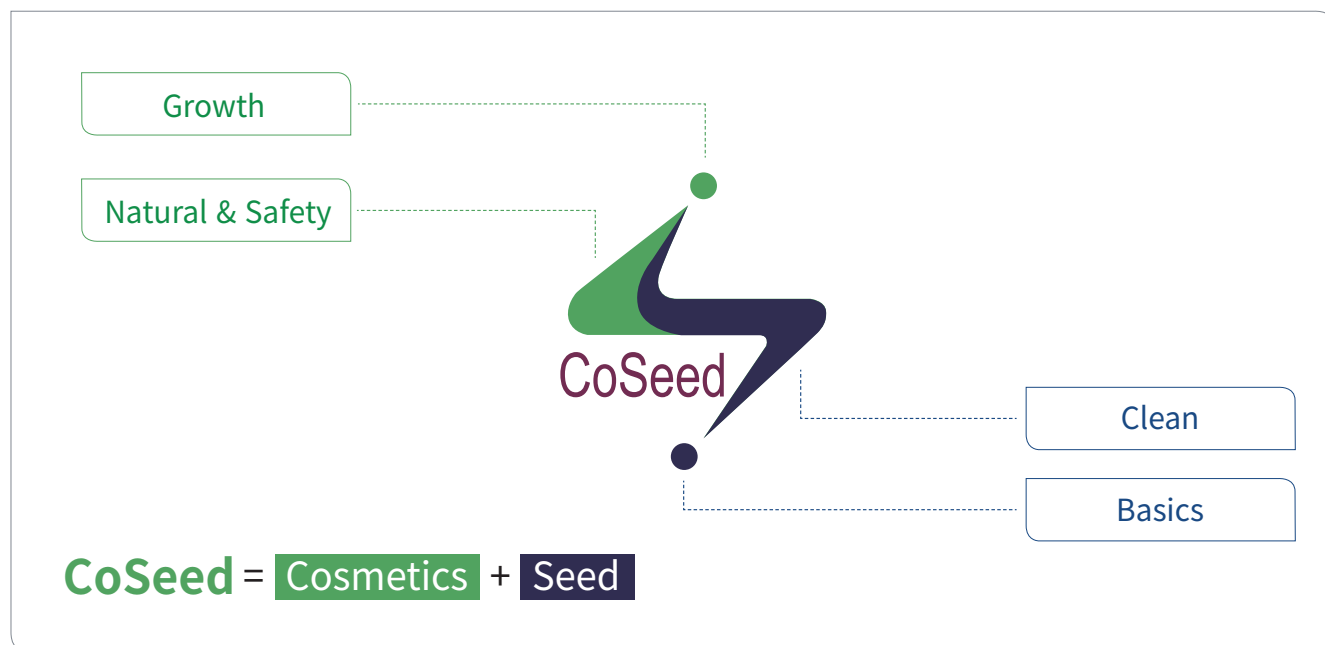


When, where beauty begins  
**CoSeedBioPharm**



# About Us

Bring ingredients supply to the next level energy, vital, and beauty.  
Enriching lives in harmony with nature.



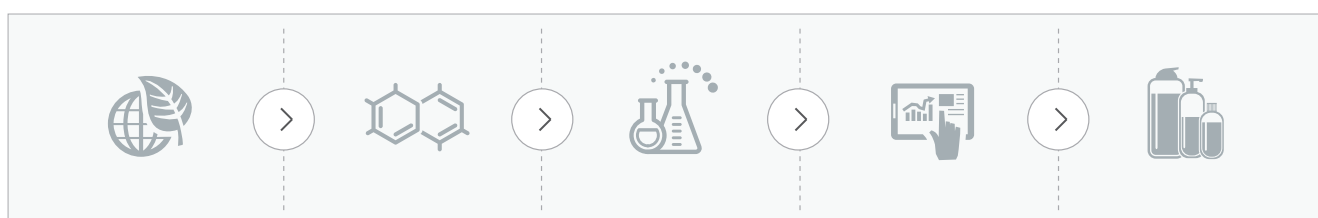
## ◆ Innovative, custom-tailored extracts for your needs!

We offer a wide variety of plant extracts using in cosmetic formulations. Virtually unlimited selections of innovative plant extracts create our product philosophy. No matter how exotic it is, we are able to meet any requirements of plant extracts in custom-tailored formats and quantities.

We have creative and professional mind toward our products and committed to finding customized and innovative solutions for all ideas of our customers. **The needs of our customers are our first priority.**

## ◆ Various extract forms.

Natural carrier materials play an increasingly important role in new cosmetic development. You can specify what to receive extracted with water, glycerine, alcohol, or different carrier materials.



## ◆ Field of Business







## ◆ 10 Core Techniques of CoSeedBioPharm







- 1 The development technique of natural substance by promoting ceramide biosynthesis.
- 2 The development technique of natural substance by controlling dermal sensation channel.
- 3 The development technique of natural substance by promoting and disassembling fat cell.
- 4 The development of functional cosmetic material from natural substance (KFDA).
- 5 The development technique of plant stem cell and callus culturing.
- 6 Protein expression, production, and purification.
- 7 Extracting and refining technique of animal and plant origin mucos.
- 8 Plant vinegar culturing technology.
- 9 Microorganism culture and bioconversion technology.
- 10 Compound technique of polymer and surfactant agent.

