**

# How to fight aging safely and effectively ?

## Natural and effective anti-aging solution from Bloomage



**Hyacorss+AcHA+Ectoine**

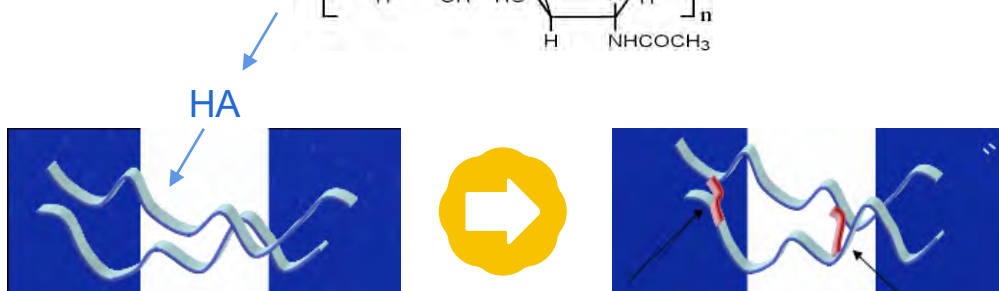
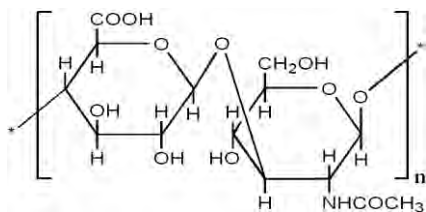
**Anti-pollution**  
strengthen skin  
barrier



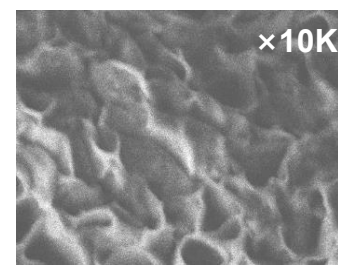
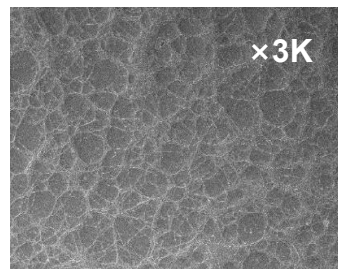
**Skin aging**

# Hyacross™ Hyaluronic Acid Elastomer

**Hyacross™ Hyaluronic Acid Elastomer** is a cross-linked polymer derived from natural Hyaluronic Acid (HA). Hyacross appears like an elastic gel with high viscosity, able to form invisible biological film on the surface of the skin with various effects, such as moisturizing, protection, slow release, etc.



Cross-linking reaction

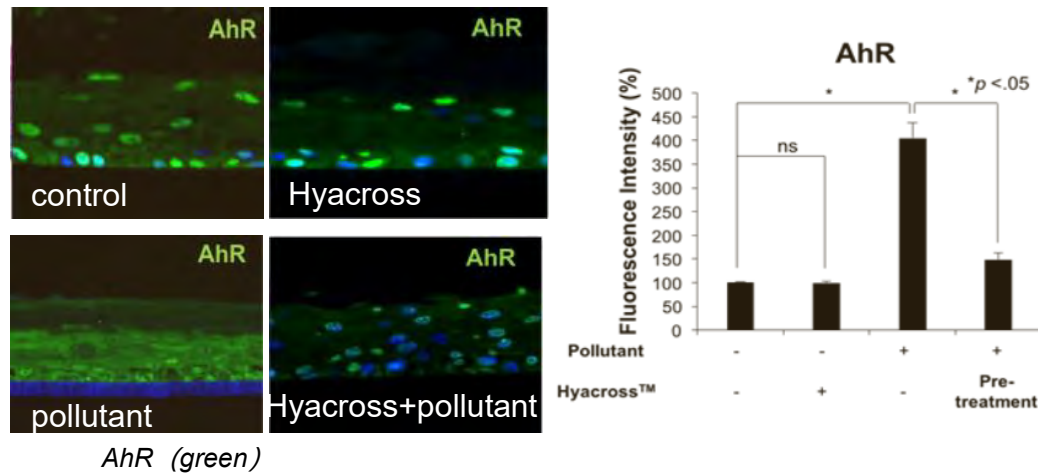


SEM Graph of Hyacross

# Anti-pollution-Hyacross™ Hyaluronic Acid Elastomer

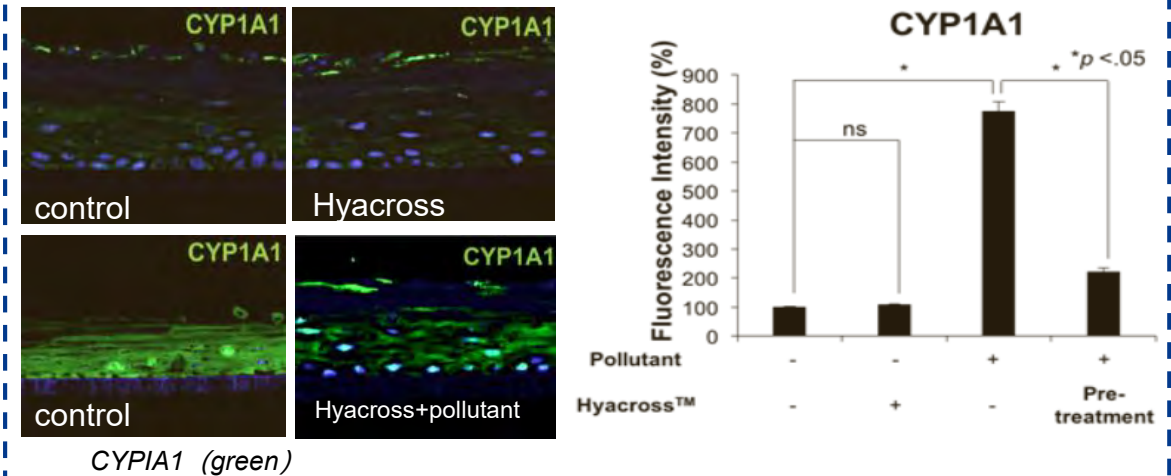
- Hyacross™ could reduce the expression of pollutants related receptors.

## ➤ Reducing AhR expression



When 1µg/ml Hyacross was pretreated 24 hours prior to the treatment of pollutant, and then cultured for 24 hours with pollutant treatment, the expression of AhR was reduced by **63.26%**.

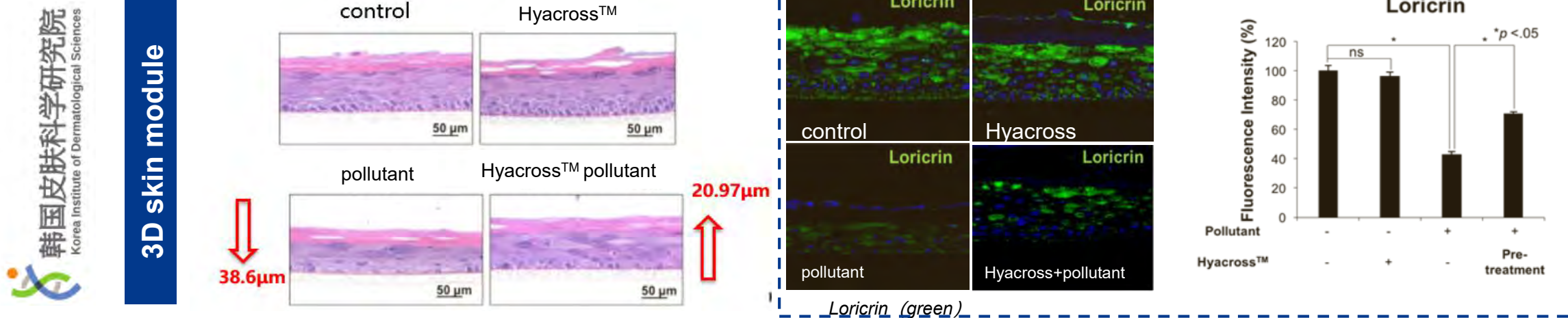
## ➤ Reducing CYP1A1 expression



When Hyacross was pretreated 24 hours prior to the treatment of pollutant, and then cultured for 24 hours with pollutant treatment, the expression of CYP1A1 was reduced by **71.44%**.

# Strengthen skin barrier-Hyacross™ Hyaluronic Acid Elastomer

- Hyacross™ could strengthen skin barrier, so as to decrease skin damage caused by pollutant

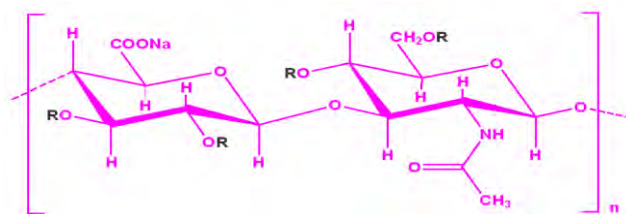


Skin tissue damage was reduced by pretreatment with Hyacross and the thickness of skin tissue increased **54%** compared to the pollutant treated group.

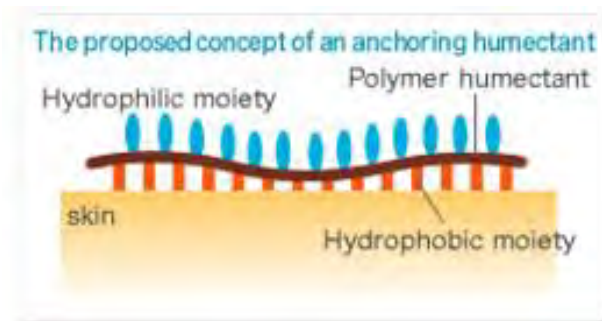
The expression of loricrin involved in the skin barrier function increased by **64.93%** compared to the pollutant treated tissue group.

# Skin barrier repair-Hymagic™-AcHA

Sodium Acetylated Hyaluronate (AcHA), is a special HA derivative which is synthesized by acetylation reaction. The **hydrogen atom** of alcoholic hydroxyl groups is partially replaced with acetyl group; it owns both lipophilic and hydrophilic properties.



