

DANJOUNGBIO

Natural Benefits For You

DanjoungBio is committed to natural materials research.
Through this, we hope to share the benefits of nature
and give back to the community.



FOR HUMAN
WITH NATURE

Danjoungbio Co., Ltd. is a natural ingredient specialized company.
We develop and produce raw materials for cosmetics, food, and medicine, from natural ingredients that can be seen around us.
With our technology, passion, curiosity, and enthusiasm, we strictly select the best natural substances and try to keep the vitality of nature through ecofriendly and systematic management.
We will continue to be a company that provides honest products and incomparable values to our customers. Specializing in natural materials, DanjoungBio.

Natural Benefits for you

CEO / Ph.D. 정의수

PATENT & CERTIFICATION



Certification
HACCP
ISO 22716, 9001, 14001
EVE VEGAN
COSMOS
…



Patent & Trademark
10-1224238 / 40-1114867
10-1287021 / 40-1114869
10-1363413 / 40-1114870
…



Awards
Various citations and awards received from the president, ministers, government, and institutions

DANJOUNGBIO

Danjoungbio Co., Ltd. has secured the technology and facilities for the whole process (extraction, evaluation, fermentation, processing, separation) from plants.





Standardization Technology
- Raw materials standardization technology
- Established raw material standardization database for more than 3,000 raw materials

Extraction Technology
Mass production technology of active ingredient using ultrasonic, high temperature, high pressure, bath, microwave and infrared extraction

Efficacy Evaluation Technology
in-vitro efficacy evaluation by establishing Cell Line (antioxidant, anti-inflammatory, antibacterial, brightening, anti-wrinkle and etc.)

Fermentation Technology
Bioconversion technology increases the content of active ingredients and converts them into new ingredients

Manufacturing Technology
Encapsulation technology for better absorption and forming semi-formulation of active ingredients.

Material Separation Technology
Material separation technology to separate and purify a single effective ingredient

EXTRACTION FROM NATURAL MATERIALS


Ultrasonic Extraction


Hot Water Extraction


Low Temperature Extraction


Immersion Extraction


Microwave Extraction


Supercritical Extraction


Infrared Rays Extraction



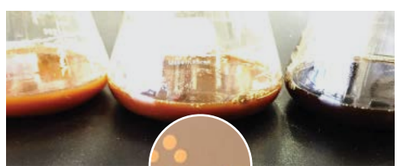
FERMENTATION

NATURE FRIENDLY FERMENTATION

Various Microorganism

Lactobacillus | Aspergillus | Bifidobacterium | Bacillus | Saccharomyces | Galactomyces

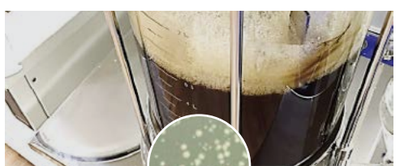
Danjoungbio's Patent Microorganism



Colony in MRS medium

***Lactobacillus rhamnosus* vitaP1**

Lactobacillus rhamnosus vitaP1 promotes the content of useful components during the fermentation of various natural extracts.



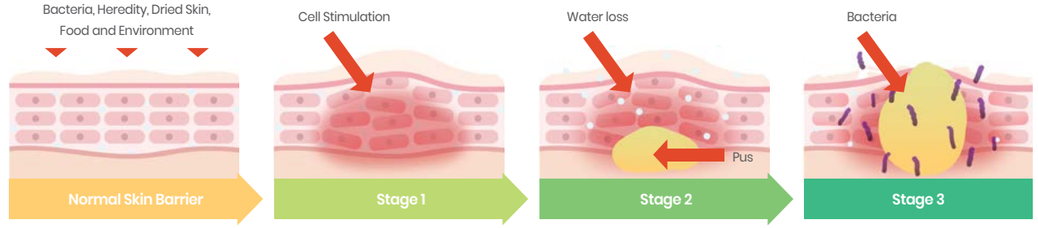
Colony in GAM medium

***Raoutella planticola* SEcos**

Raoutella planticola SEcos can be selected for the development of functional fermented food and cosmetics compound forms of isoflavones, such as Equol.

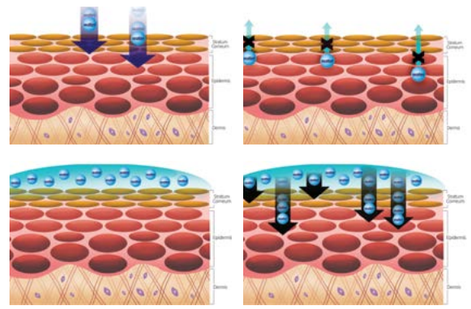
Efficacy Test

Anti-Inflammation

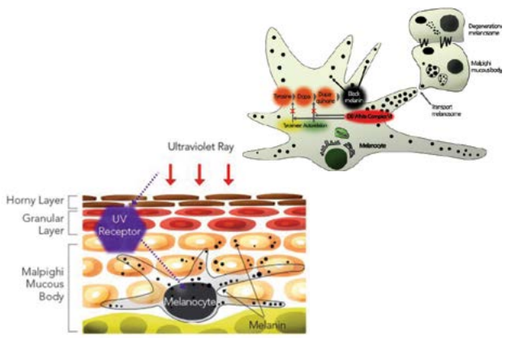


Stage 1	With the increase of immune substances, lifting and redness occurs on the stratum corneum, and water evaporation is accelerated.
Stage 2	Skin barrier function decreases, inflammatory reactions such as immune cell degranulation occurs, and water evaporation is accelerated.
Stage 3	Stratum corneum is lost, secondary infection by bacteria progresses, and the skin inflamed area is enlarged. It needs to normalize the immune and the skin by alleviating the progression of inflammatory dermatitis such as atopic dermatitis.

4 Ways of Skin Moisturizing



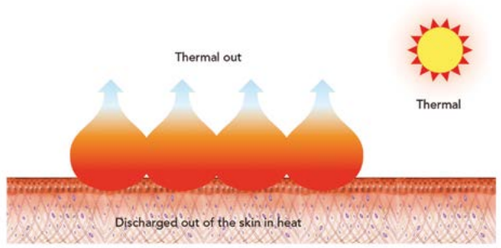
Skin Brightening



Anti-Wrinkle



Anti-Heat Aging





SOOTHING COOLER

Soothing Cooler is a natural raw material using aloe, kelp, yam, elm root and violet, and has the effect of preventing heat aging.

Aloe Barbadensis *Dioscorea Japonica* *Viola Mandshurica*

Ulmus Davidiana *Laminaria Japonica*

Patent · EVE VEGAN · China Compliant

- **Natural derived ingredient**
  Natural raw material using aloe, kelp, yam, elm root and violet
- **Effective in inhibiting heat aging**
  Inhibits aging by removing excess heat from the skin and scalp
- **Patented Product(10-1793098)**
  Natural plant mixed extracts that regulate heat of the skin and a cosmetic composition for skin heat anti-aging that containing the same
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association

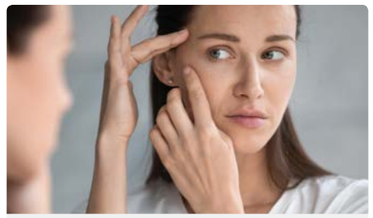


Patented Product
(10-1793098)

Causes of Skin and Scalp Changes

Excessive heat damages the skin and scalp, leading to aging and hair loss.

- Car heater
- Hair dryer
- Heater
- Solar heat



SKIN
Causes poor elasticity and wrinkles



HAIR
Causes hair loss

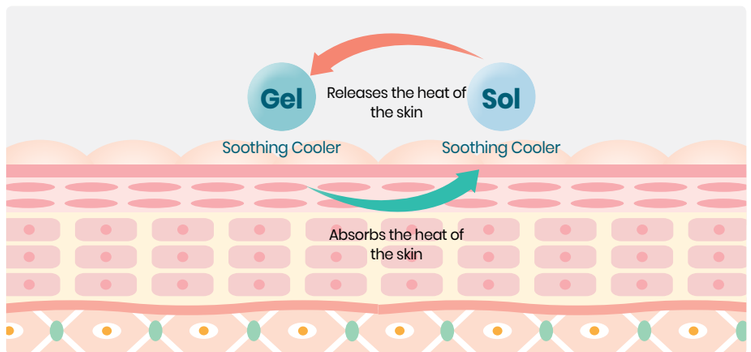
Mechanism of Soothing Cooler

Sol-Gel Reaction

Mechanism of heat release in the skin through Sol-Gel reaction of Soothing Cooler

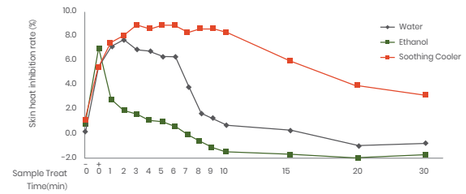
Soothing Cooler heat absorption process

- Soothing Cooler is a Phyto-muco saccharide that absorbs heat in its Gel state
- When applied to the skin, it absorbs the heat of the skin and changes to a Sol state
- Heat is released from Sol state and changes back to Gel State
- State change occurs continuously



* Sol-Gel reaction is a state change caused by external conditions (temperature, pressure, pH).

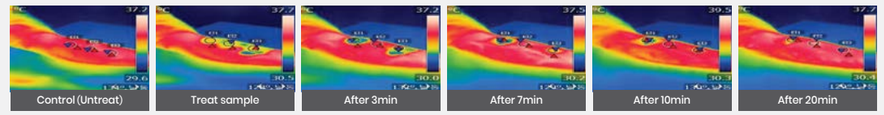
Effect of Soothing Cooler

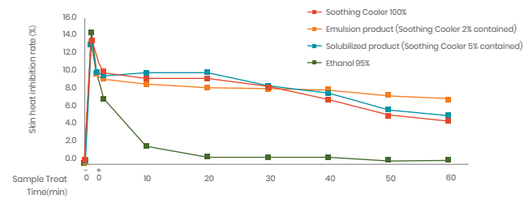


Excessive heat removal from the skin

- Temperature difference checked using a thermal imaging camera
- Heat removal rate of ethanol and purified water decreased rapidly within 3 minutes
- Soothing Cooler continuously showed a high heat removal rate for about 10 minutes, and its efficacy slowly decreased, confirming that it is effective for removing heat in the skin

Test sample
EI1 : Soothing Cooler®
EI2 : Ethanol
EI3 : Water

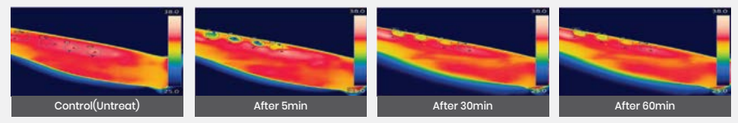


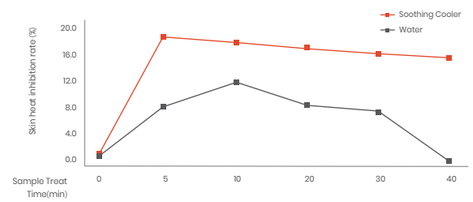


Excessive heat removal from the skin

- Temperature difference checked using a thermal imaging camera
- Ethanol's heat loss rate increased immediately after applying, but has decreased rapidly
- Soothing Cooler and contained products showed similar heat reduction efficiency and it was confirmed that the heat reduction ratio of emulsion type product was most stable

Test sample
Emulsion type (2% of Soothing Cooler used)
Soluble type (2% of Soothing Cooler used)

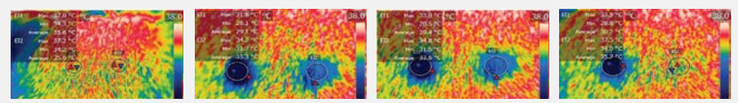




Excessive heat removal from the scalp

- Temperature difference checked using a thermal imaging camera
- Heat removal rate of purified water rapidly decreased after 10 minutes of application
- Soothing Cooler confirmed that the heat removal rate was higher than purified water, and the high heat removal rate was maintained

Test sample
EI1 : Soothing Cooler®
EI2 : Water





AMISCARE(N)

AMISCARE®(N) soothes inflamed skin caused by skin inflammation-causing bacteria. It also suppresses secondary contamination caused by the weakening of the skin barrier function.