# Products List

	Product Name	INCI Name	Efficacy
Snail Mucin	LS-Mucin	Snail Secretion Filtrate	Regeneration, Moisturizing 
	Sapo-Mucin250+	Snail Secretion Filtrate	Regeneration, Moisturizing, Skin Barrier Enhancer 
	Golden Shell Mucin	Snail Secretion Filtrate	Regeneration, Moisturizing, Anti-UV 
	Alo-Mucin	Snail Secretion Filtrate	Regeneration, Moisturizing, Soothing 

	Product Name	INCI Name	Active Ingredient
Active	White Garcinia 	Garcinia Cambogia Fruit Extract	Hydroxycitric acid 
	Rg3 (Red Ginseng Extract)	Panax Ginseng Root Extract	Ginsenoside-Rg3 
	Forsythia Fruit Extract	Forsythia Suspensa Fruit Extract	Arctigenin 
	Schizandra Extract	Schizandra Chinensis Fruit Extract	Schizandrin, Gomisins N 
	Belamcanda Extract	Belamcanda Chinensis Root Extract	Irigenin 

	Product Name	INCI Name	Dosage (%)
Preservative	CS-Bion I	Caprylyl Glycol, Ethylhexylglycerin	0.40 ~ 0.60 
	CS-Bion H1	Caprylyl Glycol, Ethylhexylglycerin, 1,2-Hexanediol	0.40 ~ 0.60 
	CS-Diol II	Ethyl Hexanediol, 1,2-Hexanediol, Caprylyl Glycol	1.00 ~ 2.00 

	Product Name	INCI Name	Efficacy
Jezu Complex	Jeju Natural Regeneration Cell	Calendula Officinalis Extract, Camellia Sinensis Leaf Extract, Cinnamomum Camphora (Camphor) Leaf Extract, Panax Ginseng Root Extract	Regeneration  
	Jeju Natural Whitening Cell	Magnolia Kobus Branch/Flower/Leaf Extract, Nelumbium Speciosum Flower Extract, Camellia Japonica Flower Extract	Whitening  
	Jeju Natural Moisture Cell	Centaurea Cyanus Flower Extract, Camellia Japonica Flower Extract, Aloe Barbadensis Leaf Extract, Opuntia Coccinellifera Fruit Extract	Moisturizing  

	Product Name	INCI Name	Function
Synthesis	J-6020S	PEG-7 Dimethicone	Emulsifying Agents Skin-Conditioning Agents 
	CS-Soften VX	PEG-10 Dimethicone	Emulsifying Agents Skin-Conditioning Agents 
	CS-2000	PEG-20 Glyceryl Triisostearate	Surfactants Emulsifying Agents 

Email us for more products and details



Animal Origin





























Plant Origin



Synthesis



Jeju Origin

	Product Name	INCI Name	Remarks
Whitening	White Garcinia 	Garcinia Cambogia Fruit Extract	
	Forsythia Fruit Extract	Forsythia Suspensa Fruit Extract	
	Schizandra Extract	Schizandra Chinensis Fruit Extract	
	Jeju Lotus Extract	Nelumbium Speciosum Flower Extract	 
	Astaxanthin	Astaxanthin	
	Product Name	INCI Name	Remarks
Anti-Wrinkle	Green Tomato Extract	Lycopersicon Esculentum Fruit Extract	
	Black Ginseng Extract	Panax Ginseng Root Extract	
	Jellyfish Extract	Jellyfish Extract	
	Jeju Greentea Extract	Camellia Sinensis Leaf Extract	 
	Scutellaria Extract	Scutellaria Baicalensis Root Extract	
	Product Name	INCI Name	Remarks
Moisturizing	Tuna Tears Extract	Tuna Extract	
	Vegetable Collagen	Tremella Fuciformis (Mushroom) Extract	
	CS-Jeju Horse Fat	Horse Fat	 
	Okra Extract	Hibiscus Esculentus Fruit Extract	
	Product Name	INCI Name	Remarks
Anti-Irritation	Germination Flavone	Phaseolus Radiatus Seed Extract	
	Sophoricoside	Sophora Japonica Fruit Extract	
	Jeju Portulaca Oleracea Extract	Portulaca Oleracea Extract	 
	Jeju Bean Extract	Glycine Max (Soybean) Seed Extract	 
	Product Name	INCI Name	Remarks
Anti-Pollution	Dust Smart Solution	Saururus Chinensis Leaf/Root Extract	
	Skin 3-Pure(C)	Tillandsia Usneoides Extract, Zostera Marina Extract, Nelumbo Nucifera Flower Extract	



# Sapo-Mucin250+

Snails Fed Red Ginseng, Moisturizing, Skin Barrier Enhancer

**Main Ingredients** : Chondroitin Sulfate, Saponin.

Sapo-Mucin250+ shows outstanding moisturizing and soothing efficacy.



## Introduction

- Snail secretion filtrate from snails fed red ginseng was the first developed invention in the world.
- This product contains saponin from red ginseng.
- It shows outstanding efficacy for personal skin care.