R=CH<sub>3</sub>CO-/H-



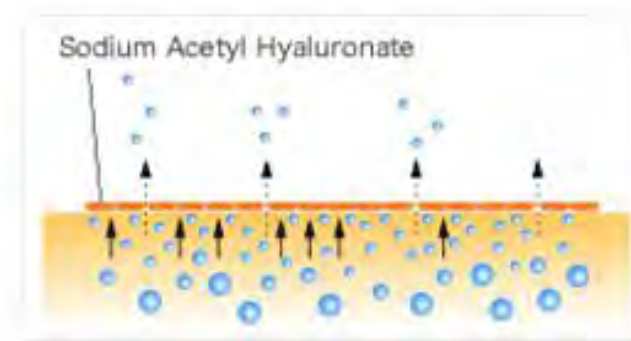
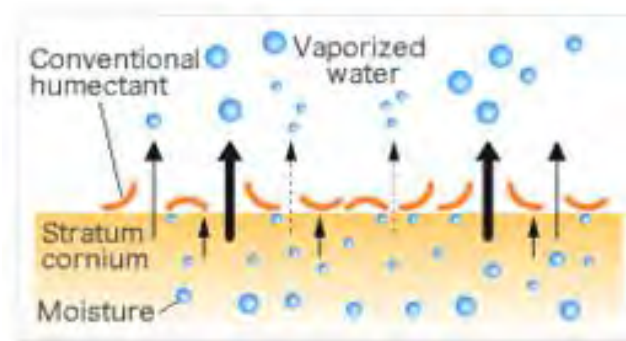
- High affinity & adsorption

- Superb moisturization

- Soften the cuticle

- Repair skin barrier

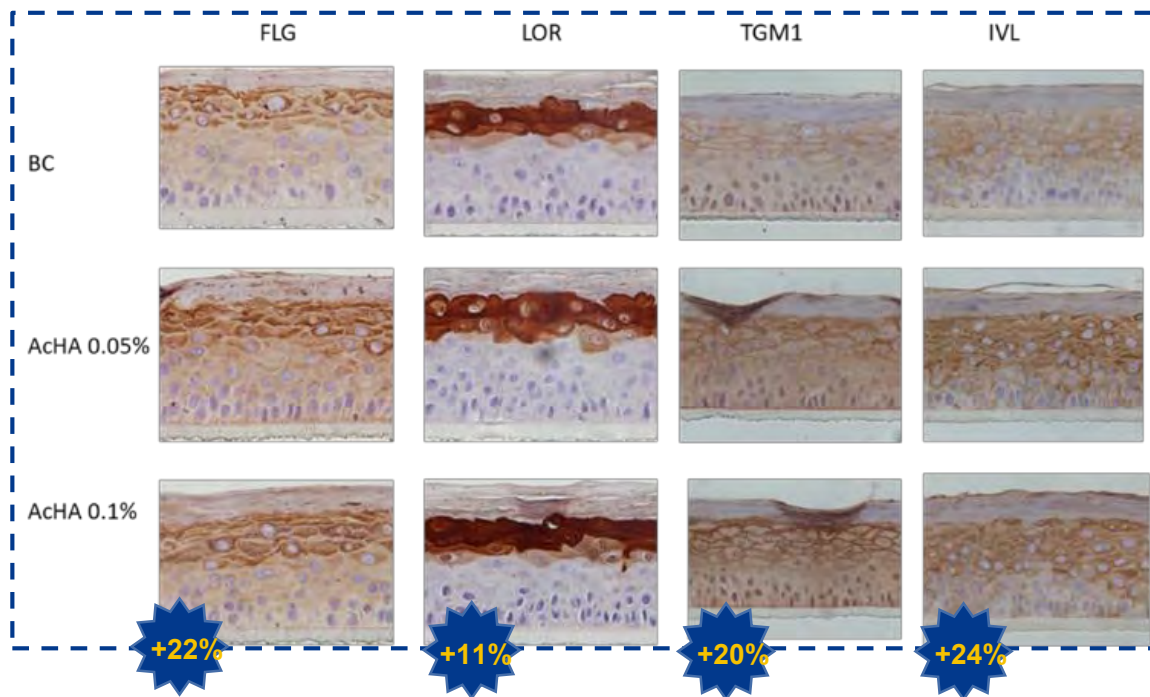
- Improve skin elasticity



Sodium acetyl hyaluronate, possessing both hydrophobic and hydrophilic moieties, shows a strong affinity to stratum corneum. Water molecules released from the inside of stratum corneum are recaptured by the compound and stay on the skin, which is thought to be the mechanism of the long-lasting corneum softening effect.

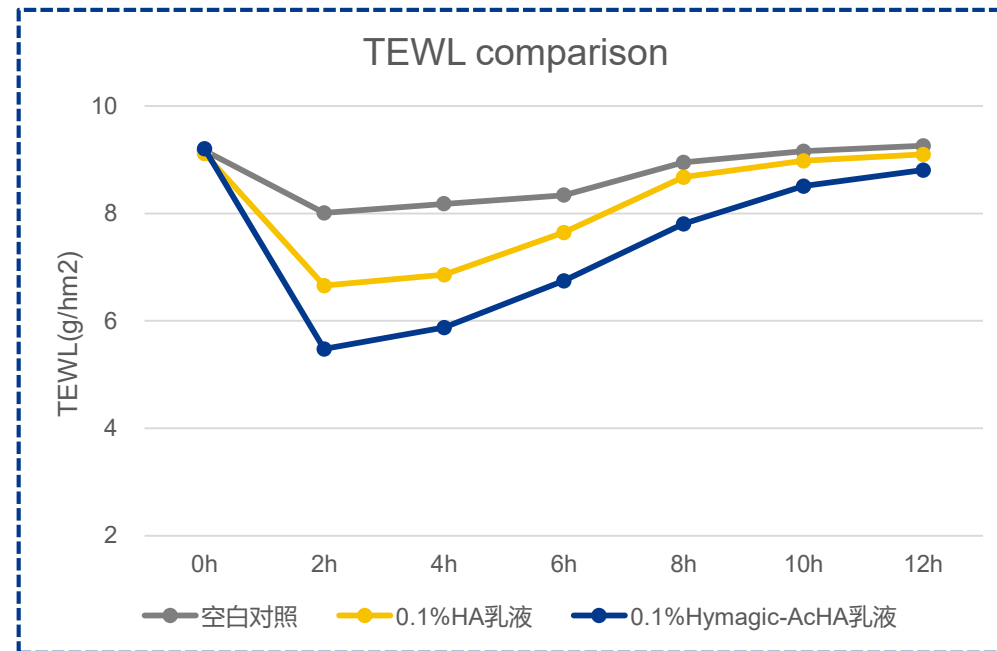
# Hymagic™ AcHA-skin barrier repair

*In-vitro* (3D skin model) :



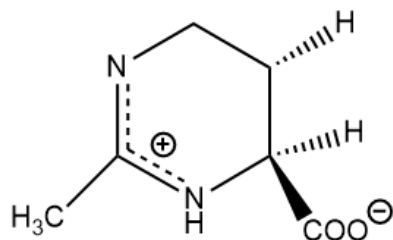
- Hymagic™-AcHA could up-regulate the expression of certain proteins and enzymes, which is important for the maturity of conified envelope, so as to promote skin barrier repair.

*In-vivo*:

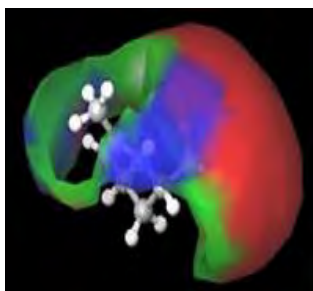


- After 2hrs application, the skin TEWL of Hymagic™-AcHA group reduced by 40.5%, compared with 26.9% of HA group and 12.6% of control group.
- Hymagic™-AcHA can reduce skin evaporation and last for 12 hours.

# Bioecto™ Ectoine- Protect cells against adverse environmental damage



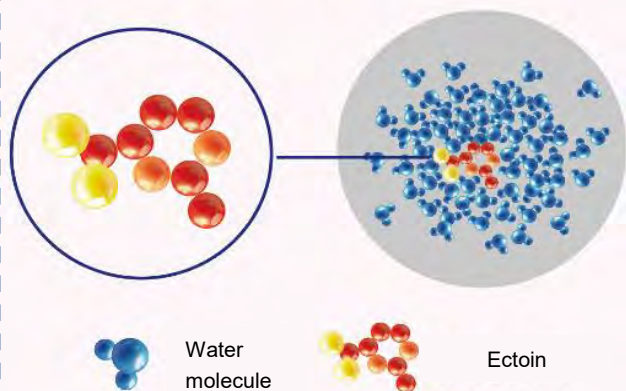
Structural formula of Ectoine



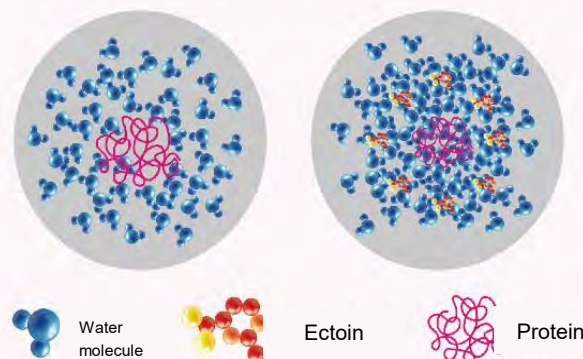
ectoine electron distribution diagram

- Cyclic amino acid derivative
- Internal electron delocalization
- Excellent hydrophilicity
- Biological inert
- High stability with temperature and pH range

## Ectoin - Kosmotropic effect



## Ectoin – Protective shell around proteins

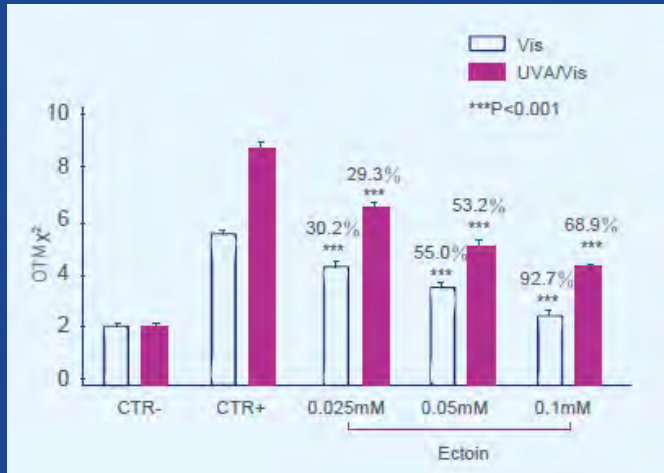


- Studies from L'OREAL has proven that various adverse conditions could lead to skin aging
- Bioecto™ can form a protective water shell around various biomolecules through enhancing the associative ability of water molecules, so as to protect cell membranes, proteins, enzymes and DNA → “Kosmotropic effect”



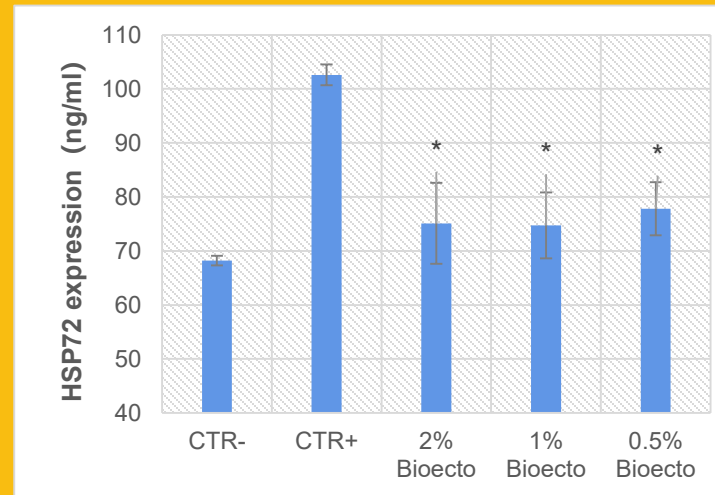
# Efficacy evaluation— Protective efficacy

## 1. Prevents DNA damage from UV and visible light



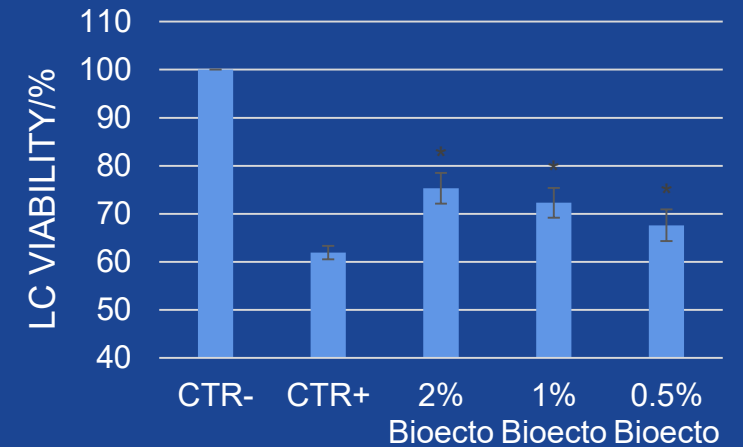
- All tested concentrations showed a highly significant level of photoprotection against UVA/visible light.
- At 0.1 mM, the photoprotection levels of visible and UVA/visible radiations correspond to 92.7% and 68.9% respectively.