For more information please contact Danjoungbio.

EWG GREEN · Preservative Free · China Compliant

- **Preservative Free**
- **EWG Grade 1 ingredients**
  Among EWG Green, only Grade 1 ingredients was selected
- **Antibacterial against inflammation-causing bacteria**
  Antibacterial effect against two well-known strains that cause skin inflammation, *Staphylococcus aureus* and *Staphylococcus epidermidis*
- **China compliant / Not endangered in China**

Causes of Skin Inflammation

Our skin is at increased risk for inflammation due to a variety of causes.
Mask use has increased recently due to COVID-19.

1) Weakening of the skin barrier function
2) Inflammatory reaction quickly occurs to external stimuli.
3) Inflammation caused by inflammation-causing bacteria

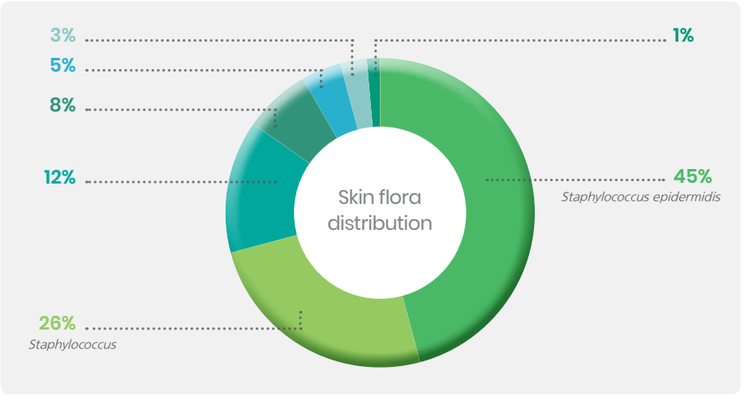
Danjoungbio has been researching inflammatory responses for many years, and this has led to the development of AMISCARE®(N).





Skin Resident Flora Distribution Ratio

As a result of identifying and confirming each strain by requesting to a specialized institution, it was confirmed that the two strains were present in a high ratio of over 70%.

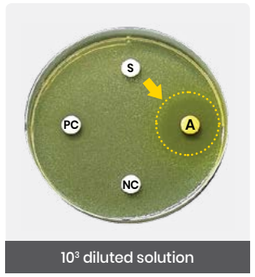


71% portion of resident flora was *Staphylococcus*

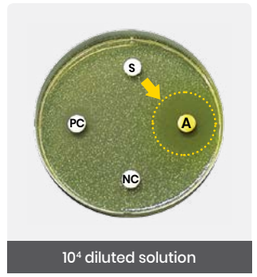
- ***Staphylococcus epidermidis***
- ***Staphylococcus***
- *Bacillus*
- *Enhydrobacter*
- *Moraxella*
- *Lactoobacillus*

Antibacterial effect against inflammatory bacteria

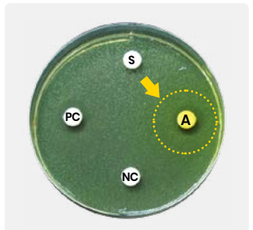
in-vitro test



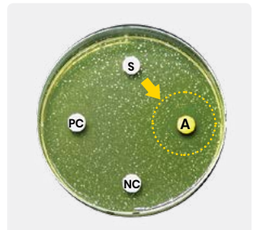
10^3 diluted solution



10^4 diluted solution



10^3 diluted solution



10^4 diluted solution

Staphylococcus aureus

Antibacterial against inflammation-causing bacteria *S.aureus*
Clear Zone confirmed where the strain did not grow due to AMISCARE®(N)

TEST Sample

- **PC :** Ciprofloxacin 50 ppm
- **NC :** Water
- **S :** Solvent group with out AMISCARE®(N)
- **A :** AMISCARE®(N) Concentrate

Experimental strains

- *Staphylococcus aureus* subsp. *aureus*

Staphylococcus epidermidis

Antibacterial against inflammation-causing bacteria *S.epidermidis*
Clear Zone confirmed where the strain did not grow due to AMISCARE®(N)

TEST Sample

- **PC :** Ciprofloxacin 50 ppm
- **NC :** Water
- **S :** Solvent group with out AMISCARE®(N)
- **A :** AMISCARE®(N) Concentrate

Experimental strains

- *Staphylococcus epidermidis* (KCTC1917)

Recommendation



Face Skin Care Products



Face Cleansing Products



Body Cleansing Products



ON-MEDI LINE

ON-MEDI LINE is a complex of 7 types of herbs, which has anti-irritation, anti-edema and anti-inflammatory effects.

- *Centella Asiatica*
- *Scutellaria Baicalensis*
- *Camellia Sinensis*
- *Glycyrrhiza Glabra*
- *Polygonum Cuspidatum*
- *Rosmarinus Officinalis*
- *Chamomilla Recutita*

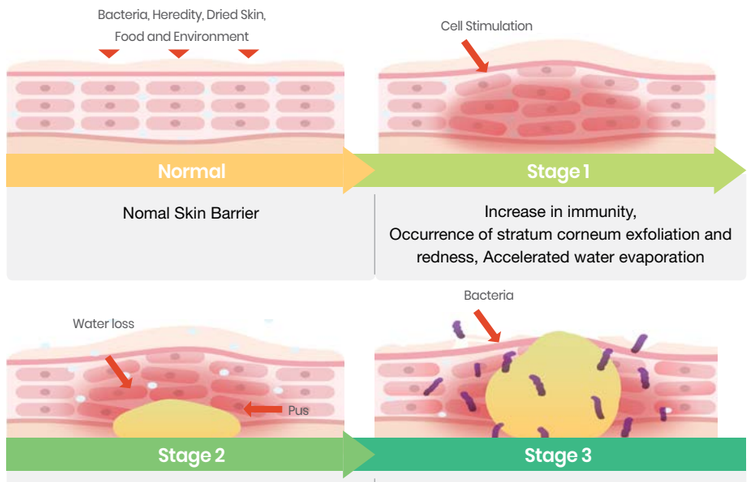
EVE VEGAN · EWG GREEN · China Compliant · Clinical Data

- **Effective for skin soothing**
  Skin soothing effect through lipoxygenase, cell degranulation inhibition, etc.
- **Clinical trial data on efficacy**
  Possession of clinical trial data on irritation relief effect
- **Complex using 7 kinds of herbs**
  Product made with 4 types of Oriental herbs, 1 type of Middle Eastern herb, and 2 types of Western herbs
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association

Causes of Skin Irritation

As our skin can cause **abnormalities due to various environmental factors and stress**, interest and need for irritation relief and hypoallergenic products are increasing. There is a **demand for the development of irritation relief products** that can protect the skin from UV rays and various risk factors.

Stages of Skin Irritation



Composed with



Oriental Herbs

Relieves skin irritation and inflammation

Centella Asiatica, Scutellaria Baicalensis, Polygonum Cuspidatum, Camellia Sinensis



Middle East Herbs

Role of neutralization that is well combined with all drugs

Glycyrrhiza Glabra



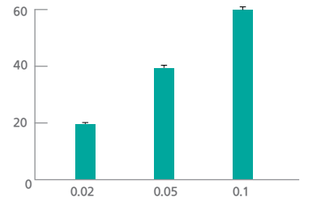
Western Herbs

Relieves skin irritation and inflammation

Rosmarinus Officinalis, Chamomilla Recutita

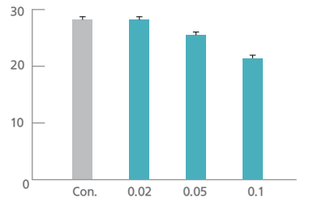
Effects of ON-MEDI LINE

Anti-inflammation effect



Lipoxygenase inhibition assay

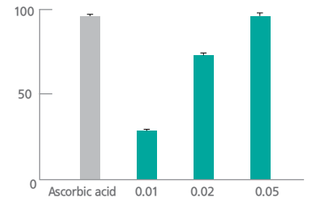
Inflammatory medium, 5-lipoxygenase (5-LOX), is expressed insufficiently in normal cells, but when inflammation is induced, it is reported to be active due to an increase in leukotriene material.



Cell degranulation inhibition assay

In obese cells, when the DNP combines with antibodies to a specific antigen, a signal transmission that induces degeneration begins, resulting in a large amount of granules being released out of the cell. At this time, histamine, serotonin, and leukotriene contained in granules are released, and these are the causes of microcephaly accompanied by erythema.

Anti-oxidation effect

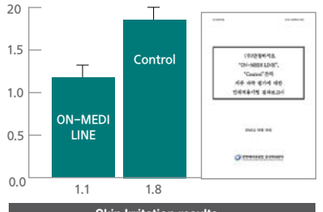


Electron donating ability assay

Antioxidants make compounds by donating electrons or hydrogen to free radicals. DPPH can estimate antioxidant activity from electronic donor, and when it meets an antioxidant active substance, radial is eliminated.

ON-MEDI LINE's Clinical Data

Irritation relief test



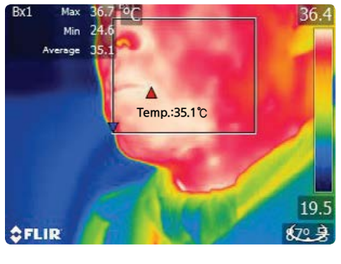
The Clinical Trial Center for Bio-industry at Semyung University

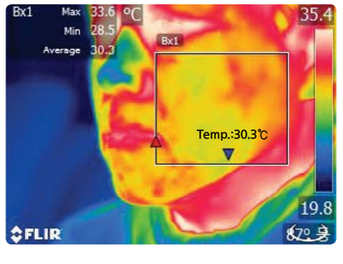
It was found that there was a change in skin irritation following the application of the products "ON-MEDI LINE" and "Control", and the subject self-survey assessment after the application of the product indicated a difference in irritation at a statistically significant level compared to "Control" ($p<0.05$).

Self Clinical Test











D-PHYTOGEN

D-Phytogen has anti-aging and anti-oxidation effects by maximizing active ingredients by bioconversion of six legumes with patented microorganism (*Lactobacillus rhamnosus* vitaP1).