## Sapo-Mucin 250+

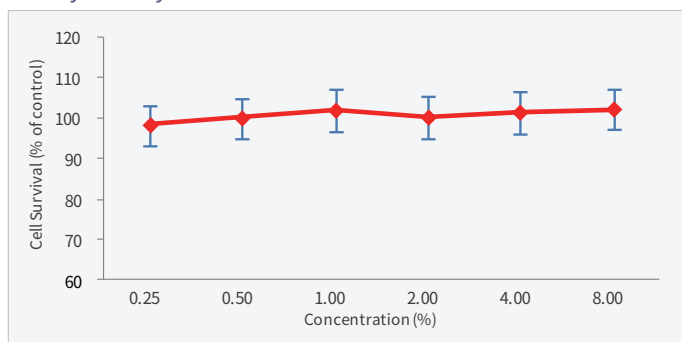
Select the 6-month-old land snail



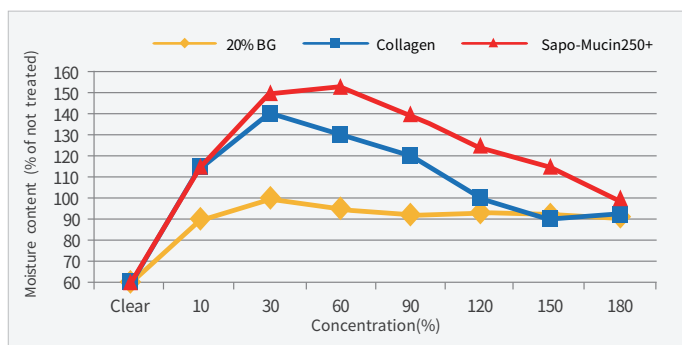
- Allantoin: Calms skin, constricts pores
- Glycolic Acid: Prevention of skin trouble
- Collagen & Elastin: Keeps skin healthy and supple
- Chondroitin sulfate : Moisture and anti-irritation
- Saponin : Anti-aging

## Efficacy Assessment

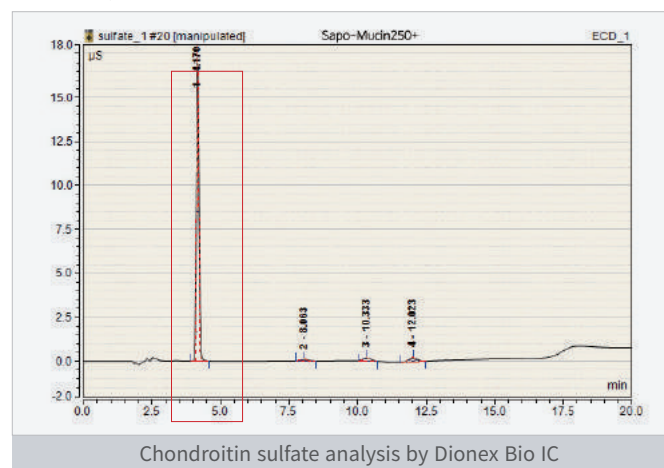
Cell cytotoxicity



Moisture contents



## Analysis of Chondroitin Sulfate



## Clinical Test – Skin Patch Test

- Client : CoSeedBioPharm Co., Ltd.
- Test Center : Ecoderm, inc.
- Test Material : Sapo-Mucin250+, SLS

Table 1. Material

No.	Test materials	Conc.	Squalane
1	Sapo-Mucin250+	5	95

Table 2. Result

Test Materials	Responders	Sum of skin irritation strenght			Skin irritation index**
		1	2	3	
Sapo-Mucin250+	0	0	0	0	0
2% Sodium Lauryl Sulfate	14.0	5.0	7.5	7.0	5.417

\*\*  $\Sigma$  ( Each Score;1,2,3,4 at each of three reading) X 100

4 (Maximum score) X 30(No. of total subjects) X 3(Total score)=360

- Single epicutaneous applications of Sapo-Mucin250+ under 48 hours occlusive patch onto healthy adult skin of 30 volunteers revealed no significant irritation index.
- Thus these samples can be used safely in real life usage condition.

## Marketing Point

- Moisturizing, regeneration, Skin-barrier enhancer, Immune system
- Dosage : Above 2%

# Golden Shell Mucin

Golden Shell Snail, Moisturizing, Regeneration, UV-Block

**Main Ingredients** : Chondroitin Sulfate, Allantoin, Elastin  
Having protective color (gold) itself from external environment.



## Introduction

- Golden Shell Mucin contains all of LS-Mucin features.
- Golden Shell Mucin is a unique species and the product includes pure snail secretion.
- Golden Shell Mucin naturally contains moisturizing efficacy and absorbs ultraviolet wave, having sun block and anti-inflammatory efficacy.

## Composition

Snail Secretion Filtrate

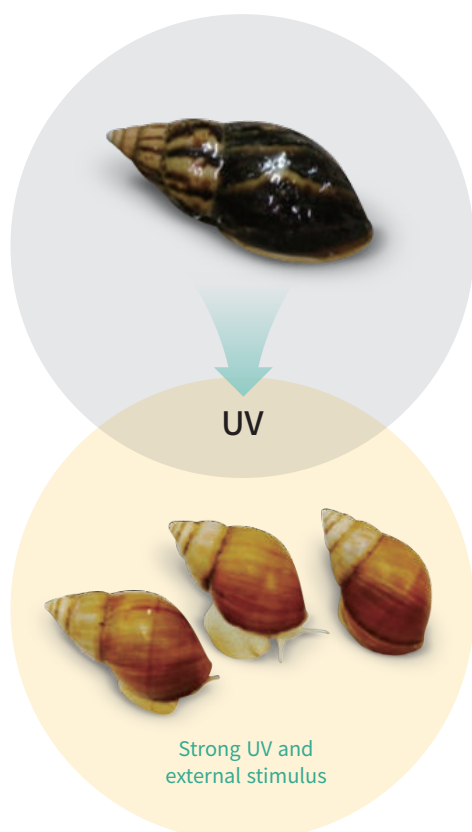
## Golden Shell

Golden shell

- Protecting itself from external environment by color change.