## 2. Improves anti-stress ability of cells



- Compared with CTR+, the HSP72 expression was significantly reduced.

## 3. Protects Langerhans cell and enhances skin immunity function



- The tests showed that UV radiation damaged Langerhans cells and reduced their activity.
- After the treatment with Bioecto™, the damage was significantly reduced. Compared to the positive control group, 1% Bioecto™ increased cell activity by 10.5%

# How to fight aging safely and effectively ?

## Natural and effective anti-aging solution from Bloomage



**Hyacorss+AcHA+Ectione**

**Anti-pollution**

Strengthen skin  
barrier



**Microecobeauty ME-2**

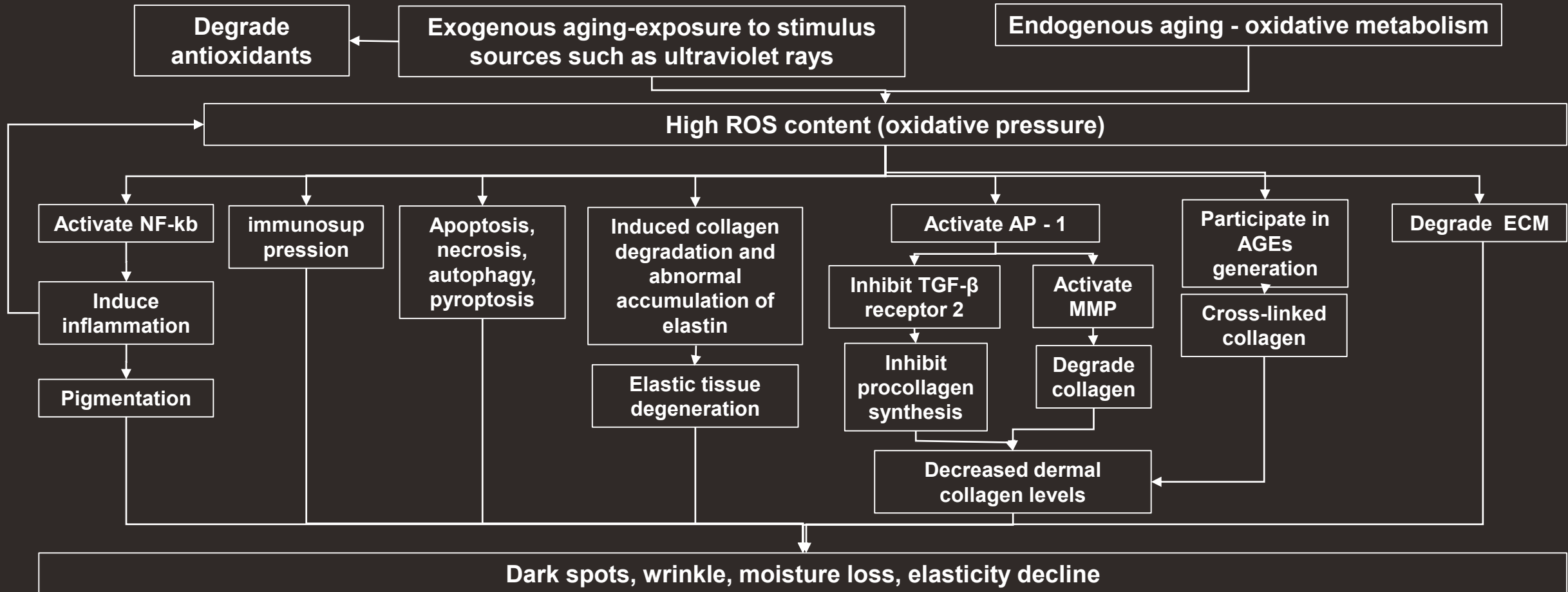
**Antioxidant**

The power of  
Probiotics



**Skin aging**

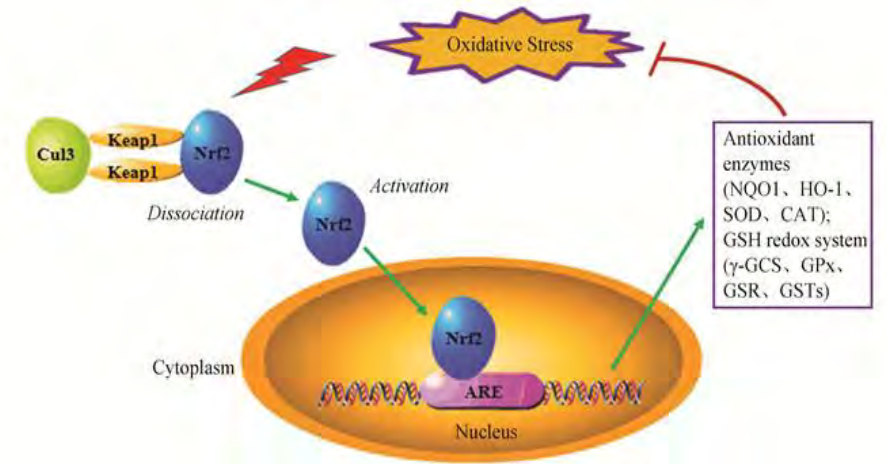
# The damage of free radicals-how ROS can cause aging



Maintaining the balance of ROS is the basis for healthy skin to avoid aging

# Important antioxidant regulatory transcription factor--Nrf2

Nrf2-Keap1-ARE is an important signal channel in the body's antioxidant system. Maintain the oxidation-reduction balance in the cell, thereby exerting endogenous protection. Nrf2 affects the expression of nearly 500 genes that encode proteins acting as redox balancing factors, detoxifying enzymes, stress response proteins and metabolic enzymes.



The molecular regulation pathways of Nrf2 antioxidant



## Nrf2 is concerned by the brand

Olay paid attention to NRF2 and launched related new products. **Olay Cellscience Repairing Essence Cream** is described to be a firming, translucent and wrinkle reducing formula powered by Key Repairing Technology Nrf2 that produces 4.6 times more collagen.

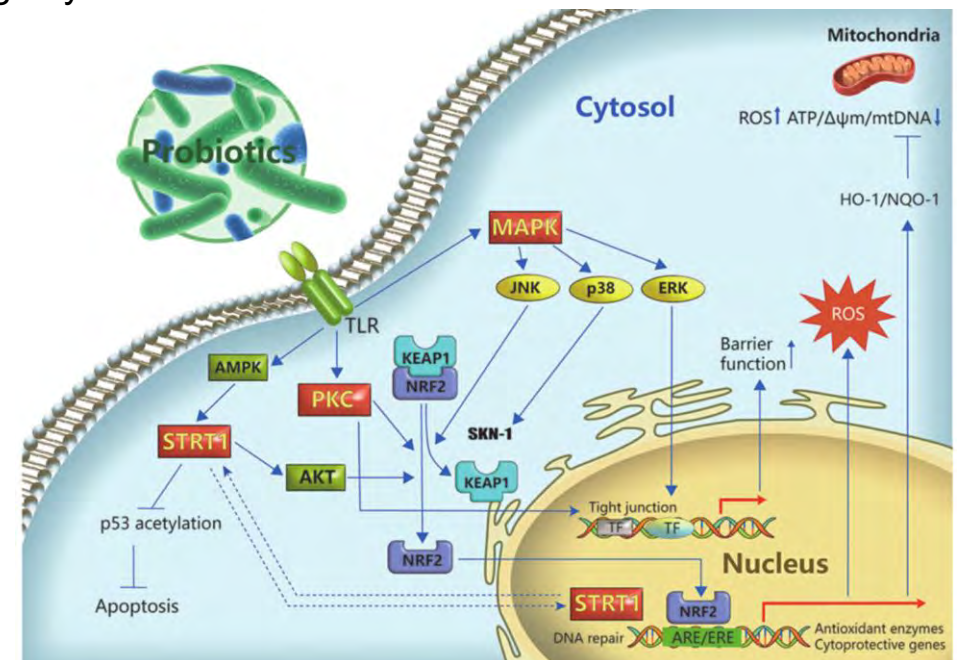
The product is already on the market in China

- *Lactobacillus* can exert antioxidant effects through the Nrf2/Keap1 signaling pathway. Nrf2 is released from its cytoplasmic inhibitor Keap1, binds to antioxidant response elements, enhances the transcription of cytoprotective genes, reduces mitochondrial dysfunction induced by oxidative stress, and relieves ROS damage.
- *Lactobacillus* activate MAPK, induce phosphorylation and nuclear translocation of SIRT1, leading to phosphorylation of AKT and activation of Nrf2.
- The extracellular signal-regulated protein kinases (ERKs) in the MAPK pathway can prevent H<sub>2</sub>O<sub>2</sub> damage, and *Lactobacillus* can reduce oxidative damage by regulating protein kinase C (PKC).

Nrf can regulates the antioxidant pathways

Table 1. Summary of antioxidant signaling pathways mediated by probiotic bacteria.