- *Pueraria Lobata*
- *Glycine Soja*
- *Ceratonia Siliqua*
- *Phaseolus Radiatus*
- *Canavalia Gladiata*
- *Lens Esculenta*
- *Lactobacillus Ferment Lysate*

Patent · EVE VEGAN · China Compliant · Clinical Data

Danjoungbio's patented microorganism
Fermented product by Danjoungbio's patented microorganism, *L.rhamnosus* vitaP1

Effective for anti-aging
Anti-aging effect through (s)-Equol shown by fermenting legumes

Patented Product (10-2132827)
Novel lactobacillus rhamnosus vitaP1 and fermentation product method of pueraria radix or soybean using lactobacillus rhamnosus vitaP1 and fermentation product of pueraria radix or soybean using lactobacillus rhamnosus vitaP1

EVE VEGAN Certified
Vegan certified product by EVE VEGAN, established by French Association



Patented Product (10-2132827)

About D-Phytogen

D-Phytogen is an extract using *Pueraria lobata* and 5 soybeans fermented with Danjoungbio's patented microorganism, *Lactobacillus rhamnosus* vitaP1. It contains fermented compounds and Equol along with Phytochemicals, and D-Phytogen helps to improve overall skin condition, skin brightening, anti-wrinkle, and anti-aging.



Powerful Anti-aging
(D-Phytogen)



Six types of Fabaceae (isoflavones)



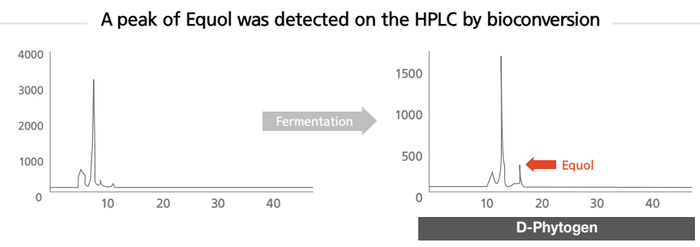
Low Temperature Ultrasonic Extraction

This microbial changes "Isoflavone → Equol"



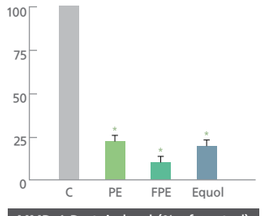
Microorganism
***L . rhamnosus* VitaP1**
* Application number : 10-2015-0146432

A peak of Equol was detected on the HPLC by bioconversion

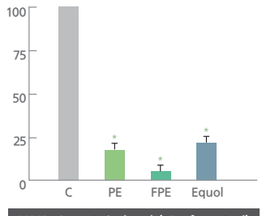


Anti-aging effect

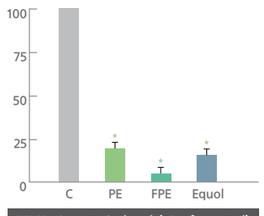
Anti-wrinkle effect
1) Objective → Inhibition of MMP-1, MMP-3 and MMP-9
2) Test method → ELISA assay
3) Sample → D-Phytogen FD Powder



MMP-1 Protein level (% of control)

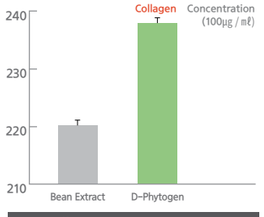


MMP-3 protein level (% of control)

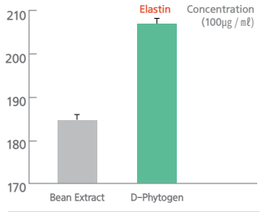


MMP-9 protein level (% of control)

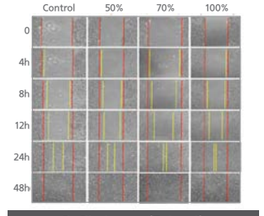
Anti-wrinkle effect
1) Objective → Collagen and Elastin synthesis effect test
2) Test method → Synthesis on NIH3T3 Cells
3) Sample → D-Phytogen FD Powder



Collagen mRNA expression

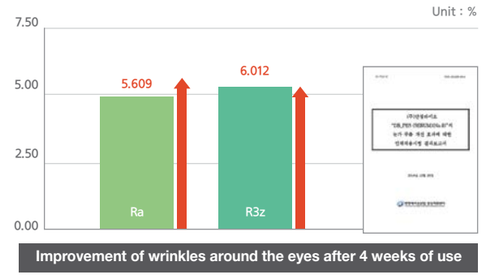


Elastin mRNA expression



D-Phytogen (Extract)

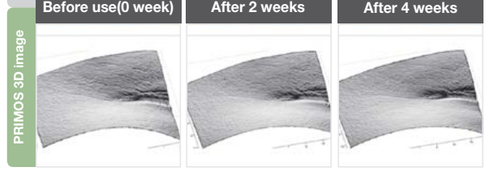
Clinical test / Anti-wrinkle



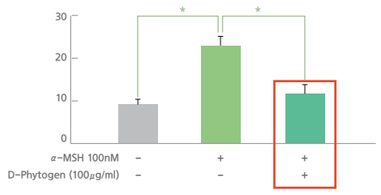
Improvement of wrinkles around the eyes after 4 weeks of use

PRIMOS image / No. 18 subject



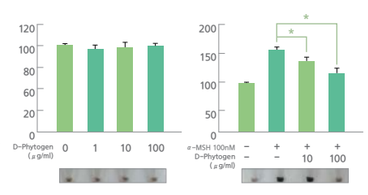


Skin brightening effect



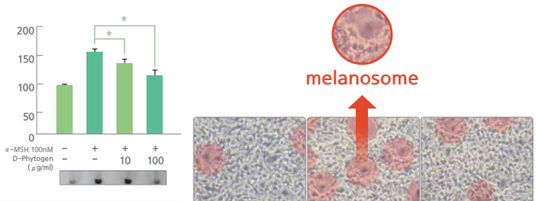
Melanin contents (Relative to control, %)

1) Objective → Melanin inhibition effect test
2) Test method → Melanin inhibition assay
3) Sample → D-Phytogen FD Powder



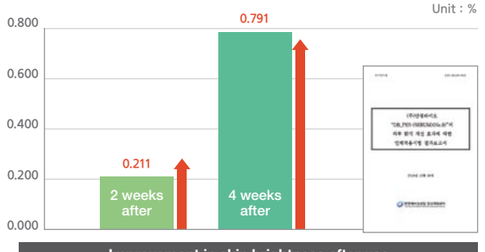
Melanin contents (Relative to control, %)

1) Objective → Hyperpigmentation inhibition effect test
2) Test method → Hyperpigmentation inhibition assay
3) Sample → D-Phytogen FD Powder



1) Objective → Melanosome inhibition effect test
2) Test method → Melanosome inhibition assay
3) Sample → D-Phytogen FD Powder

Clinical test / Skin brightening



Improvement in skin brightness after use

VISIA-CR image / No. 14 subject





SPL FERM

Product developed to contain abundant Equol by
fermenting the *Sophora Japonica* Fruit with Danjoungbio's patented microorganism.

Sophora Japonica Fruit Extract

Lactobacillus Ferment Lysate

Patent | EVE VEGAN | EWG GREEN | China Compliant

- **Cell proliferation effect**
  Product containing (s)-Equol, which can only be obtained from nature by fermenting *Sophora Japonica* fruit
- **Danjoungbio's exclusive microorganism**
  Fermented with Danjoungbio's exclusive microorganism, *L.rhamnosus vitaP1*
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association
- **Effective on anti-aging**
  Confirmation of anti-aging effect by increasing collagen activity and decreasing MMP-1 gene expression



Patented Product
(10-2121457)

About Sophora Japonica fruit

***Sophora japonica* is a Fabaceae.**
In the Sophora japonica there flavonoid and isoflavonoids are contained and it includes genistein, sophoricoside, sophoraflavonoloside and rutin. The content of rutin is very high, with a content of 46 percent in young berries.

Aging & Wrinkle



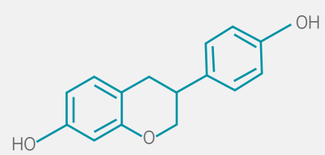
Aging



Wrinkle

What is most closely related to wrinkles is the aging of skin cells. Many studies are under way to control environmental factors such as ultraviolet rays, oxidation, drying, etc. **Oxidation and reactive oxygen can cause protein destruction, sugar oxidation and genetic modification within skin cells, causing aging and wrinkles on the skin.** Products that can maximize anti-wrinkle effects while minimizing side effects is being required.

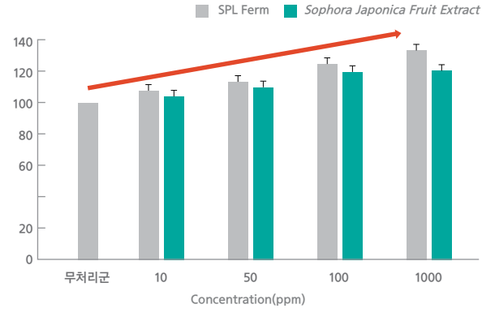
About Equol



- More effective than other isoflavones
- Bioconversion of isoflavones by intestinal microbes
- Beneficial for female hormone-related diseases

Equol is produced by bioconversion of isoflavones by intestinal microbes, and is known to be more beneficial for female hormone-related diseases and anti-arteriosclerosis than isoflavones, which are abundantly contained in legumes. Even if you take isoflavones as food, more than half of healthy adults can't produce equol.
SPL Ferm of Danjoung Bio is more effective, because it contains (s)-equol, which can only be obtained from nature.

Cell proliferation effect

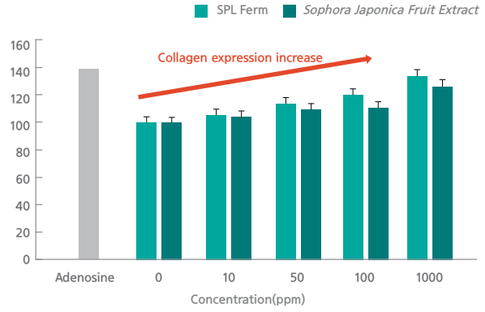


Growth rate (%)

1) Objective → MTT assay
2) Sample → SPL Ferm

✓ Compared to the unfermented Sophora Japonica Fruit Extract, **SPL Ferm**, which has been fermented, **has higher cell proliferation effect**

Anti-aging Effect

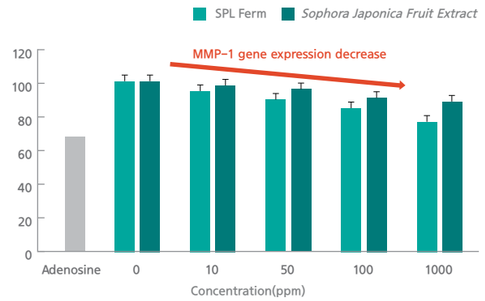


Collagen expression(%)

1) Objective → Collagen expression 2) Sample → SPL Ferm
3) Cell Line : HaCaT(Human keratinocyte cell line)

✓ Compared to the unfermented Sophora Japonica Fruit Extract, **SPL Ferm**, which has been fermented, **has higher effect of increasing Collagen expression**

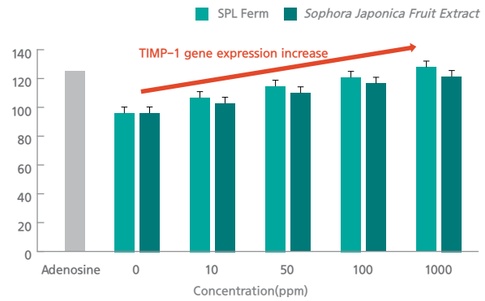
Anti-aging effect



MMP-1 expression(%)

1) Objective → MMP-1 expression 2) Sample → SPL Ferm
3) Cell Line : CCD-986Sk(Human fibroblast cell line)

✓ Compared to the unfermented Sophora Japonica Fruit Extract, **SPL Ferm**, which has been fermented, has higher effect of decreasing MMP-1 gene expression



TIMP-1 expression(%)

1) Objective → TIMP-1 expression 2) Sample → SPL Ferm
3) Cell Line : HaCaT(Human keratinocyte cell line)

✓ Compared to the unfermented Sophora Japonica Fruit Extract, **SPL Ferm**, which has been fermented, has higher effect of increasing TIMP-1 gene expression.