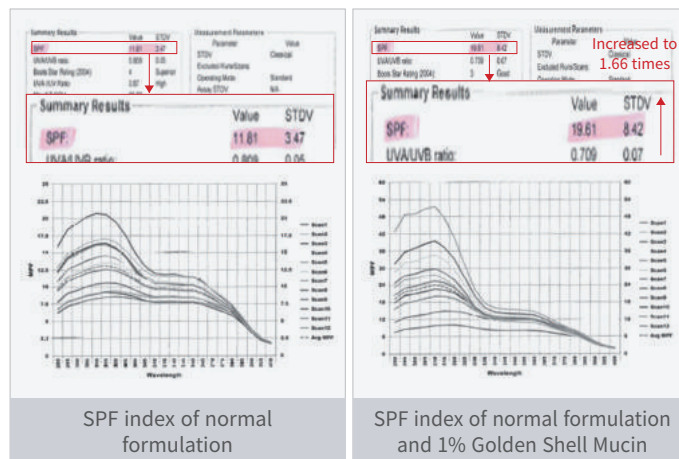
Golden color (natural coloring matter)

- Anti-biotic and anti-oxidant efficacy.



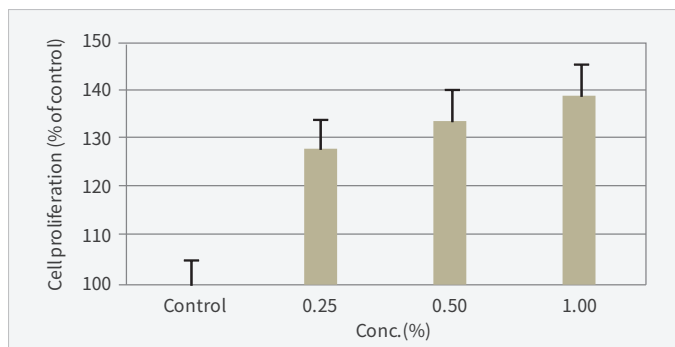
## Efficacy Assessment

UV Blocking of Golden Shell Mucin

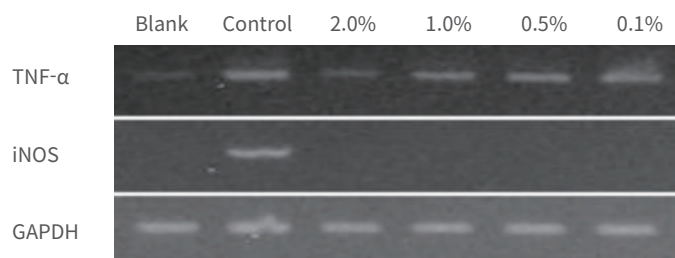


After adding 1% Golden Shell Mucin, SPF index increased from 11.81 to 19.61 which means it can block ultraviolet for a longer time.

Cell activity efficacy (regeneration, soothing, skin restoration)



Anti-inflammatory



## Marketing Point

- Moisturizing, Regeneration, UV-Block
- Dosage : Above 2%

# Alo-Mucin

Snails Fed Aloe, Moisturizing, Regeneration

**Main Ingredients** : Chondroitin Sulfate.

Maximizing moisturizing efficacy by feeding aloe.



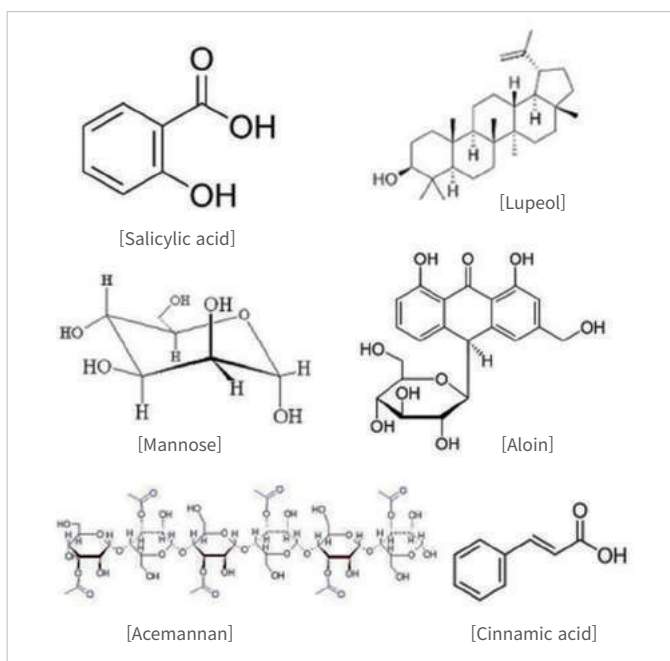
## Introduction

- Alo-Mucin contains all of LS-Mucin features.
- Alo-Mucin is a unique species fed Aloe and the product includes pure snail secretion.
- Snail secretion naturally contains aloe ingredients and those can maximize moisturizing and soothing efficacy.