Species	Signaling Pathway	Host	References
<i>Bacillus amyloliquefaciens</i> SC06	Nrf2-Keap1-ARE	IPEC-1 cell line	[7]
<i>Clostridium butyricum</i> MIYAIRI 588		rats	[65]
<i>Lactobacillus Plantarum</i> CA16, SC4		mice	[80]
<i>Lactobacillus Plantarum</i> FC255		mice	[81]
<i>Bacillus</i> LBP32 VSL#3	NFκB	RAW 264.7 macrophages colonic epithelial cells	[83] [84]
<i>Lactobacillus rhamnosus</i> GG	MAPK	Caco-2 cell line	[85]
<i>Lactobacillus</i> GG-CM		YAMC cell line	[88]
<i>Lactobacillus rhamnosus</i> GG	PKC	Caco-2 cell line	[85]

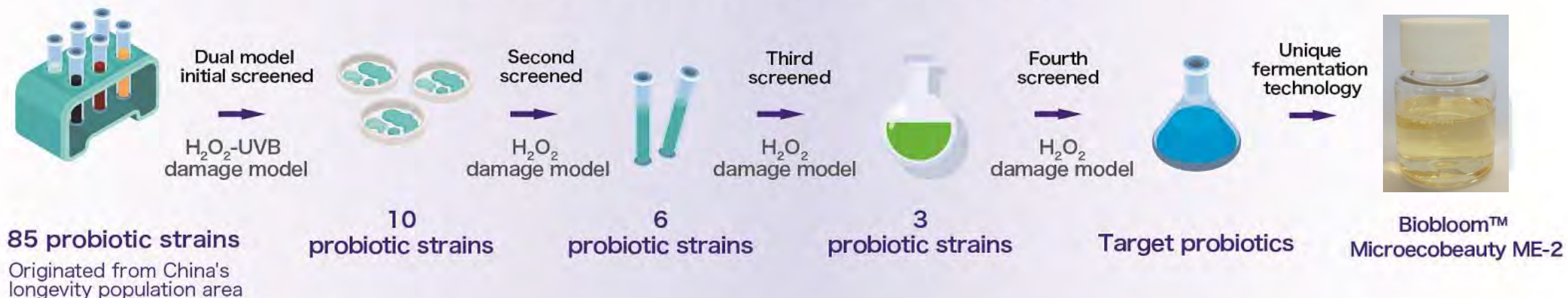


# Biobloom™ Microecobeauty ME-2



- **Biobloom™ Microecobeauty ME-2** is jointly developed by Bloomage Biotech and the National Functional Food Engineering Technology Research Center (Probiotic Science and Technology Laboratory) — A team led by academician of the Chinese Academy of Engineering.
- ME-2 is based on the probiotic strain library of the Probiotic Science and Technology Laboratory to obtain target strain--*Lactobacillus paracasei*, and based on Bloomage Biotech's probiotic fermentation technology platform to produce.
- ME-2 is rich in a variety of vitamins, organic acids, water-soluble proteins and amino acids and other substances.

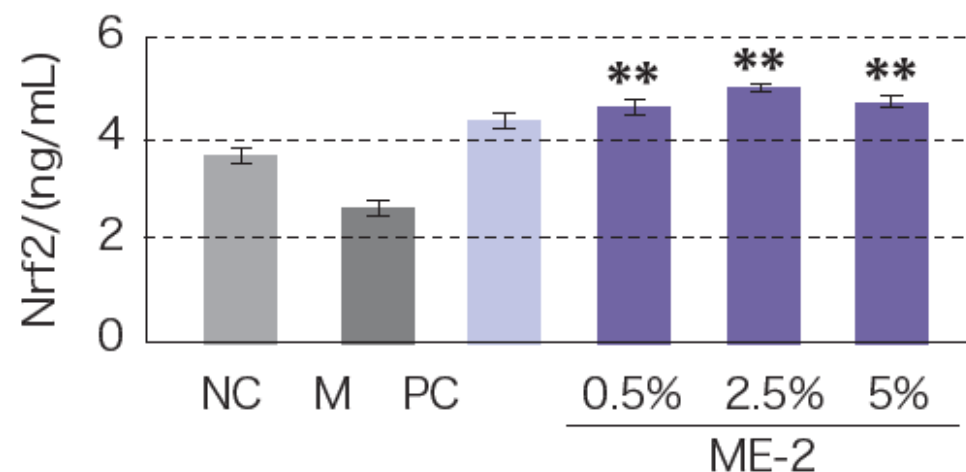
## Screened from 85 probiotic strains



# ME-2 Efficacy data

Significantly increase the secretion of Nrf2 and activate the antioxidant pathway (*in-vitro*)

After oxidative damage with H<sub>2</sub>O<sub>2</sub>, ME-2 treatment was used. The results showed that compared with the model group, *the amount of Nrf2 secretion in the 0.5%, 2.5%, and 5% ME-2 groups increased by 61.84%, 77.93% and 64.83%, respectively.*

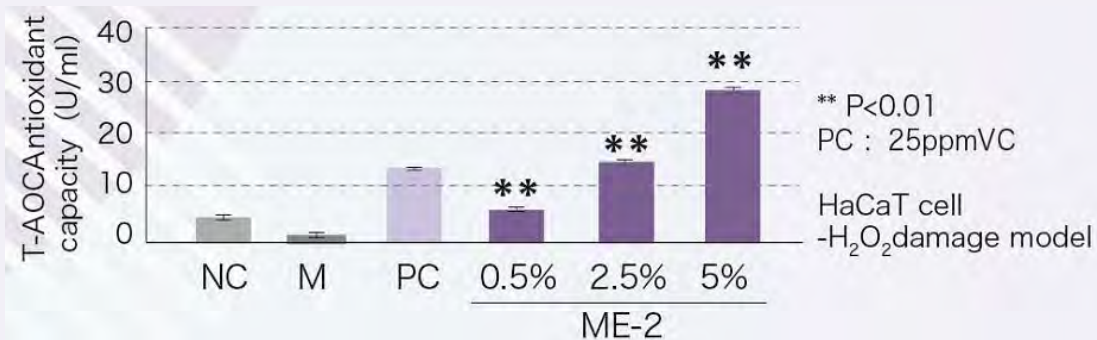


\*\* P<0.01 PC: 25ppmVC HaCaTcell-H<sub>2</sub>O<sub>2</sub> damage model

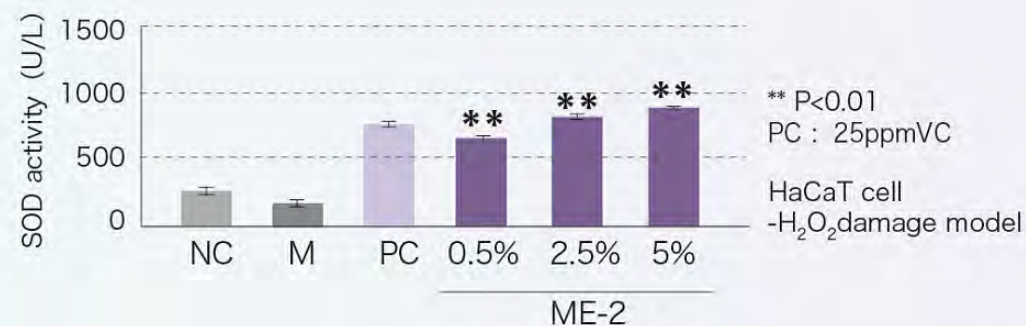
# ME-2 Efficacy data

Enhance cell antioxidant capacity, reduce oxidative damage (*in-vitro*)

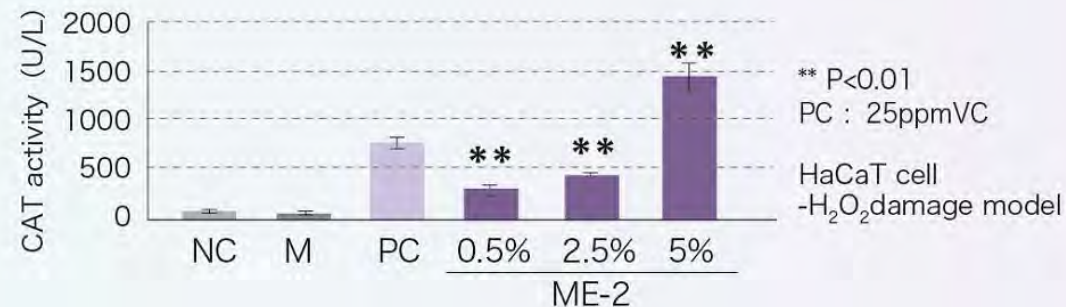
## T-AOC



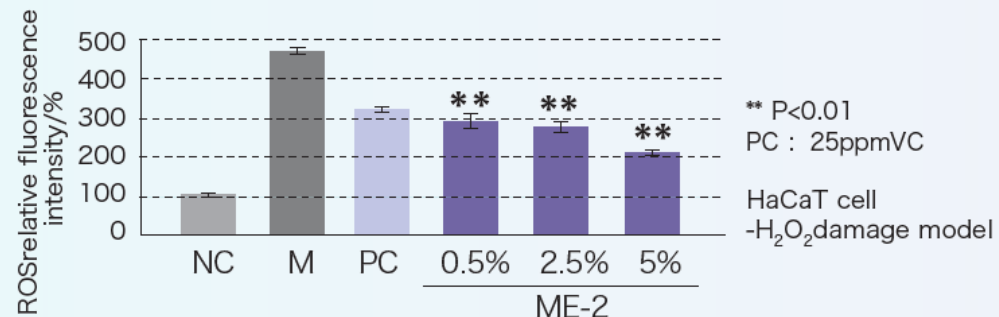
## SOD



## CAT



## Reduce ROS



***In vitro tests show that after 2.5% ME-2 treatment, T-AOC, SOD activity and CAT activity were significantly increased by 11.7, 4.3, and 10.2 times, and ROS secretion was reduced by 41.1%.***



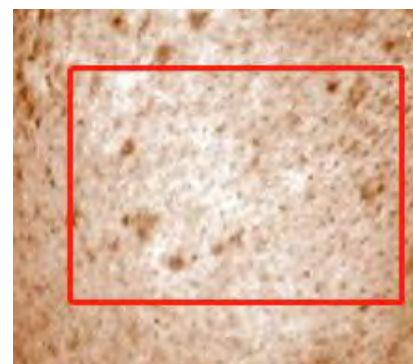
# ME-2 Efficacy data

Reduce pigment deposition, tighten and brighten skin (*In-vivo*)

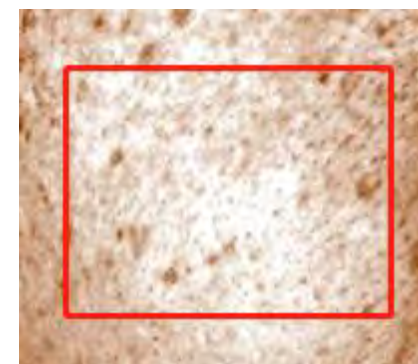
## Test methods

- ◆ 2.5% ME-2 essence
- ◆ Half-face, double-blind
- ◆ Randomized human body test
- ◆ 15 healthy volunteers 20-45 years old
- ◆ 3 weeks' use