PURE MEDI

Pure Medi is a complex of Salicornia Herbacea and Phragmites Communis.
It is an anti-aging product that improves skin wrinkles and skin texture,
and has an excellent effect on promoting collagen production.

Salicornia Herbacea Extract

Phragmites Communis Extract

Patent | EVE VEGAN | EWG GREEN | China Compliant

- **Natural derived ingredient**
  Products using natural ingredients rich in nutrients
- **Effective in improving skin texture**
  Anti-aging effect and skin moisturizing effect by promoting collagen production and inhibiting collagenase activity
- **Patented Product (10-1363413)**
  A cosmetic composition comprising the complex extract of Salicornia Herbacea L. and Phragmitis Rhizoma
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association



Patented Product
(10-1363413)

Effects of Collagen

Collagen with the greatest effect on skin wrinkles

Collagen accounts for most of the dermal dermis, and is involved in the firmness of the skin in the dermal dermis layer, the bondage and elasticity of tissue. Collagen is reduced by aging and photo-aging caused by ultraviolet irradiation, which is known to be closely related to skin wrinkle formation. Therefore, many studies have been conducted on collagen synthetic promoters to improve skin wrinkles targeting collagen, and the development of dermal anti-aging agents using new collagen synthetic promoters, which are safe for living and more effective than conventional collagen synthesis promoters, is urgently needed.





Salicornia Herbacea

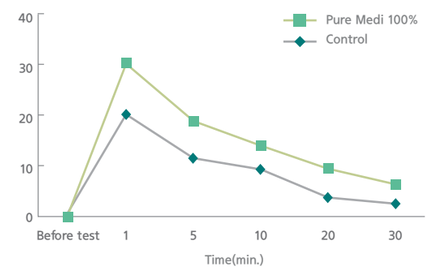
Salicornia Herbacea grows in groups on the west coast, the south coast, and near the seawater of islands or mud flats of South Korea. It is also known as a healthy food because it is rich in minerals.



Phragmites Communis

It is used when fresh or dried in the sun by removing the mud and beard roots and peeling the skin. *Phragmites Communis* has the effect of stopping nausea by lowering heat and producing sap. It is also said to block UV rays and provide nutrients to the skin.

Skin Moisturizing Effect

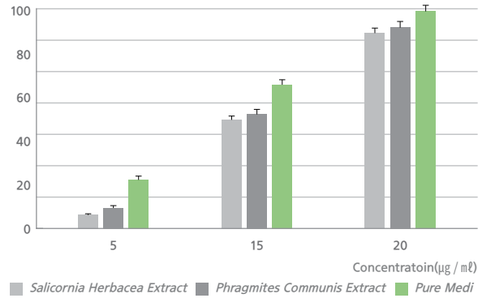


Increase rate (%)

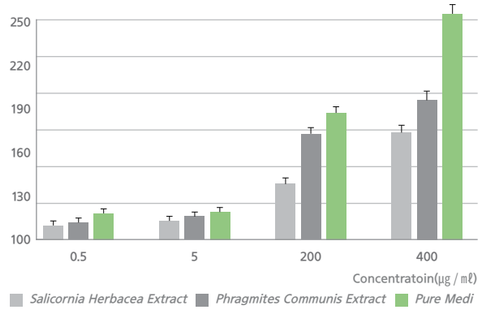
1) Objective –> Moisturizing test
2) Test method → by Corneometer
3) Sample → Pure Medi

✓ Skin moisturizing effect confirmed

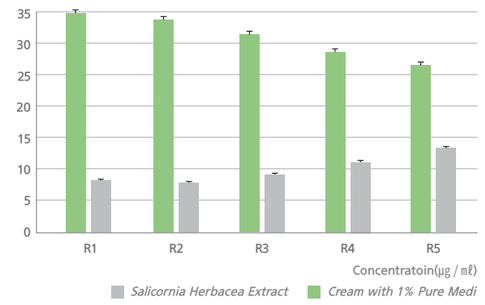
Effects of Pure Medi



Collagenase activity inhibition effect(%)



Collagen production promoting effect(%)



Wrinkle decrease rate(%)

* (R1~3 : Deep wrinkle, R4~5 : Rough skin)

Collagenase activity inhibition effect

The active inhibitory rate of collagenase was confirmed that the active inhibitor effect of Pure Medi was superior to that of a single extract at all concentrations.
The concentration of 50% active inhibitor (IC50) of collagenase was 10.1μg/ml, showing a superior active inhibitor effect even when compared with mixed extracts using other solvents.

* Collagenase : Collagen decomposition enzyme
* Used FD Powder for each extract

Collagen production promoting effect

The collagen production promoting effect of Pure Medi was confirmed to be superior to that of a single extract under the same conditions at all concentrations.
In particular, the collagen production promotion effect was 254.3% at 400μg/ml concentration, which was more than double the effect compared to the single extract, confirming that there was a very good effect.

* Used FD Powder for each extract

Wrinkle improvement effect

When applying Cream with 1% Pure Medi, it was seen that there was reduction of deep wrinkles and roughness of the skin. From these results, it was confirmed that the Pure Medi not only promote collagen production but also actually reduce wrinkles on the skin and improve skin texture.



SUSU 10 FERM

Fermented product using sorghum and has anti-inflammatory, antioxidant and skin improvement effects.

Sorghum Bicolor Leaf/Stem Extract

Patent

China Compliant

- **Anti-inflammatory & Anti-oxidation using Sorghum**
  Anti-oxidanttion, anti-inflammatory and anti-irritant effects confirmed
- **Patented Product (10-1803263)**
  Fermented sorghum with anti-inflammatory, anti-allergic and inflammatory skin improvement effects



Patented Product
(10-1803263)

Benefits and Overview of Sorghum

Necessity of improvement effect for inflammatory skin

Inflammation is a physiological refractory that protects the living body from damage caused by the invasion of harmful surroundings, such as bacteria.
Cells and connective tissue are damaged by a proteolytic enzyme induced by hyper inflammation, and the damage to connective tissue not only reduces skin elasticity and causes wrinkles but also adversely affects regeneration and proliferation of cells, resulting in rapid skin aging.

Active substance-rich Sorghum Bicolor

Sorghum contains a large number of active ingredients such as fiber, phenolic compounds and tannins. The phenolic compounds consist mainly of flavonoids, phenolic acids, and anthocyanins, mostly known as flavonoids.

Fermentation with *Raoultella ornithinolytica*

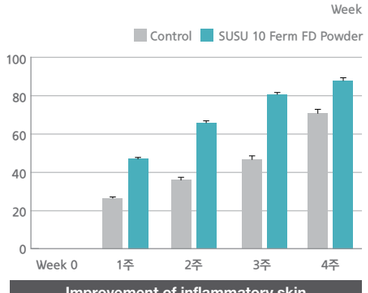
Anti-oxidation & anti-inflammatory effects to improve inflammatory skin







Effect of SUSU 10 Ferm

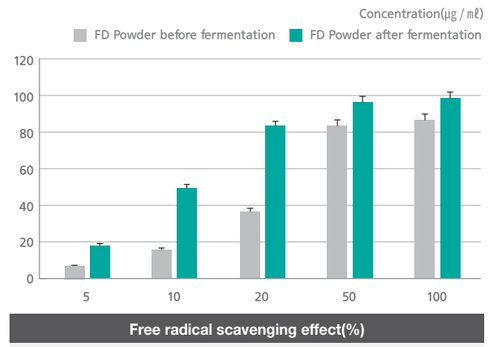


Improvement of inflammatory skin

Improvement of inflammatory skin

It has been confirmed that the nutritional cream containing fermented sorghum powder has a far better effect on inflammatory skin than the nutritional cream without it.

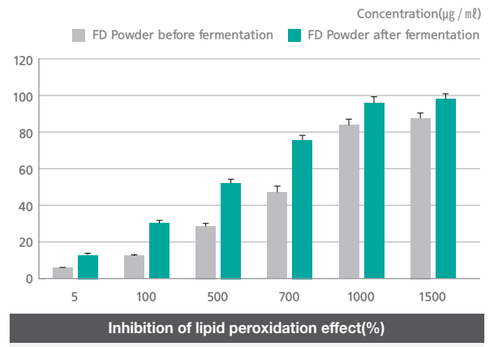
Anti-Oxidation Effect



Free radical scavenging effect(%)

(SC_{50} - 42.29μg/ml before fermentation, 18.45μg/ml after fermentation)
* FD Powder after fermentation: SUSU 10 Ferm Freeze Dried Powder

- The free radical scavenging was compared with fermented before and after of Sorghum Bicolor. The SC_{50} and inhibitory effects were confirmed that the free radical scavenging effect (antioxidant effect) with Sorghum Bicolor fermentation was superior.

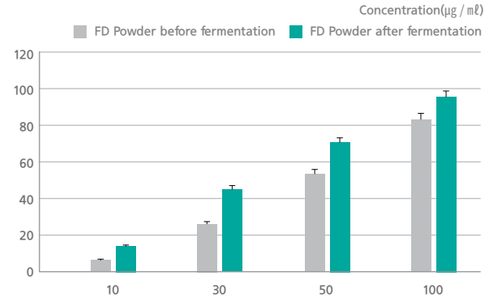


Inhibition of lipid peroxidation effect(%)

(SC_{50} - 581.86μg/ml before fermentation, 279.79μg/ml after fermentation)
* FD Powder after fermentation: SUSU 10 Ferm Freeze Dried Powder

- The effect of Inhibition of lipid peroxidation was compared with fermented before and after of Sorghum Bicolor. As a result of checking IC_{50} and inhibitory effects, we found that the **inhibition of lipid peroxidation effect (antioxidant & anti-aging effect) with Sorghum Bicolor fermentation was superior.**

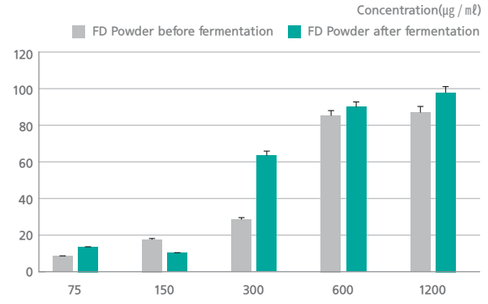
Anti-Inflammation Effect



Lipoxygenase inhibitory effect(%)

(SC_{50} - 65.47μg/ml before fermentation, 40.97μg/ml after fermentation)
FD Powder after fermentation: SUSU 10 Ferm Freeze Dried Powder

- The lipoxygenase inhibitory effect was compared with fermented before and after of Sorghum Bicolor. The IC_{50} and inhibitory effects were confirmed that the **lipoxygenase inhibitory effect (anti-inflammatory effect) with Sorghum Bicolor fermentation was superior.**



Hyaluronidase inhibitory effect(%)

(SC_{50} – 503.57μg/ml before fermentation, 293.29μg/ml after fermentation)
FD Powder after fermentation: SUSU 10 Ferm Freeze Dried Powder

- The hyaluronidase inhibitory effect was compared with fermented before and after of Sorghum Bicolor. The IC_{50} and inhibitory effects were confirmed that the **hyaluronidase inhibitory effect (anti-inflammatory effect) with Sorghum Bicolor fermentation was superior.**



ANTOXYL_S II

Antoxyl_S II is a fermented product using sorghum and protects the skin from ozone and nitrogen dioxide.