## Composition

Snail Secretion Filtrate

## Main Ingredient of Aloe



### 1. Salicylic Acid

Anti-bacterial, anti-inflammatory, and anti-allergic effect like aspirin.

### 2. Lupeol

Relieve pain.

### 3. Mannose

Inhibition of bacterial in human body.

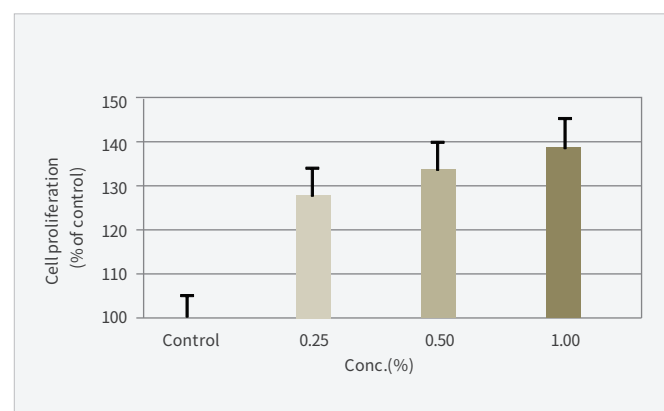
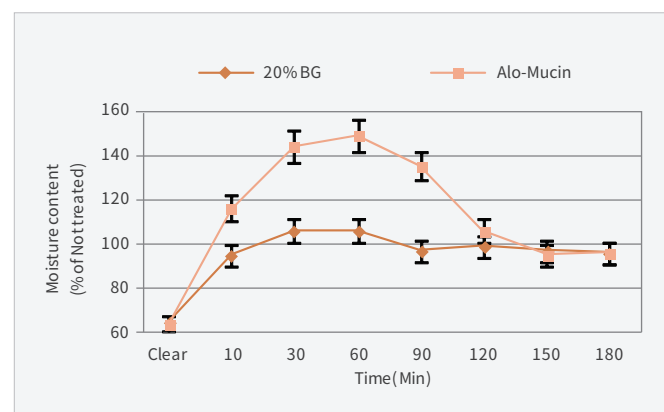
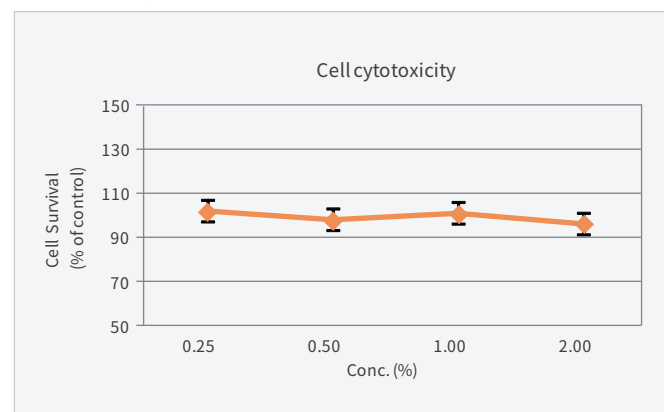
### 4. Aloin

It is known as strong purgative with bitter taste and yellow colored liquid.

### 5. Acemannan and Cinnamic Acid

Anti-virus, anti-protozoal, anti-fungus, immune enhancer function.

## Efficacy Assessment



## Marketing Point

- Strong Moisturizing, Regeneration, Soothing
- Dosage : Above 2%



Whitening

# White Garcinia

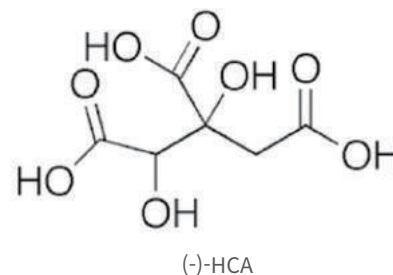
ICID Name : Garcinia Cambogia Fruit Extract