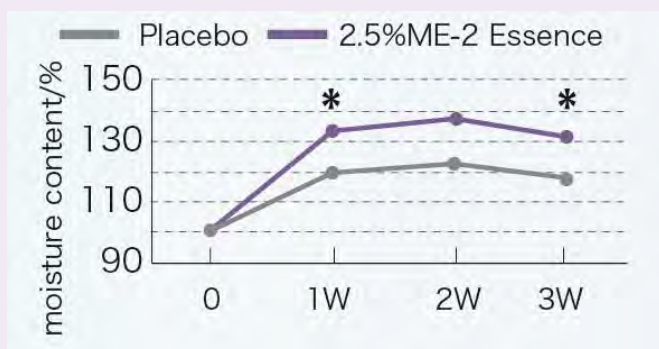
Before



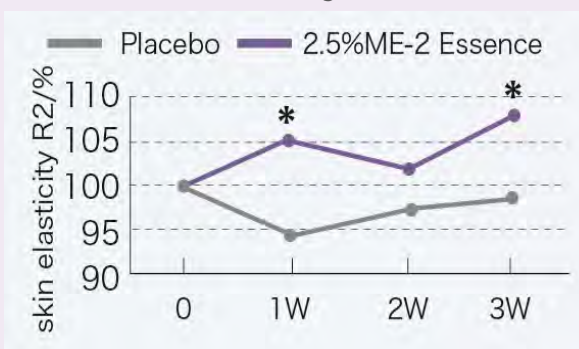
After 3 Weeks



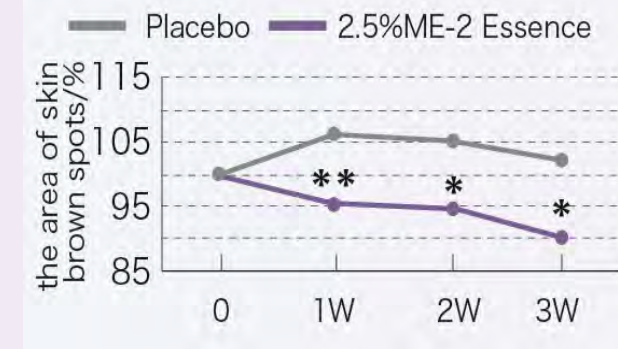
### skin moisture content +14%



### skin elasticity +10%



### the area of brown spots -12%



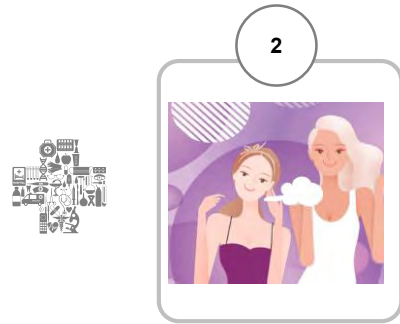
# How to fight aging safely and effectively ?

## Natural and effective anti-aging solution from Bloomage



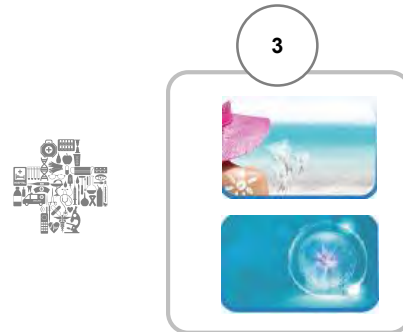
**Hyacorss+AChA**

**Anti-pollution**  
strengthen skin  
barrier



**Microecobeauty ME-2**

**Antioxidant**  
The power of  
Probiotics



**Ectoine+microHA**

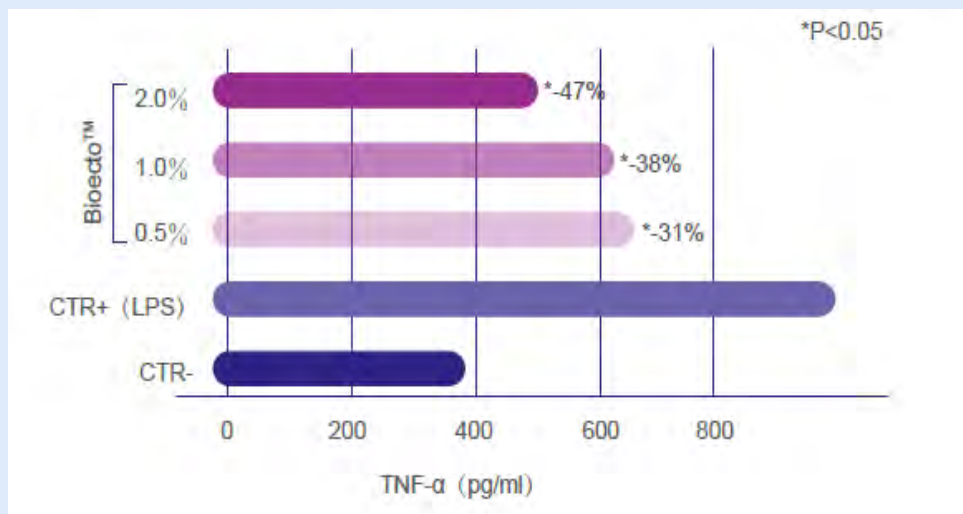
**Anti-inflammation**  
Inhibit release of  
inflammation factors  
.....



**Skin aging**

# Anti-inflammatory – Bioecto™ Ectoine reduces facial red spot

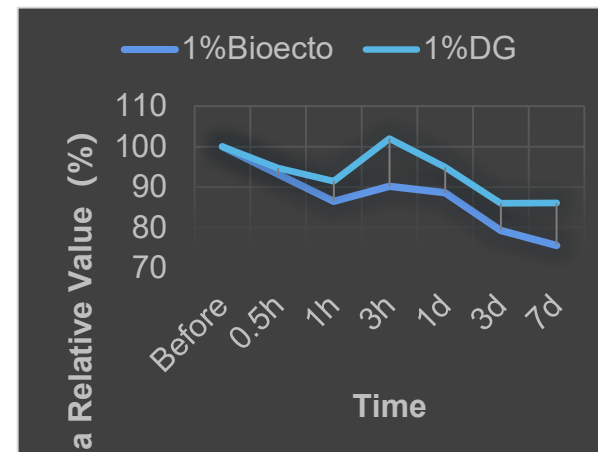
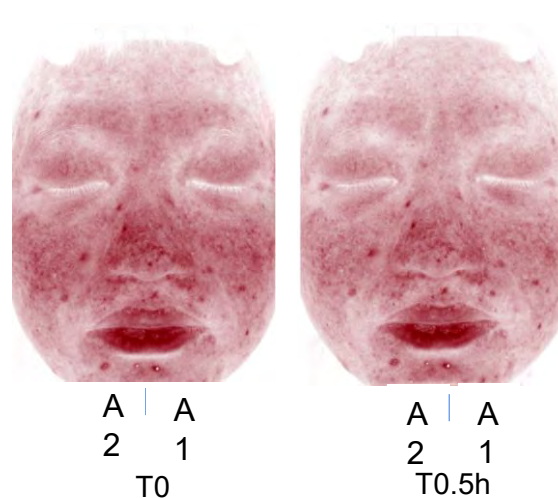
## Inhibits the release of inflammatory factor



LPS(Lipopolysaccharide), test model: "Mice macrophages Raw 264.7"

The test showed that, Bioecto™ in the range of concentration 0.5%-2.0% had a good inhibiting effect on TNF-α. With 0.5% Bioecto™ the inhibition rate could reach 31%.

## The evaluation on facial red spot



A1 (1% Bioecto solution), A2 (1% DG(Dipotassium Glycyrrhizinate) solution)

Compared to control group, Bioecto can significantly reduce the situation of facial red spot. And **Bioecto has a better effect than Dipotassium Glycyrrhizinate.**

# microHA™ Antioxidant, anti-inflammation and anti-aging

microHA™ is a new low molecular weight active ingredient produced by patented enzymatic degradation technology (Mw < 5000 Da).



Global Patent:  
WO 2013/123791 A1

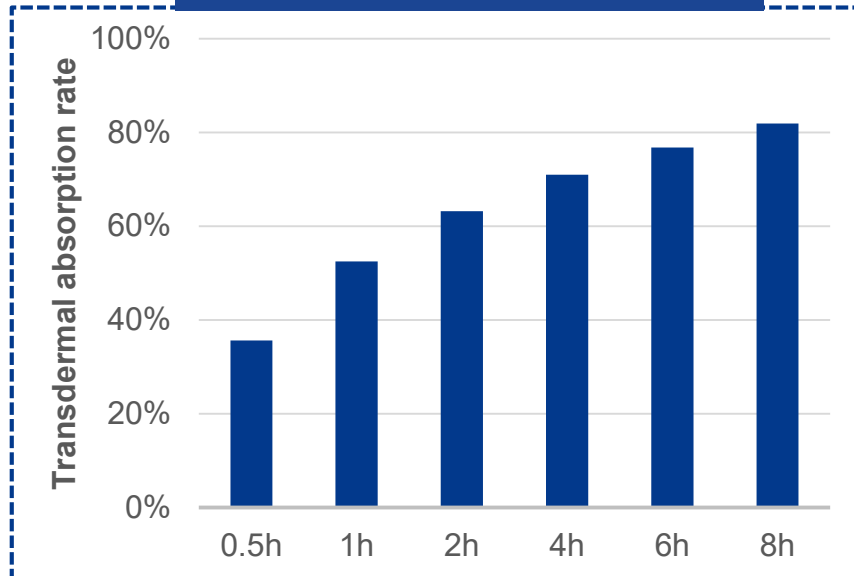


The 21st China Patent Gold Award:  
WO 2013/123791 A1

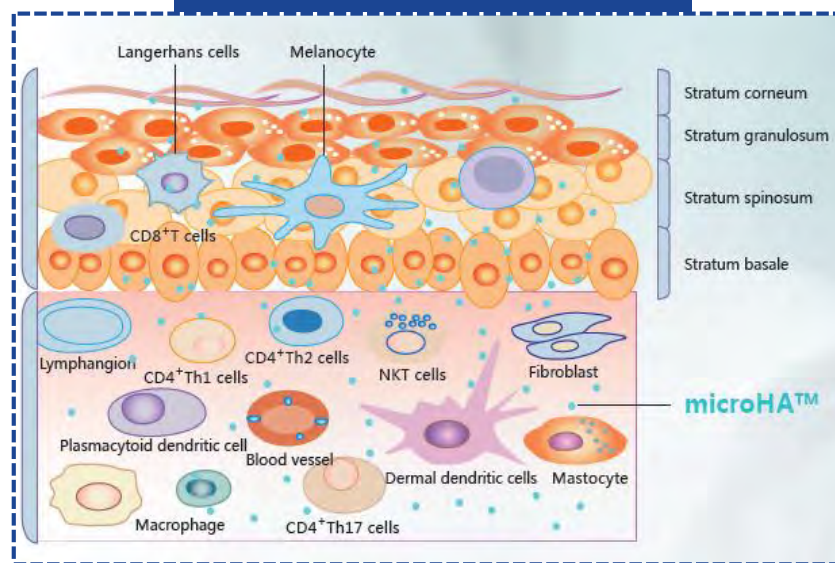
- microHA™ is easily penetrate into the epidermis and dermis layers due to its extremely low molecular weight
- microHA™ can bind to CD44 receptors on the cell surface and regulates immune cell activity
- microHA™ can effectively remove the UV-induced reactive oxygen free radicals and reduce the inflammatory response

**NOTES:** Since the 1940s, HA has been found to be degraded by various oxidation systems and ion radiation. Now research has found that HA can remove ROS through its own degradation, and it can also play an antioxidant role by increasing the activity of antioxidant enzymes in the body