Aspergillus, Sorghum Bicolor Leaf/Stem Extract

Patent | EVE VEGAN | China Compliant

- **Anti-pollution product using sorghum**
  Cell damage inhibition effect on ozone and nitrogen dioxide
- **Patented Product (10-1803265)**
  The cosmetic composition for prevention effect of skin damage by air pollutants
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association



Patented Product
(10–1803265)

Causes of Skin Aging

Causes of skin aging, Air pollutants

In today's urbanized society, the increase in air pollutants such as Ozone(O3), Nitrogen dioxide (NO2), carbon monoxide, and fine dust are at a serious level. Air pollutants affect not only respiratory diseases but also skin irritation and allergic skin diseases, so the Korea Meteorological Administration (KMA) is predicting fine dust and ozone warnings in weather information. Ozone and nitrogen dioxide can be seen as enemies of skin aging, just like UV rays, by causing a radical reaction in the skin to promote skin aging.





Sorghum of Antoxyl_S II

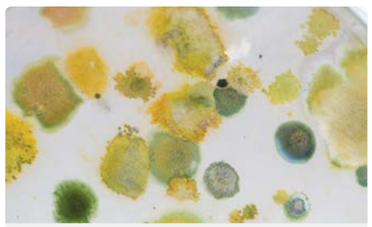


Antoxyl_S II, more effective and safer by fermentation with *Aspergillus oryzae*



Sorghum's red natural pigment: Anthocyanin

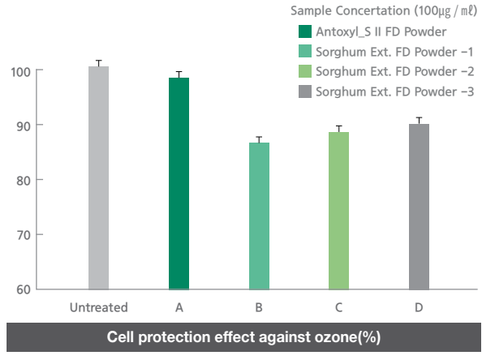
Anthocyanin is an ingredient that exists in many colors in natural products such as red and yellow, and Sorghum has red anthocyanin. This anthocyanin acts as a natural antioxidant.



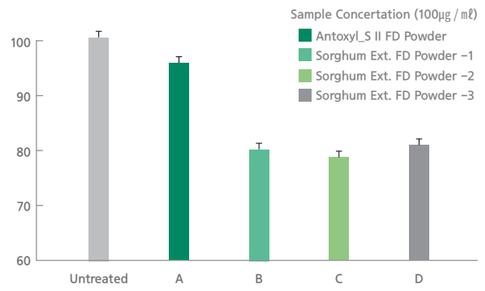
Fermentation using *Aspergillus oryzae*

Aspergillus oryzae, is a strain commonly used in fermenting traditional Makgeolli (rice wine). The strain that has been used for a long time to make food is safe and beneficial to us.

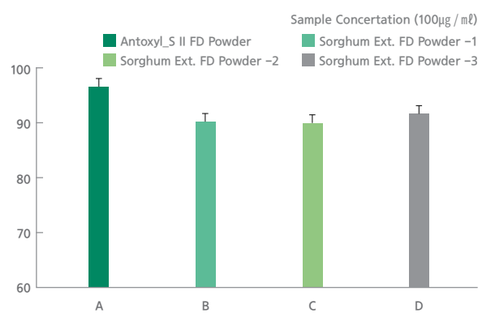
Effect of Antoxyl_S II



Cell protection effect against ozone(%)



Cell protection effect against nitrogen dioxide(%)



Superoxide inhibition effect(%)

Cell protection effect against ozone

Using the cells (keratinized cells, HaCaT) treated with a certain concentration of ozone, the degree of cell damage was confirmed by the cell viability by the MTT test. Cell damage was confirmed when ozone was treated, and when Antoxyl_S II was treated, the cell viability was close to that of the control group not treated with ozone.

Cell protection effect against nitrogen dioxide

Using the cells (keratinized cells, HaCaT) treated with a certain concentration of nitrogen dioxide, the degree of cell damage was confirmed by the cell viability by the MTT test. Cell damage was confirmed when nitrogen dioxide was treated, and when Antoxyl_S II was treated, the cell viability was close to that of the control group not treated with ozone.

Superoxide inhibition effect

The removal rate of superoxide by SOD was measured using the Electron Paramagnetic Resonance (EPR) using the DMPO spin trap.
It showed that Antoxyl_S II FD Powder represented the most outstanding activity for superoxide radical removal.



SKINPIA 10

Skinpia 10 relieves the progression of inflammatory dermatitis, leading to normalization of the immunity and skin.

Larix Leptolepis · *Chrysanthellum Indicum* · *Rheum Palmatum* · *Quercus Mongolica*

Persicaria Hydropiper · *Illicium Verum* · *Corydalis Turtschaninovii* · *Coptis Japonica* · *Machilus Thunbergii*

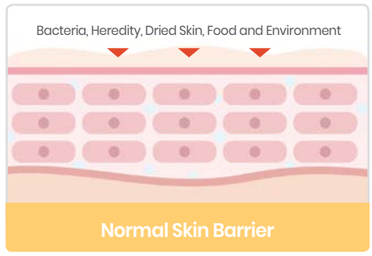
- **Complex extract of 10 raw materials**
  Composed of ingredients with anti-inflammatory and antibacterial effects
- **Effective for inflammatory skin**
  Skin normalization through improvement of skin inflammation
- **Patented Product (10-1224238)**
  Extract of mixed plants

Patent

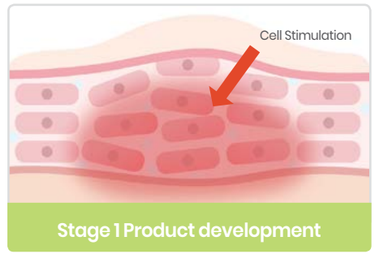


Patented Product
(10-1224238)

Mechanism of Anti-Inflammation

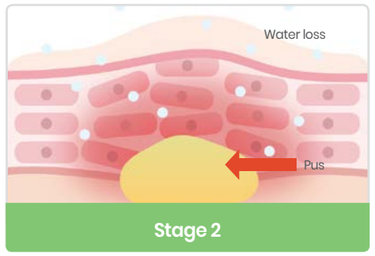


Skin gets dried by heredity, food and environmental factors



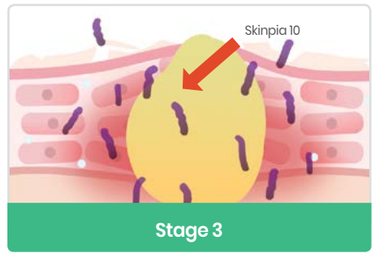
Increase in immunity,
Occurrence of stratum corneum exfoliation and redness, Accelerated water evaporation

★ Need to strengthen skin barrier and moisturize



Decreased skin barrier function,
Inflammatory reactions such as immune cell degranulation occurs,
Accelerated water evaporation

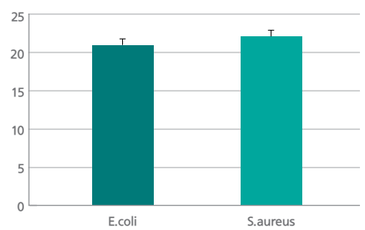
★ Needs to suppress immune response abnormality



Secondary infection by bacteria due to loss of stratum corneum, Needs to induce immunity and normalization by alleviating the progression of inflammatory such as atopic dermatitis.

★ Relieves the progression of inflammatory dermatitis

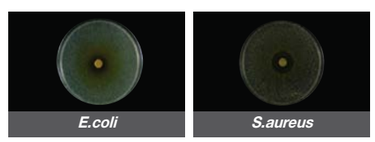
Effects of Skinpia 10



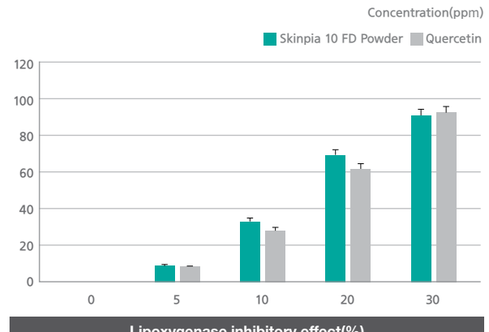
Antibacterial effect : growth inhibition(mm)

Skinpia 10 has been confirmed to inhibit the growth of various pathogenic microorganisms.

* Method : Paper disc method



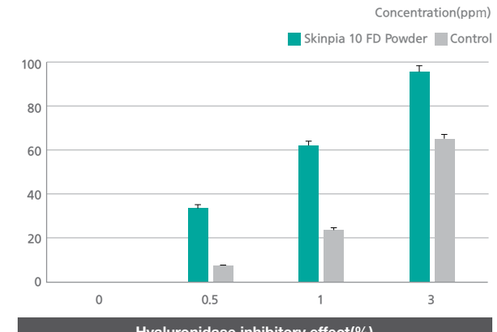
Anti-Inflammation Effect



Lipoxygenase inhibitory effect(%)

(IC_{50}_Skinpia 10 FD Powder : 15.69ppm / Quercetin : 16.46 ppm)

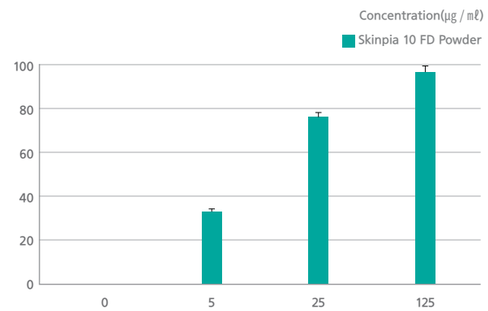
✓ Skinpia 10 was confirmed to have an anti-inflammatory effect by inhibiting lipoxygenase activity in a concentration-dependent manner.



Hyaluronidase inhibitory effect(%)

(IC_{50}_Skinpia 10 FD Powder : 1.19% / Control : 2.47%)

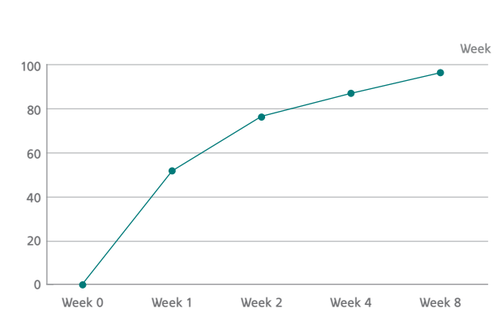
✓ Skinpia 10 was confirmed to have an anti-inflammatory effect by inhibiting hyaluronidase activity in a concentration-dependent manner.