CAS No. 90045-23-1

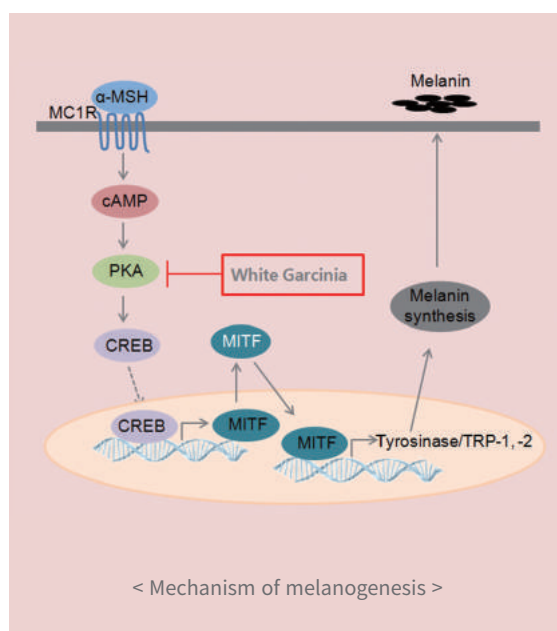
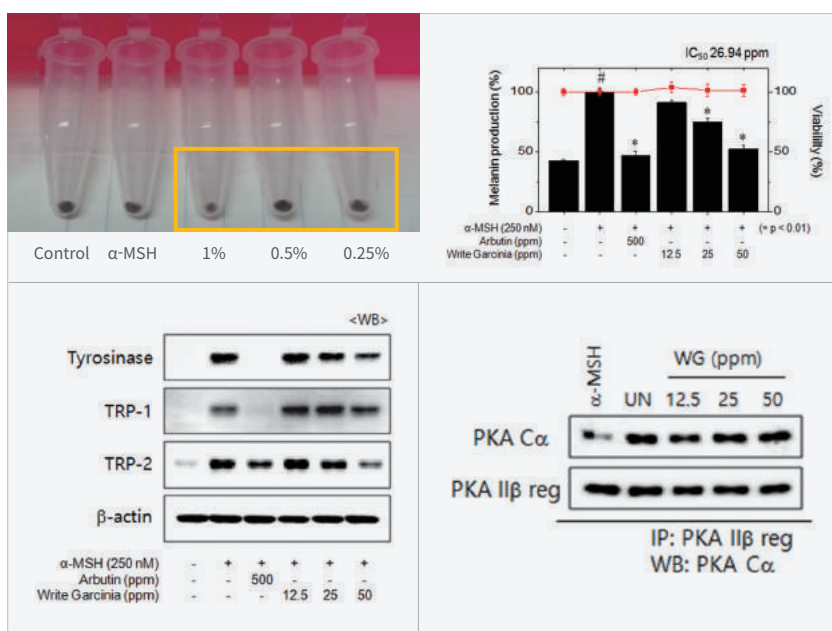


## Garcinia Cambogia

- Garcinia cambogia is a Guttiferae species normally raised in south-west India.
- White Garcinia uses garcinia cambogia's bark part which includes high content of Hydroxycitric acid (HCA), 10%~30%.
- Garcinia cambogia has been widely used as diet food for a long time with safety.
- Active ingredient, (-)-HCA, regulates ATP-citrate lyase activation which is used as transforming from protein to fat.
- White Garcinia shows outstanding whitening efficacy by regulating melanin synthesis mechanism with unique extracting method from CoSeedBioPharm Co., Ltd.



## Whitening Efficacy and Mechanism of White Garcinia



White Garcinia inhibits melanin production in low concentration compared to Arbutin by regulating PKA disassociation. It is also effectively decreasing melanogenesis related protein such as Tyrosinase, TRP-1, and TRP-2.

## Marketing Point

- Super Diet Food with Safety.
- High Content of Hydroxycitric acid, (-)-HCA calcium.
- Outstanding Whitening Efficacy.
- Cytotoxicity Safety.



# Forsythia Fruit Extract

ICID Name : Forsythia Suspensa Fruit Extract



## Ingredients

Arctigenin, Matairesinolglucoside, Actin, Matairecinodide

## Efficacy

It has anti-bacterial and anti-inflammatory effects. It is effective in healing viral fever, tumor and sore throat. It also has anti-inflammatory, anti-febrile and diuretic effects. If it is boiled and administered as a tea, it is good for dermatitis (ex: atopic dermatitis, etc.). If it is boiled with Taraxacum Platycarpum H. dahlst., pharmacological effects may increase. In addition, it is effective in easing itching caused by atopic dermatitis.

### Anti-oxidant Efficacy of Forsythia Fruit Extract

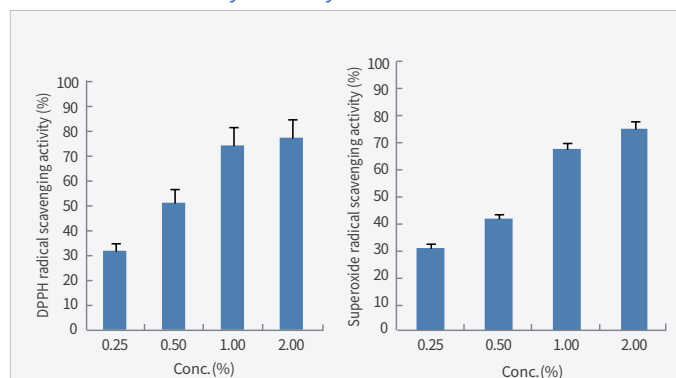
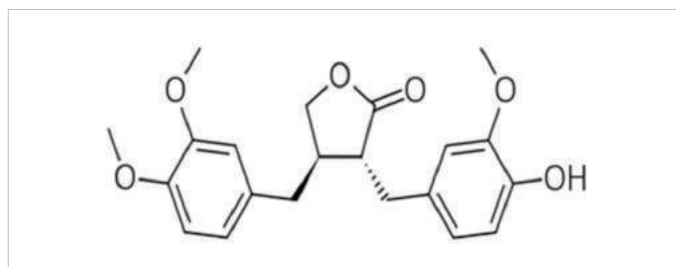


Fig. 1. Free Radical (Left) and Superoxide Radical (Right) Scavenging Activity of Forsythia Fruit Extract.

The activity indicated by percentage of increase in comparison with that of control

The activity is significant ( $P < 0.05$ ) and the values are mean  $\pm$  S.E.

### Arctigenin Structure



### Anti-dermatitis Efficacy of Forsythia Fruit Extract

**Purpose** : Assessment of the inhibition of the inflammatory mediator 'arachidonic acid'

**Method** : After applying arachidonic acid, arachidonic acid & Forsythia Fruit Extract, arachidonic acid & sage and arachidonic acid & licorice to the ears of mice, the weight of the ears is measured ever two (2) hours. The ear edema inhibition rate is assessed.