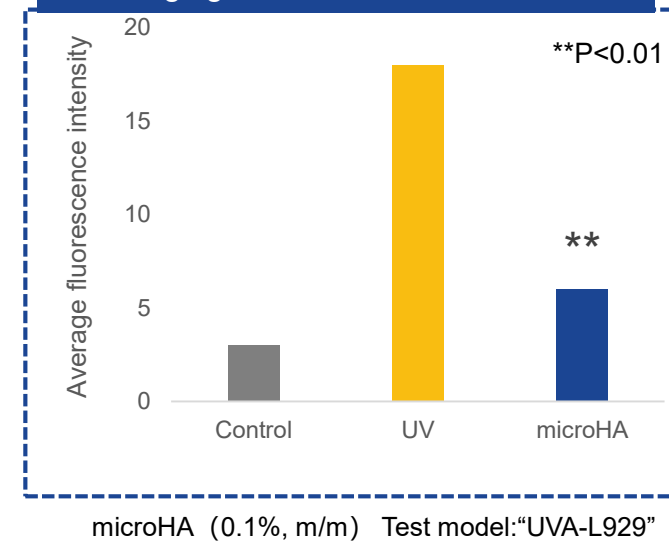
microHA™ transdermal absorption



microHA™ action mechanism



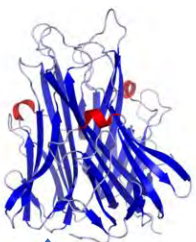
Scavenging free radical – microHA™



# microHA™-Anti-inflammation

- microHA™ has significantly soothing efficacy by inhibiting the release of various inflammation factors

## TNF- $\alpha$



- Induce inflammation
- Kill tumour cell
- Induce fever response
- cause metabolic disorders

-44%

- ⊙ Induced by: UVB radiation
- ⊙ Cell module
  - Epidermis cell: keratinocytes (HaCat cell)
  - Comparison: 0.125% microHA™ **VS** 0.01% dexamethasone, **comparable**

## IL-1 $\alpha$

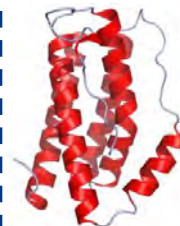


- mediate fever response
- help to stimulate the growth of B cells and T cells
- Stimulate synthesis of cytokine

-47%

- ⊙ Induced by: SLS
- ⊙ Cell module
  - 3D skin module: SLS-Epikutis
  - Comparison: 0.125% microHA™ **VS** 0.25% *Portulaca Oleracea Extract*, **better**

## IL-6



- promote T cell proliferation
- promote B cell differentiation
- involved in inflammatory reactions and fever response

-70%

- ⊙ Induced by: LPS
- ⊙ Cell module
  - Dermis cells: Fibroblast of mice (L929)
  - Comparison: 0.4% microHA™

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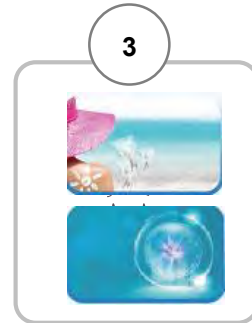
**Hyacorss+AcHA+Ectoine**

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strengthen skin  
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**Gabacare+microHA**

**Fight Against  
Intrinsic Aging**  
Promote viability of  
fibroblast and synthesis of  
HA, collagen and elastin

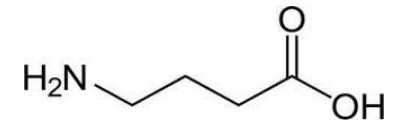


**Skin aging**

# Gabacare™ BL98T – promote the synthesis of HA, collagen and elastin



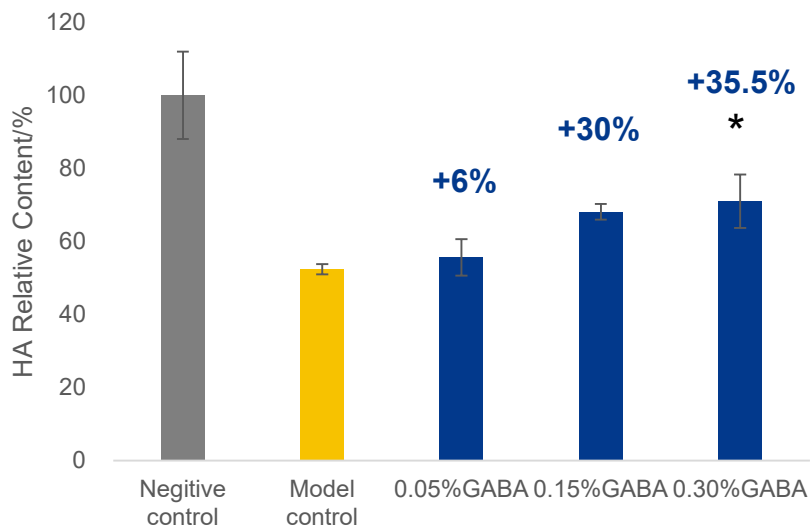
Gabacare™ BL98T is a high purity GABA, which is produced by *Lactobacillus* fermentation. GABA (aminobutyric acid) is a non-protein amino acid, which is widely distributed in plants and animals, and plays an irreplaceable role in life activities



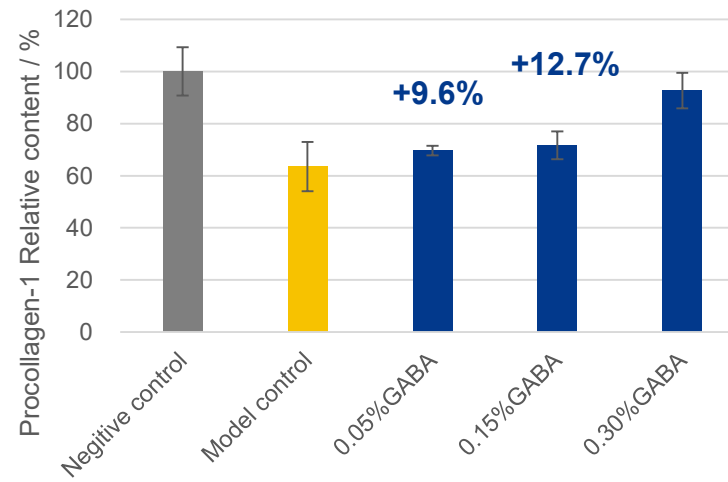
INCI: Aminobutyric acid

- **0.3% Gabacare can greatly promote fibroblast to synthesize HA, procollagen-1 and elastin by 35.5%, 45.8% and 43.8% respectively, compared with model control group (induced by H<sub>2</sub>O<sub>2</sub>, but without Gabacare application)**

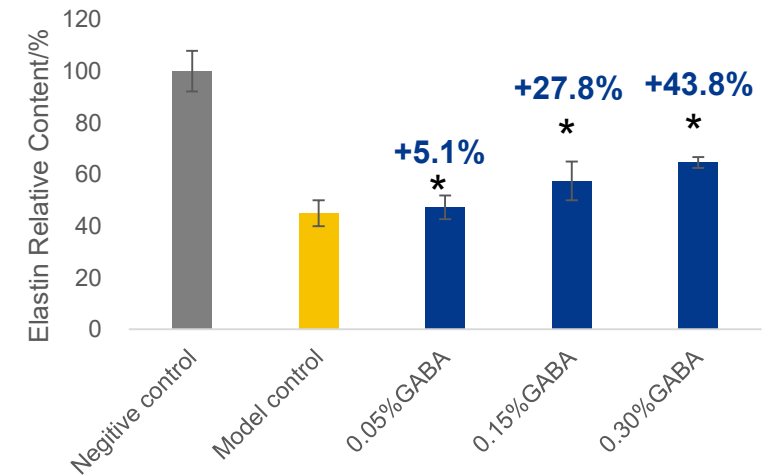
Effect of Gabacare on HA synthesis



Effect of Gabacare on procollagen-1 synthesis



Effect of Gabacare on elastin synthesis

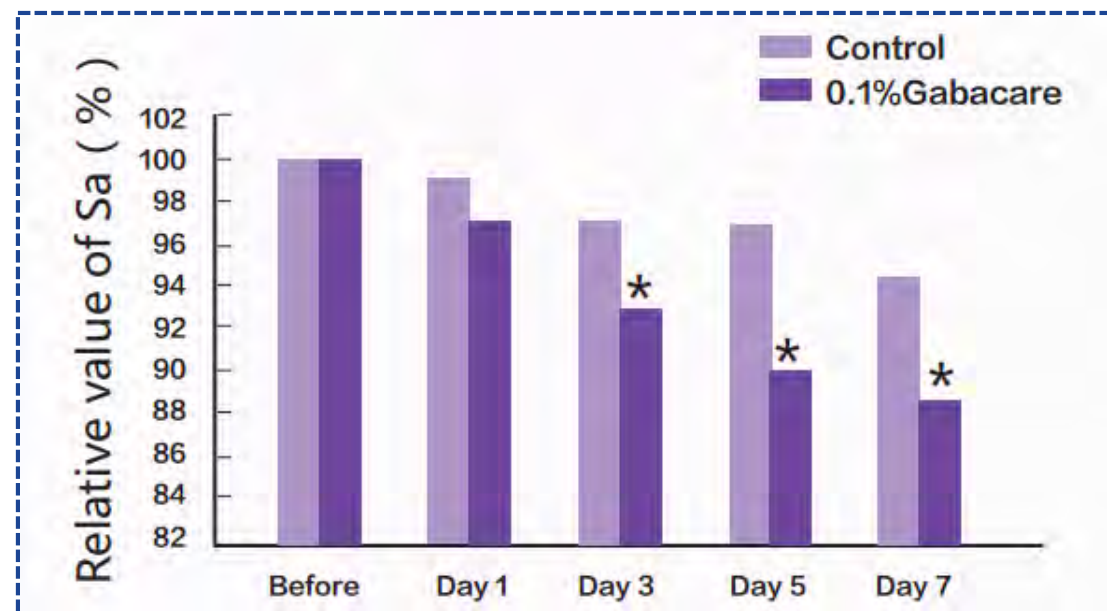
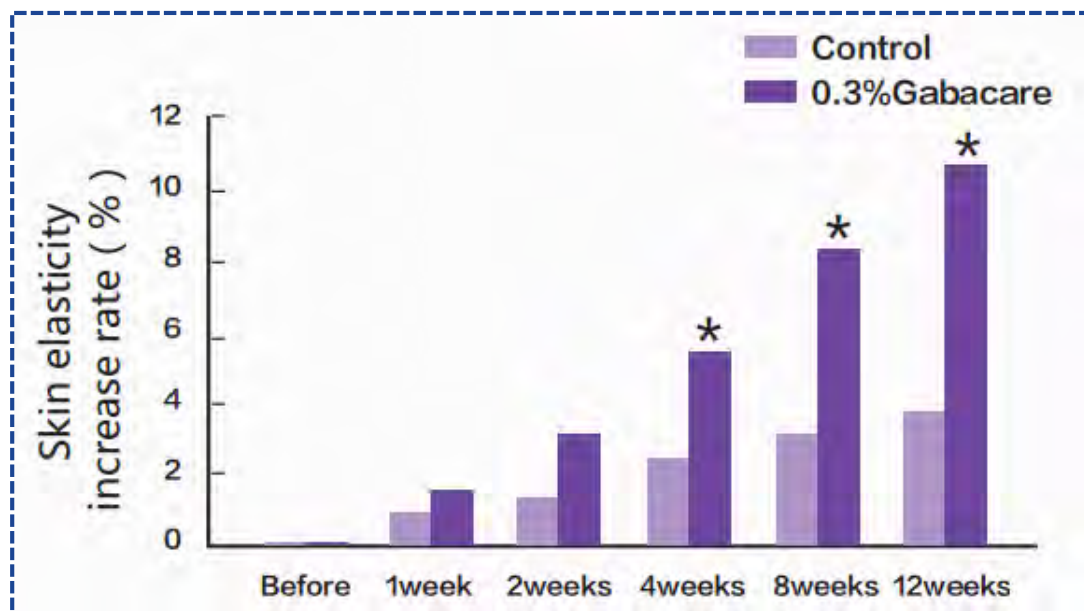


p<0.05, \*

Sourcing: *in-vitro*/H<sub>2</sub>O<sub>2</sub> induced aging test model on fibroblast/HA & procollagen-1 & elastin content

## In-vivo Test: Smooth Skin & Increase Skin Elasticity

- After 12 weeks of continuous use of the cream containing 0.3% Gabacare, the skin elasticity was significantly increased by roughly 10%. Skin appeared younger, more moisturized and firm.
- Facial masks containing 0.1% Gabacare were applied for a week evaluating the average wrinkles depth every two days. The results show that the anti-wrinkle effect is very significant with the facial skin becoming smoother and more elastic.