Immune cell degranulation inhibitory effect(%)

(IC_{50}_Skinpia10 : 34.70μg/mℓ)

✓ Inhibition of beta-hexosaminidase secretion means suppressing degranulation of immune cells. It was confirmed that Skinpia 10 inhibited immune cell degranulation in a concentration-dependent manner.



Inflammatory skin improvement rate(%)

✓ **Experiment was conducted on 30 people with inflamed skin.**

- The test sample was applied to the whole body, but the use of other moisturizing agents that could affect the possible effect of the test sample was prohibited. The effect of 1, 2, 3, and 8 weeks after application of the test sample was evaluated by the SCORAD method (SCORing Atopic Dermatitis).
- Inflammatory skin improvement effect was confirmed, and after 8 weeks, it showed an excellent improvement effect of more than 90%.



HUMAXYL_ASMC

In accordance with the composition of Natural Moisturizing Factor(NMF), Humaxyl®_ASMC composed of amino acids, polysaccharides and mineral water.

Serine *PCA* *Alanine* *Sea Water* *Aloe vera*

Hibiscus Esculentus *Ulmus Davidiana* *Viola Mandshurica*

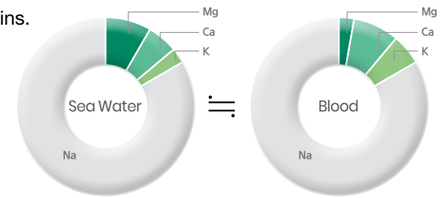
China Compliant

- **Composed with Natural Moisturizing Factor (NMF)**
  Moisturizing product consisting of amino acids, polysaccharides and mineral water to match the composition of NMF
- **Very effective for moisturizing**
  Effect Confirmed through self-moisturizing test

Composition of Humaxyl®_ASMC

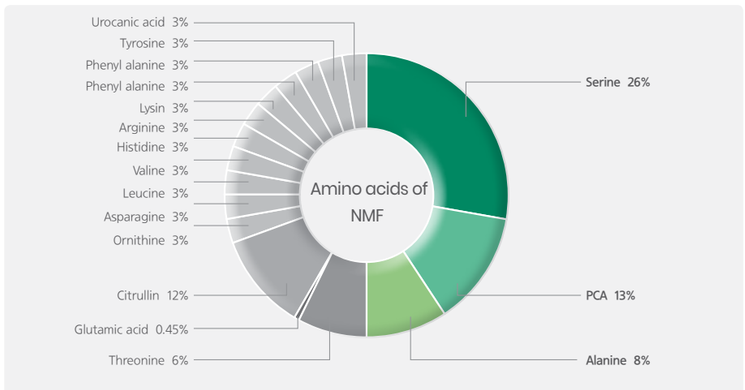
Deep Sea Water from Ulleungdo

Deep water that exists at a depth of more than 200 meters deep where sunlight does not reach. It is rich in minerals that maintain the health and beauty of the human body. Composition of minerals are most similar to blood, so it is an essential source of nutrition for the human body and has nutrients that protect the body from infection. Deep sea water is rich in minerals(Na,Mg,Ca,K,etc), one of the five major nutrients, along with proteins, carbohydrates, and vitamins.



Background of amino acid composition in Humaxyl_ASMC

Composed with the representative amino acids Serine, PCA, and Alanine, three highest that take portion composed in NMF. (Approx. 47% of the NMF).



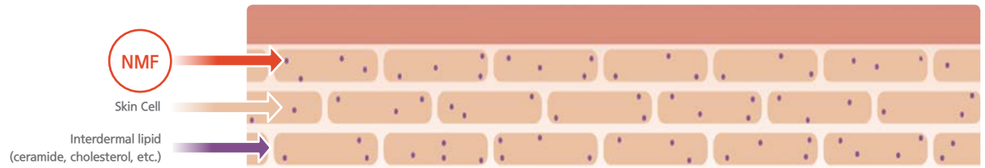
Natural Polysaccharide



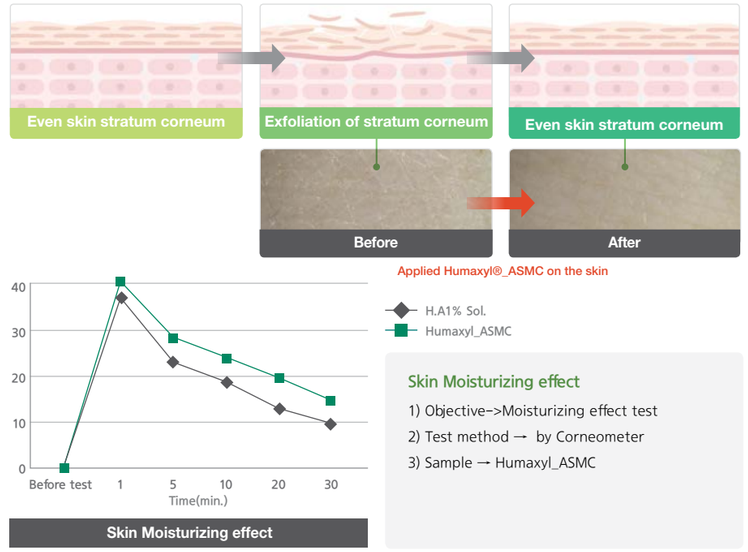
Natural Moisturizing Factor

NMF (Natural Moisturizing Factor)

A generic term for soluble compounds present in the stratum corneum.
It acts as the most ideal natural material for skin physiology to prevent dryness by controlling the moisture retention of the skin. Lack of this can cause dry skin, thickening of the stratum corneum, and cause skin aging.



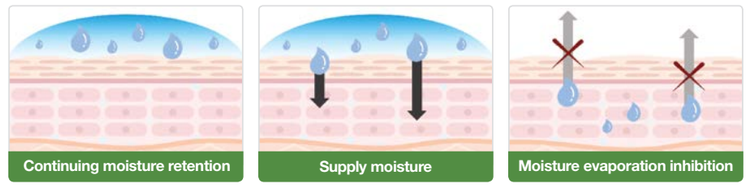
Effect of Humaxyl®_ASMC



Skin Moisturizing effect

1) Objective->Moisturizing effect test
2) Test method → by Corneometer
3) Sample → Humaxyl_ASMC

Mechanism of Humaxyl®_ASMC





PROBIOTICS III

Proboitics III is a fermented complex using Lactobacillus, Bifida, and Lactococcus, and helps to moisturize the skin with its moisturizing and anti-inflammatory effects.

Lactobacillus Ferment Lysate

Bifida Ferment Lysate

Lactococcus Ferment Lysate

EVE VEGAN

China Compliant

Patented Lactobacillus

- **Complex of 3 types of lactic acid bacteria**
  A fermented complex using Lactobacillus, Bifida, and Lactococcus,
- **Effective for anti-inflammation and skin moisturizing**
  Effective for anti-inflammation and moisturizing by inhibiting the production of inflammatory substances
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association

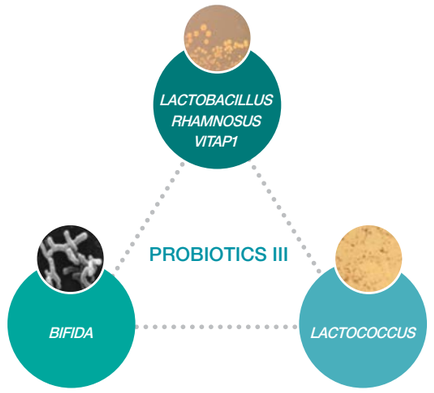
About Probiotics

Probiotics are live microorganisms that enter the body and have beneficial effects on health.
Most of the probiotics known so far are lactic acid bacteria, and some include Bacillus. It is a strain that reduces the number of harmful bacteria when ingested and reaches the intestine and makes the intestinal environment healthy by proliferating more beneficial bacteria. The potential of probiotics has been studied for a long time as it has become known as the secret of Bulgarian people's longevity.

Probiotics III with anti-inflammatory and moisturizing effects with 3 types of lactic acid bacteria

A fermented complex using Lactobacillus, Bifida, and Lactococcus, and helps to moisturize the skin with its moisturizing and anti-inflammatory effects.

Complex of 3 types of Lactic Acid Bacteria



Lactobacillus Rhamnosaus vitaP1
As a useful lactic acid bacterium that can be used for food, it amplifies the content of active ingredients by fermenting natural products or creates new effective substances through bioconversion

Bifidobacterium
A Lactic acid bacteria that strengthen the immune system, presented in the human digestive system.

Lactococcus
Useful lactic acid bacteria used for dairy production

About *Lactobacillus rhamnosus*



Deposit of the Patent microorganism

* Patent no. : 10-2015-0146432

A patent on the strain, not a patent on the product

Lactobacillus rhamnosus

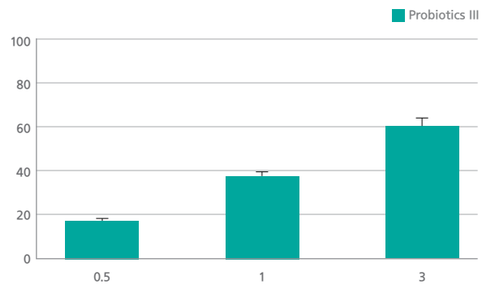
As lactic acid bacteria found in milk and dairy products a lot, it does not show antibacterial activity against lactic acid bacteria like itself. Because it exhibits selective antibacterial activity, it can reduce the occurrence of skin diseases caused by harmful bacteria by selectively suppressing only harmful bacteria among the skin flora.



Applicable to various natural materials

Its excellent growth conditions and fermentation capabilities not only enhance the active ingredients when fermenting various natural extracts, but also provide excellent efficiency.

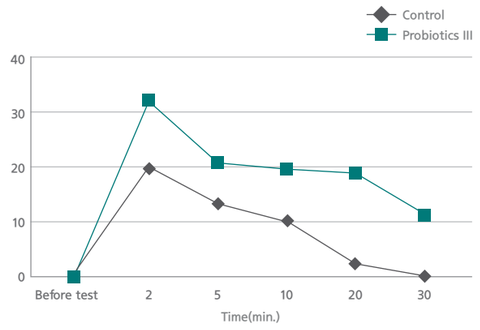
Anti-Inflammation Effect



Anti-inflammation effect (%)

✓ Lipoxygenase inhibition
1) Objective → Lipoxygenase Inhibition effect test
2) Test method → 5-LOX assay
2) Sample → Probiotics III FD Powder

Skin Moisturizing Effect



Moisturizing effect (%)

1) Objective → Moisturizing effect test
2) Test method → by Corneometer
3) Sample → Probiotics III



INFLAZYME®_BLACK

INFlazyme®_BLACK is made by ultrasonic extraction of black angelica and black ginseng, which is made after repeating steaming and drying 9 times of raw angelica and ginseng. It has anti-inflammatory and anti-oxidation effects.

Angelica Gigas Root Extract

Panax Ginseng Root Extract

EVE VEGAN

EWG GREEN

China Compliant

- **9 times steaming & drying**
  Used nutrient-rich black angelica gigas and black ginseng by repeating the steaming and drying process 9 times
- **Effective in improving inflamed skin**
  Inflammatory skin improvement by inhibiting lipoxygenase activity and hyaluronidase activity
- **EVE VEGAN Certified**
  Vegan certified product by EVE VEGAN, established by French Association

Causes of Inflammation

Inflammation occurs when tissues (cells) are damaged or infected with external infectious agents (bacteria, fungi, viruses, and various types of allergens). Various inflammatory mediators and immune cells in local blood vessels and body fluids are involved, resulting in a series of complex physiological reactions such as enzyme activation, inflammatory mediator secretion, body fluid infiltration, cell migration, tissue destruction, and external symptoms such as erythema, edema, fever, and pain.