Fig. 2. Arachidonic Acid Edema Inhibition Test

Forsythia Fruit Extract was superior to the control in terms of edema inhibition rate.

### Hyaluronidase-activity Inhibition of Forsythia Fruit Extract

**Purpose** : Assessment of the inhibition of hyaluronidase activities which cause incision because of inflammatory response

**Method** : After activating hyaluronidase compounds to 48/80, the inhibition of Forsythia Fruit Extract activities is assessed.

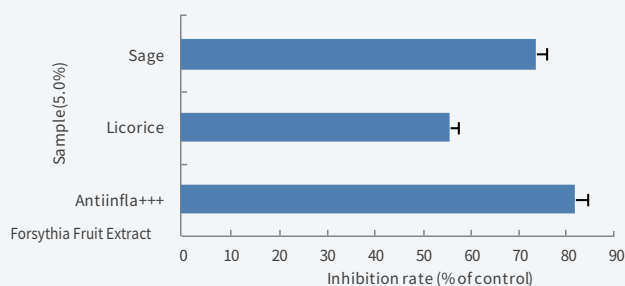


Fig. 3. Hyaluronidase-activity Inhibition of Forsythia Fruit Extract

Whitening

# Schizandra Extract

ICID Name : Schizandra Chinensis Fruit Extract



## Efficacy

Whitening

Skin elasticity

Anti-aging

Anti-wrinkle

## Ingredients

Schisandrin, Gomisin N, Schisandrol, Citral,  $\alpha$ -ylangene, Citric Acid, Malic Acid,  $\beta$ -chamigrene

### Tyrosinase-activity Inhibition of Schizandra

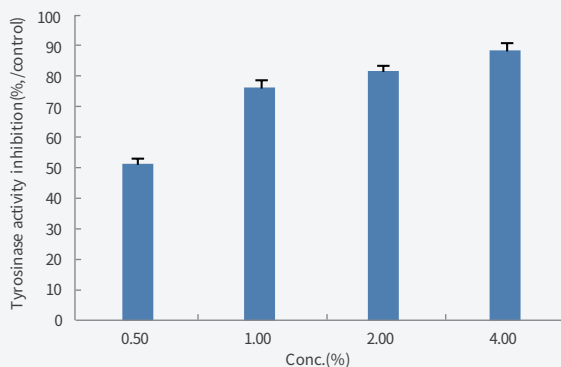


Fig. 1. Inhibitory efficacy of Schizandra Extract on the Mushroom Tyrosinase  
The inhibitory efficacy is significant ( $P < 0.05$ ), and the values are mean  $\pm$  S.E.  
(1.00-80% of inhibition efficacy of Schizandra Extract on tyrosinase is observed.)

### Anti-melanogenesis of Schizandra

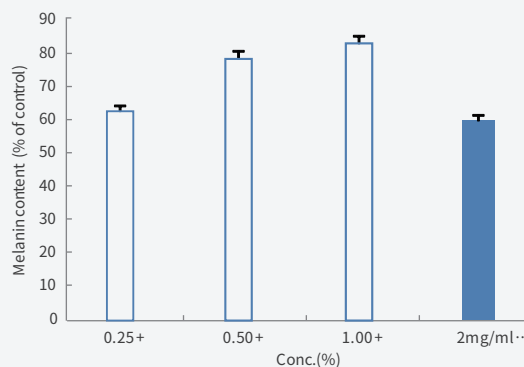
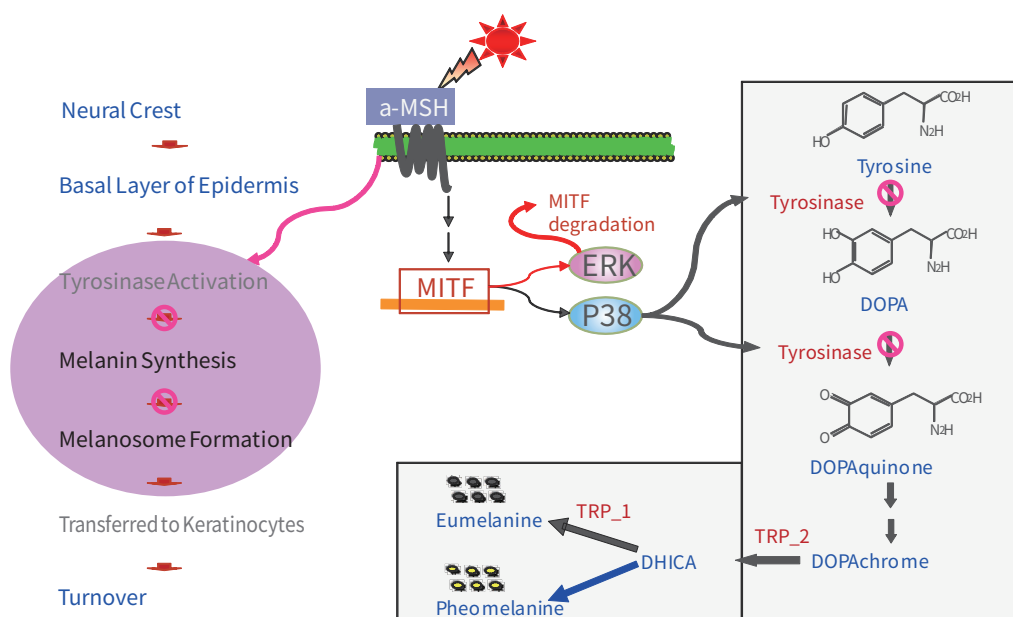