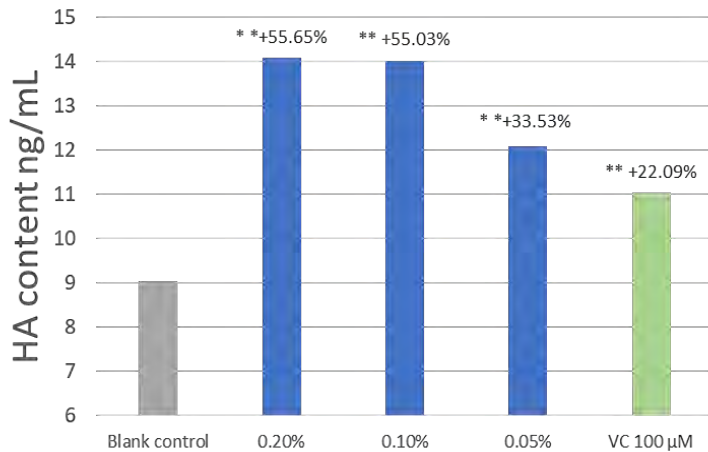




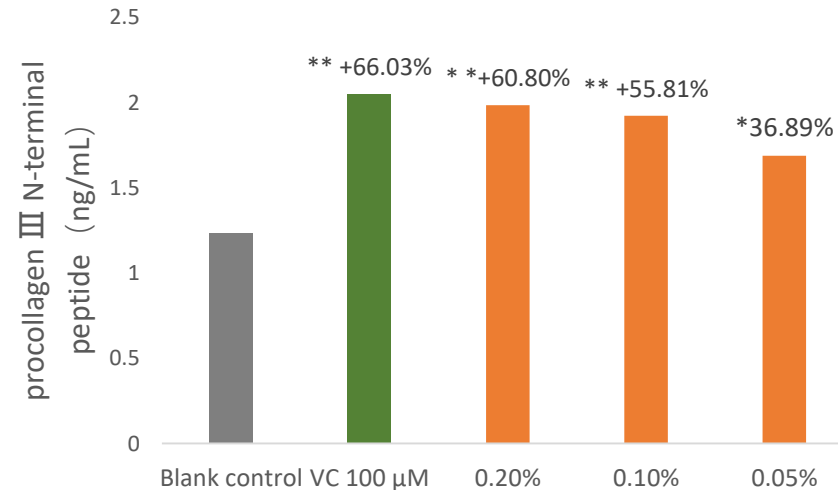
# microHA™ – promote the synthesis of HA, collagen and elastin

- microHA can promote fibroblasts to synthesize HA, procollagen- III and elastin at a very low concentration and the difference was statistically significant compared with the blank control group
- 0.1% microHA can increase the content of HA, procollagen- III and elastin by 55.01%, 55.81% and 50.47%;
- 0.2%microHA can reach to 55.65%, 66.03% and 156.19%.

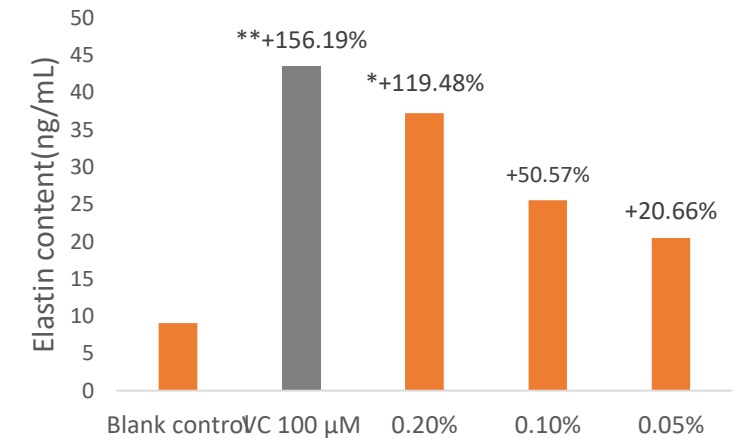
Effect of microHA on HA Synthesis



Effect of microHA on collagen III Synthesis



Effect of microHA on elastin Synthesis



\* P<0.05,\*\*p<0.01

Test Cell: Primary human skin fibroblasts; Test method: ELISA

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**Gabacare+microHA**

**Fight Against  
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Promote viability of  
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HA, collagen and elastin



**microHA+Bioyouth-Brice**

**Anti-damage**  
Repair damaged cells  
& skin

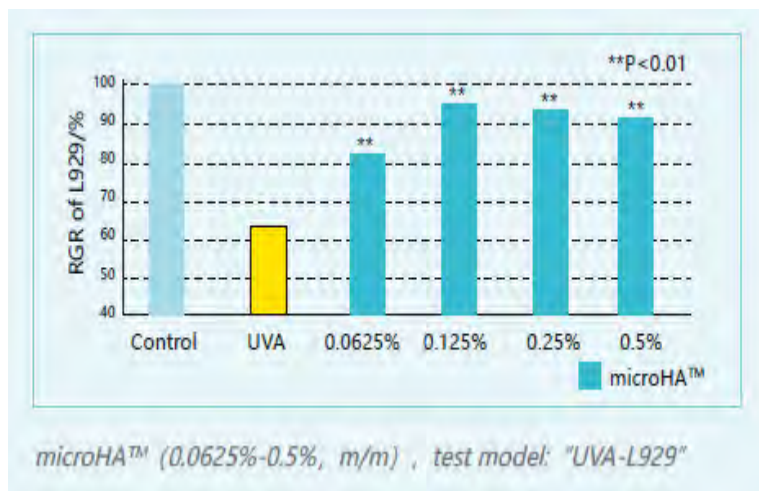


**Skin aging**

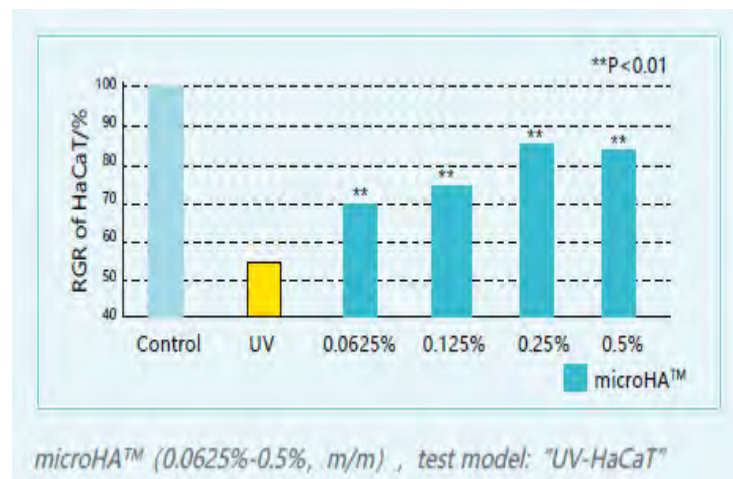
# microHA™ - Anti-damage

- Skin is a natural barrier to protect the body from harmful substances. When the skin barrier is damaged, harmful substances can penetrate into the skin, causing a variety of inflammatory reactions
- It was found that microHA™ had cell damage repair caused by various stimuli, promoting skin barrier repair, and reducing the incidence of skin inflammation

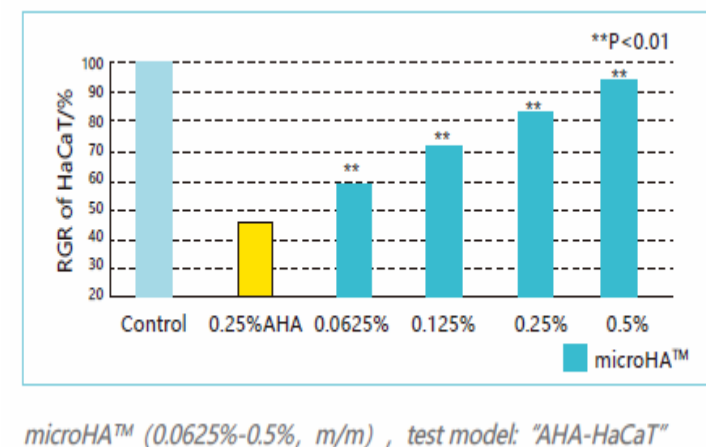
## ⊙ Repairing UVA-damaged fibroblast



## ⊙ Repairing UV-damaged keratinocytes



## ⊙ Chemical damage repairing

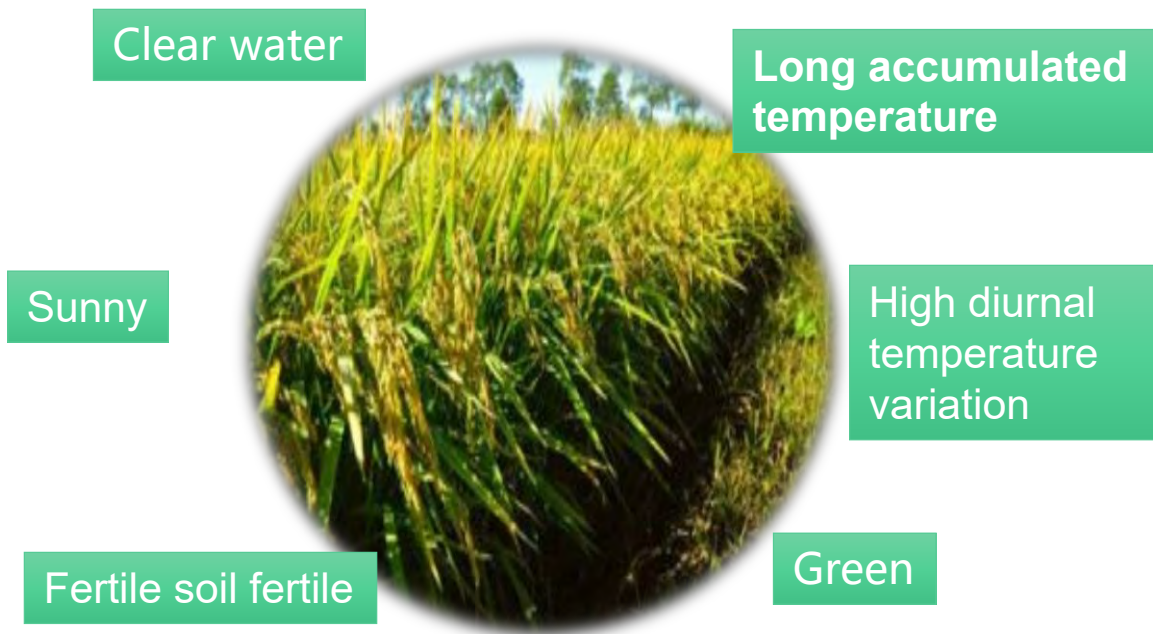


# Bioyouth™-Brice- Anti-damage



**Bioyouth™-Brice** Brown Rice Ferment Filtrate is developed using brown rice as the substrate and a unique yeast as fermenting strain. After fermentation, the nutrients in brown rice can be released, transformed and accumulated.