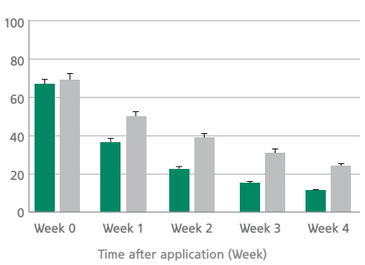


About 9 times Steaming & Drying

INFlazyme®_BLACK made by 9 times steaming & drying

INFlazyme®_BLACK used the principle of 9 times steaming & drying by borrowing the method of Korean traditional medicines. We use nutrient-rich black angelica gigas and black ginseng prepared by repeating the steaming and drying process 9 times. In addition, ultrasonic extraction is a non-heating extraction method, which can minimize the destruction of active ingredients by heating.Because of the cavitation generated by ultrasonic waves passing through the solvent, it is possible to improve the extraction yield and safely elution of useful components.

Improvement of Inflamed Skin

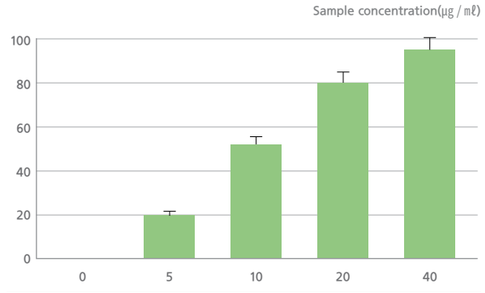


SCORAD Index(%)

Improvement effect of inflammatory skin

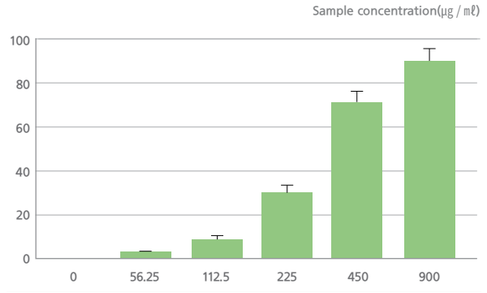
1) Objective –> SCORing Atopic Dermatitis
2) Test method → Double-blinded test
3) Sample → INFlazyme_BLACK Cream

Anti-Oxidation Effect



Free radical scavenging effect

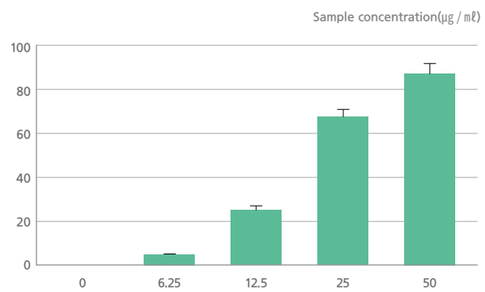
- ✓ Free radical scavenging effect
  1) Objective → Electron donating ability test
  2) Test method → DPPH assay
  3) Sample → INFlazyme_BLACK FD Powder



Lipid peroxidation inhibition effect(%)

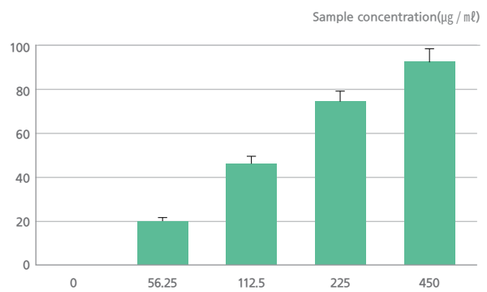
- ✓ Lipid peroxidation inhibition effect
  1) Objective → Lipid peroxydation Inhibition effect test
  2) Test method → TBA assay
  3) Sample → INFlazyme_BLACK FD Powder

Anti-Inflammation Effect



Inhibition of lipoxygenase activity effect(%)

- ✓ Inhibition of lipoxygenase activity effect
  1) Objective → Lipoxygenase Inhibition effect test
  2) Test method → 5-LOX assay
  3) Sample → INFlazyme_BLACK FD Powder



Inhibition of Hyaluronidase activity effect(%)

- ✓ Inhibition of Hyaluronidase activity effect
  1) Objective → Hyaluronidase inhibition effect test
  2) Test method → Hyaluronidase assay
  3) Sample → INFlazyme_BLACK FD Powder



WP SERIES

China Compliant

Waterproof

- **Natural Waterproof**
  Waterproof product using raw materials derived from natural oil / pine resin
- **Color/Viscosity stability confirmed**
  Raw material of natural oil base

Camellia Japonica Seed Oil · *Lithospermum Erythrorhizon Root Extract* · *Curcuma Longa (Turmeric) Root Extract* · *Astaxanthin*

About WP Series

WP-C	WP-L	WP-T	WP-A
			
Jeju Camellia	**Lithospermum**	**Turmeric**	**Astaxanthin**
Anti-oxidation, Moisturizing, Anti-inflammation, Skin barrier improvement	Skin soothing, Moisturizing	Anti-oxidation, Anti-inflammation	Anti-oxidation

WATERPROOF

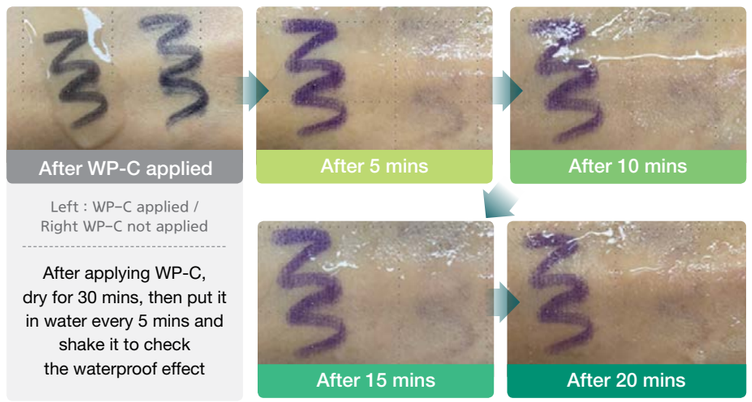


Waterproof
It forms a thin layer on the skin and bounces water and sweat.



Waterproof Product
It does not get erased easily and has excellent durability, so it is not easily erased by swimming or sweating.

Effect of WP Series



Left : WP-C applied / Right WP-C not applied

After applying WP-C, dry for 30 mins, then put it in water every 5 mins and shake it to check the waterproof effect



GLUTATHIONE EX

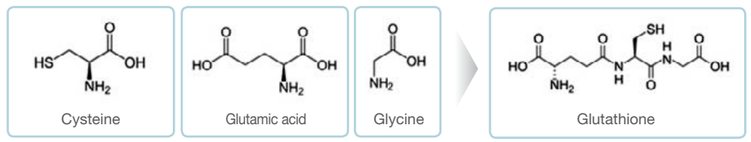
- **Vegan certification compliant**
  Vegan certification possible by using yeast of natural origin
- **Skin protection, anti-oxidation, brightening effect**
  Confirmed effectiveness through self-experiment

Glutathione · *Yeast Extract*

Overview of Glutathione EX

Glutathione, a combination of 3 amino acids

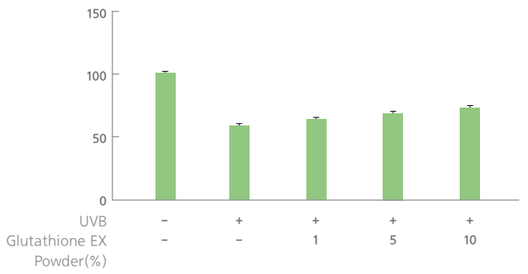
Glutathione is a crystalline peptide composed of three amino acids, cysteine, glutamic acid and glycine. It can prevent damage to the main components of cells caused by free radicals, free radicals, peroxides, and lipid peroxides.



Effect of Glutathione EX

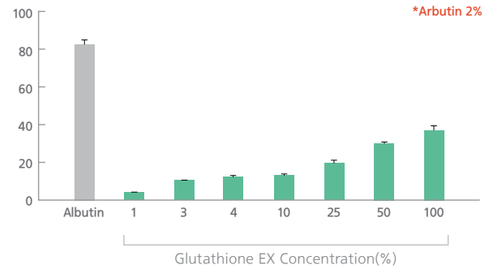
Cell damage protection

CELL LINE : HDFn (Fibroblast)

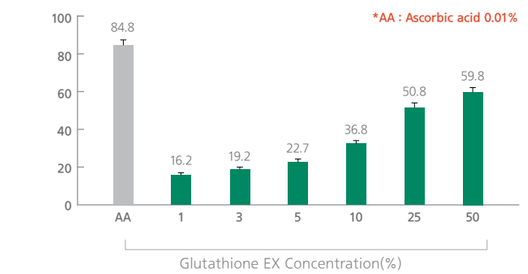


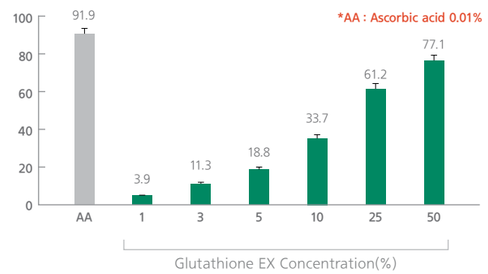
Skin brightening

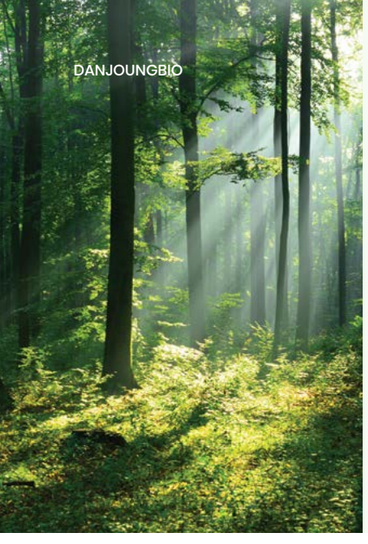
Tyrosinase inhibition assay



Anti-oxidation







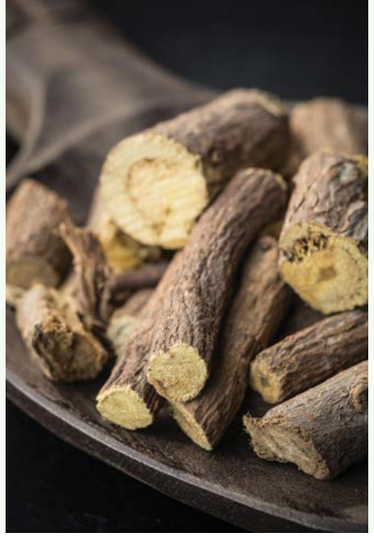
HAIR-P COM.