The brown rice, derived from Dongbei area, is used as ferment substrate.

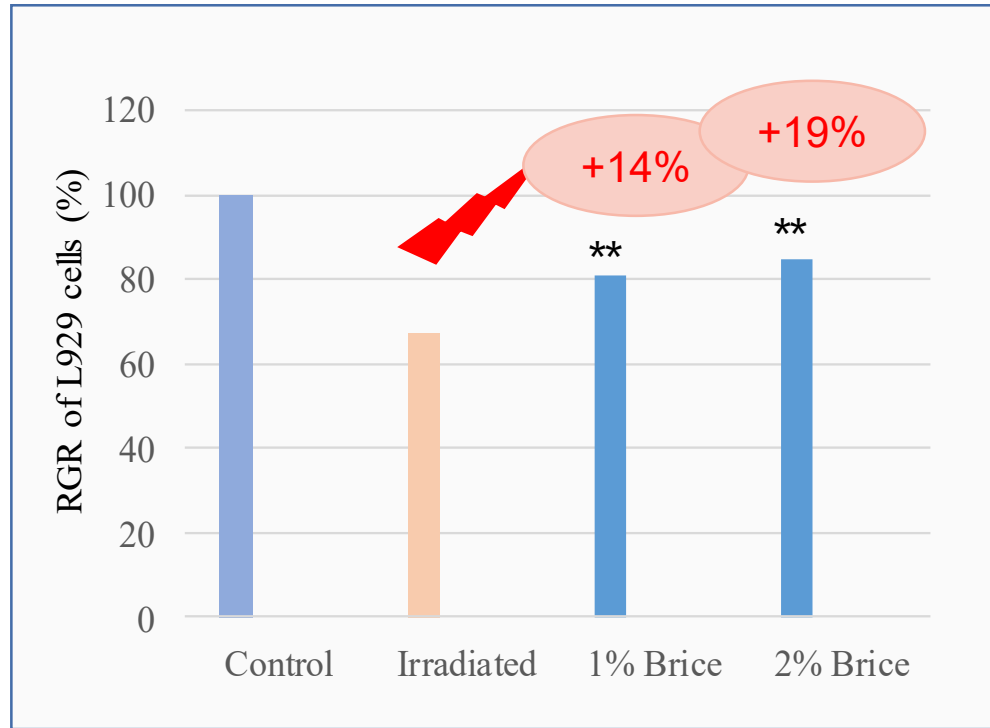


Brown Rice from Dongbei area

## Nutrients/ 100g rice

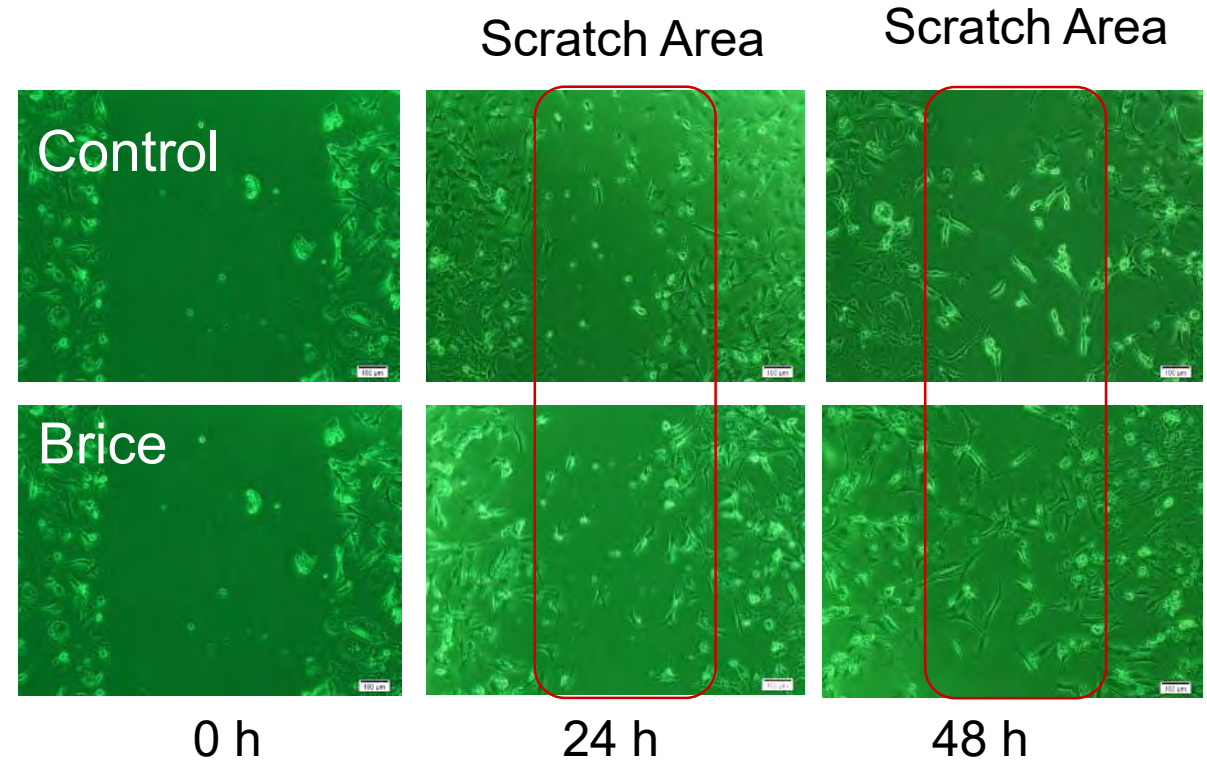
	<b>Brown rice</b>	<b>Polished rice</b>
Heat (kilocalorie)	351	356
Protein (g)	7.4	6.8
Lipid (g)	3.0	1.3
Saccharides (g)	71.8	75.7
Fiber(g)	1.0	0.12
Vitamin B1	0.54	0.12

## Cell damage caused by UV radiation



Cell model: Mouse fibroblast cells L929.

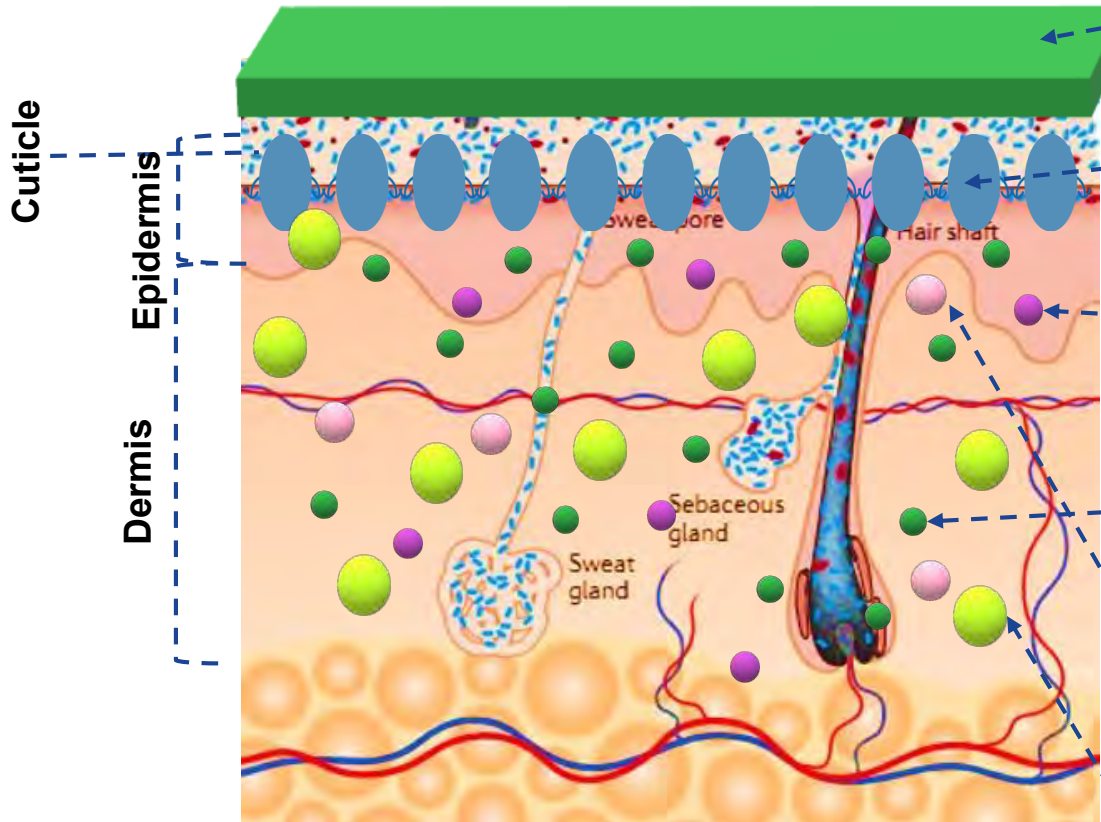
## Cell damaged by mechanical scratch :



- Cell migration assay mode: Immortal keratinocytes, HaCaT;
- Brice concentration: 4%.

Bioyouth™-Brice can repair UVA-damaged fibroblast and scratch-damaged keratinocytes HaCaT.

# Natural solution from Bloomage- Three-dimensional anti-aging



**Hyacross™ Hyaluronic Acid Elastomer**

INCI: SODIUM HYALURONATE CROSSPOLYMER



**Hymagic™-AcHA**

INCI: SODIUM ACETYLATED HYALURONATE



**Gabacare™ BL98T**

INCI: AMINOBUTYRIC ACID



**Bioecto™ Ectoine**

INCI: ECTOIN



**Bioyouth™ Brice**

INCI: Saccharomyces/ Rice Ferment Filtrate



**microHA™**

INCI: HYDROLYZED SODIUM HYALURONATE



Protection



Repair



Xiery Wen

wenll@bloomagebioactive.com

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THANKS