EWG GREEN

China Compliant

- **Use of plants containing phytoncides**
  Developed using natural plants rich in phytoncides
- **Anti-bacterial, scalp improvement effect**
  Anti-bacterial and scalp improvement effects are expected through phytoncide

Chamaecyparis Obtusa Leaf Extract · *Pinus Densiflora Leaf Extract* · *Thuja Orientalis Leaf Extract* · *Ginkgo Biloba Leaf Extract*



www.danjoungbio.com

ORIENTAL HAIR COMPLEX

China Compliant

- **8 types of herbal ingredients applied**
  Developed by applying 8 kinds of oriental herbal ingredients with hair-related effects
- **Prevents hair damage and improves scalp condition**
  Prevention of hair damage and improvement of scalp expected through herbal ingredients

Glycyrrhiza Uralensis · *Panax Ginseng* · *Camellia Sinensis* · *Portulaca Oleracea* · *Carthamus Tinctorius* · *Polygonum Multiflorum* · *Angelica Gigas* · *Rheum Palmatum*

Causes of Scalp Damage







Cause of dandruff

Scalp irritation from excessive shampooing, frequent brushing, use of certain harmful cosmetics, and dust can cause dandruff.

Necessity of anti-bacterial substances using natural ingredients

Chemical ingredients are highly effective for treating dandruff, but they have many side effects such as headaches and skin irritation reactions. Therefore, anti-bacterial and preservative ingredients using natural ingredients with least side effects are required.

Composition of Hair-P Com.

Phytoncides are organic compounds of plant origin. It protects the surrounding plants from bacteria, fungi and insects, and is also powerful for dandruff and scalp care.


Pinus Densiflora


Chamaecyparis Obtusa


Thuja Orientalis


Ginkgo Biloba

Performance and Effectiveness

Anti-bacterial effect

Phytoncides, various volatile organic compounds of plants that kill microorganisms, have antibacterial action by preventing the growth of organisms.

Deodorization and neutralization of harmful substances

Phytoncides break down the source of odors and transform them into substances beneficial to the tree.

Relaxation

Terpene, the main component of phytoncide, refreshes the mind and body.
This condition is known to calm the mind and body, improve concentration, and increase memory.

Causes of Hair Damage

Causes of Hair Damage

Chemical applications, such as permanent waving or bleaching treatments, are widely known to be a major cause of hair damage. Continued physical irritation and chemical applications lead to damage, exfoliation, and elimination of hairs.

Necessity of natural ingredients

Most of the hair care products are made with synthetic chemicals, which can cause allergic dermatitis or hair loss due to side effects or toxicity of the ingredients. Therefore, interest in natural materials is increasing, and research and development of hair care products that emphasize natural affinity as well as functionality is actively carried out.




Heat


Chemical

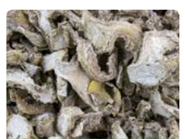

Friction

Composition of Oriental Hair Complex


Glycyrrhiza Uralensis


Polygonum Multiflorum


Camellia Sinensis


Angelica Gigas


Panax Ginseng


Portulaca Oleracea


Rheum Palmatum


Carthamus Tinctorius

DERMA INGREDIENTS

No	Product Name	INCI Name	China Compliant	Active Ingredient	Effects
1	Plant Collagen EX(H)	Malva Sylvestris (Mallow) Extract	●	Gly-Pro-Hyp	Skin moisturizing, Anti-aging
2	Angelica EX_Decursin	Angelica Gigas Root Extract	●	Decursin	Anti-oxidation, Skin brightening, Skin moisturizing
3	Antoxyl_S II	Aspergillus/Sorghum Bicolor Leaf/Stem Extract Ferment Filtrate		p-Coumaric acid	Anti-pollution
4	Astaxanthin sol.	Astaxanthin	●	Astaxanthin	Anti-oxidation
5	Bee Venom Sol.	Bee Venom		Melittin	Anti-aging
6	Beta-glucan 1000(LE)	Lentinus Edodes Extract	●	β-Glucan	Skin moisturizing
7	Beta-glucan 1000(SC)	Sparassis Crispa Extract	●	β-Glucan	Skin moisturizing
8	Buckwheat EX_Rutin	Polygonum Fagopyrum (Buckwheat) Seed Extract		Rutin	Anti-oxidation
9	Centella Ex_Madeca	Centella Asiatica Extract	●	Madecassoside, Asiaticoside	Skin Soothing, Anti-inflammation
10	Citrus EX_Narirutin	Citrus Unshiu Peel Extract	●	Narirutin, Hesperidin	Anti-oxidation, Skin brightening
11	Delinedyl_Sprout G	Panax Ginseng Leaf/Stem Extract	●	Ginsenoside	Anti-oxidation, Anti-inflammation
12	D-Phytogen	Phaseolus Radiatus Seed Extract, Canavalia Gladiata Seed Extract, Glycine Soja (Soybean) Seed Extract, Lens Esculenta (Lentil) Seed Extract, Ceratonia Siliqua (Carob) Seed Extract, Pueraria Lobata Root Extract, Lactobacillus Ferment Lysate	●	Equol	Anti-aging (Skin brightening, Anti-wrinkle)
13	Hseperutin vita P	Citrus Unshiu Peel Extract, Citrus Junos Peel Extract, Polygonum Fagopyrum (Buckwheat) Seed Extract, Sophora Japonica Fruit Extract		Hesperidin, Rutin	Anti-oxidation
14	Humaxyl_JC	Camellia Japonica Seed Oil	●	Fatty acid	Skin moisturizing
15	Humaxyl_Lingzhi	Ganoderma Lucidum (Mushroom) Extract	●	Uronic acid	Skin moisturizing, Anti-oxidation
16	INFlazyme_JG	Zingiber Officinale (Ginger) Root Extract	●	6-Gingerol	Anti-inflammation
17	Licorice EX_ Glycyrrhizin	Glycyrrhiza Uralensis (Licorice) Root Extract	●	Glycyrrhizin, Licochalcone A	Anti-oxidation, Anti-inflammation
18	ON-MEDI LINE	Centella Asiatica Extract, Polygonum Cuspidatum Root Extract, Scutellaria Baicalensis Root Extract, Camellia Sinensis Leaf Extract, Glycyrrhiza Glabra (Licorice) Root Extract, Chamomilla Recutita(Matricaria) Flower Extract, Rosmarinus Officinalis (Rosemary) Leaf Extract	●	Madecassoside	Anti-irritation
19	Psoralea Corylifolia Fruit Ext.(BKC)	Psoralea Corylifolia Fruit Extract		Bakuchiol	Anti-aging
20	Schisandra_EX_ Gomisindrin	Schisandra Chinensis Fruit Extract	●	Gomisin, Schizandrin	Anti-oxidation, Anti-inflammation, Skin brightening
21	Scutellaria EX_ Baicalin	Scutellaria Baicalensis Root Extract	●	Baicalin	Anti-oxidation, Anti-inflammation
22	SPL Ferm	Sophora Japonica Fruit Extract	●	Equol	Anti-aging (Skin brightening, Anti-wrinkle)
23	W2S-100	Aspergillus/Sorghum Bicolor Leaf/ Stem Extract Ferment Filtrate		p-Coumaric acid	Anti-aging (Skin whitening, Anti-wrinkle)
24	Kaempferia Galanga Extract	Kaempferia Galanga Root Extract		5,7-dimethoxyflavone (DMF)	Skin brightening, Anti-inflammation, Anti-bacterial
25	Turmeric Extract	Curcuma Longa (Turmeric) Root Extract	●	Curcumin	Skin brightening, Anti-oxidation
26	Black Bean Extract	Glycine Max (Soybean) Seed Extract, Glycine Soja (Soybean) Seed Extract	●	Genistein	Anti-oxidation
27	Green Tea Extract	Camellia Sinensis Leaf Extract	●	Catechin	Anti-oxidation, Anti-inflammation, Skin Soothing
28	Platycodon Grandiflorus Root Extract	Platycodon Grandiflorus Root Extract	●	Platincodin D	Anti-inflammation, Anti-oxidation
29	Broccoli Extract	Brassica Oleracea Italica (Broccoli) Extract	●	sulforaphane	Anti-oxidation, Anti-inflammation, Skin brightening
30	Phellinus Linteus Extract	Phellinus Linteus Extract	●	Beta-glucan	Anti-inflammation, Skin Soothing
31	Pomegranate Extract	Punica Granatum Fruit Extract	●	Ellagic acid	Anti-oxidation, Anti-inflammation, Anti-aging
32	Rice Ferment	Aspergillus/Rice Ferment		kojic acid	Anti-oxidation, Skin brightening
33	Artemisia Princeps Extract	Artemisia Princeps Leaf Extract	●	Scopolectin	Anti-inflammation
34	Onion Skin Extract	Allium Cepa (Onion) Skin Extract	●	Quercetin	Anti-oxidation, Anti-inflammation, Skin brightening
35	Onion Extract	Allium Cepa (Onion) Bulb Extract	●	protocatechuic acid	Anti-aging
36	Thistle Extract	Cirsium (Thistle) Extract		Silymarin	Anti-oxidation, Skin brightening
37	Nelumbo Nucifera Leaf Extract	Nelumbo Nucifera Leaf Extract	●	nuciferine	Anti-oxidation, Anti-aging
38	Wine Extract	Wine Extract	●	Resveratrol	Anti-oxidation
39	Gingko Leaf Extract	Ginkgo Biloba Leaf Extract	●	Ginkgolide A, B, C	Anti-oxidation
40	Grapefruit Peel Extract	Citrus Paradisi (Grapefruit) Peel Extract	●	Narirutin, Naringenin	Anti-oxidation, Skin brightening
41	Anemarrhena Aspho-deloides Root Extract	Anemarrhena Asphodeloides Root Extract	●	mangiferin, sarsasapogenin	Anti-inflammation, Anti-irritation
42	Kavakava Extract	Piper Methysticum Root Extract	●	Kawain	Anti-inflammation
43	Coffee Extract	Coffea Arabica (Coffee) Seed Extract	●	Caffeine	Anti-oxidation, Anti-inflammation
44	Tangerine Extract	Citrus Tangerina (Tangerine) Extract	●	Hesperidin	Anti-oxidation
45	Tomato Extract	Solanum Lycopersicum (Tomato) Fruit Extract	●	Lycopene	Anti-oxidation, Anti-inflammation
46	Tea Tree Leaf Extract	Melaleuca Alternifolia (Tea Tree) Leaf Extract	●	Terpinen-4-ol	Anti-inflammation
47	Propolis Extract	Propolis Extract	●	Polyphenol	Anti-oxidation, Anti-inflammation
48	Green Propolis Extract	Propolis Extract	●	Polyphenol	Anti-oxidation, Anti-inflammation
49	Red Propolis Extract	Propolis Extract	●	Polyphenol	Anti-oxidation, Anti-inflammation
50	Henna Extract	Lawsonia Inermis (Henna) Extract		Lawsone	Anti-oxidation, Anti-bacterial
51	Red Ginseng Extract	Panax Ginseng Root Extract	●	Ginsenoside	Anti-oxidation, Anti-inflammation, Anti-aging
52	Black Tea Extract	Camellia Sinensis Leaf Extract	●	Polypherol	Anti-oxidation, Anti-inflammation
53	Coptis Japonica Root Extract	Coptis Japonica Root Extract	●	Berberine	Anti-oxidation, Anti-inflammation, Anti-aging
54	Black Ginger Extract	Zingiber Officinale (Ginger) Root Extract	●	Ethyl-P-Methoxycinamate (EPMC)	Anti-oxidation

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