Fig. 2. Whitening Synergy efficacy of Schizandra Extract on anti-melanogenesis in B16F1 Melanoma. The inhibition efficacy is significant ( $P < 0.05$ ), and the values are mean  $\pm$  S.E.  
(The whitening efficacy of Schizandra Extract with whitening arbutin)

## Whitening Mechanism of Schizandra



Anti-Wrinkle

# Black Ginseng Extract

ICID Name : Panax Ginseng Root Extract



## ◆ Premium Black Ginseng with Triple Ginsenoside



According to Seoul Broadcasting System, Black Ginseng selected one of the best black foods in the world and Black Ginseng contains 2~3 times of Saponin content compared to Ginseng.

## ◆ Black Ginseng Evolution



↑ 9 Steaming & 9 Drying (九蒸九曝) ↑

Traditional method of over heating may generate benzopyrene.

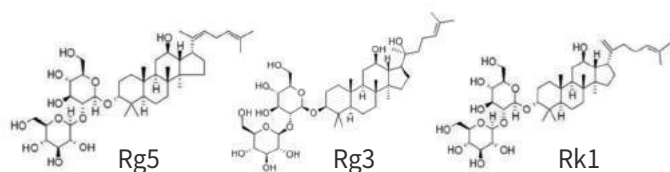


↑ Extract Ginseng and then heating ↑

When extracting ginseng first and heating later for several times, It removes generating benzopyrene.

## ◆ Black Ginseng Extract for Supplying Nutrition

Black Ginseng transforms its active ingredient "Ginsenoside" structure by nine times heating. It shows outstanding dermatological efficacy and high absorption rate with Rg5, Rg3, and Rk1.



< H.Y. Kim, Kyunghee University, Korea Ginseng conf, 2009-12 :223-223 >

## ◆ Black Ginseng, Triple Ginsenoside (Rg3)

When ingredients of ginseng are heated, it produces Glucose and Amino by browning reaction.

< Publicized Patent 10-2013-0125746 >

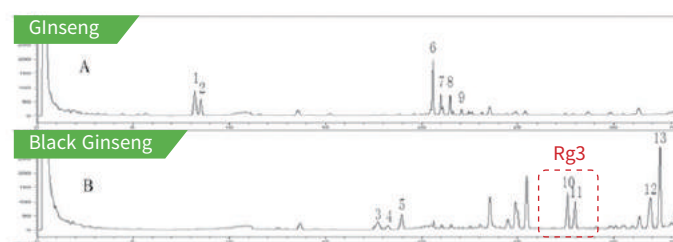


Figure 1. HPLC analysis of the ginsenosides in ginseng produced by 9 repetitive steaming and drying process. A: fresh ginseng main root extracts; B: fresh ginseng main root extracts by 9 times steaming. 1, Rg1; 2, Re; 3, Rh1; 4, 20(S)-Rg2; 5, 20(R)-Rg2; 6, Rb1; 7, Rc; 8, Rb2; 9, Rd; 10, 20(S)-Rg3; 11, 20(R)-Rg3; 12, Rk1; 13, Rg5.

<Y.Kim, Korean J. Plant Res., 2012, 25(4) >

## ◆ Whitening and Wrinkle Efficacy of Ginsenoside Rg3

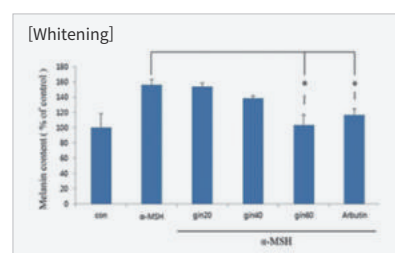


Figure 2. Efficacy of ginsenoside Rg3 On cellular melanin synthesis in B16F10 cells.

< S.J Lee, Sungkyunkwan University, 2013 >

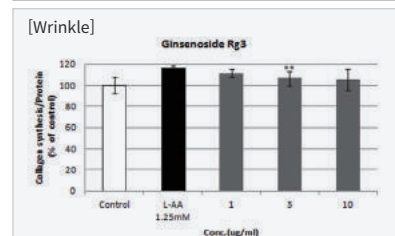


Figure 3. Collagen synthesis of Ginsenoside Rg3.

< Shin et al., Mol Biol Rep, 2013 >

## ◆ Marketing Point

“Triple Ginsenoside, Premium Black Ginseng

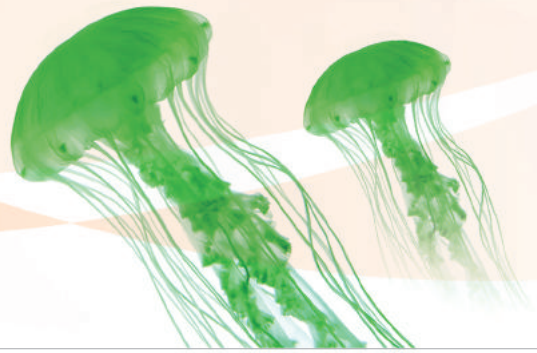
- Black Ginseng Extract shows whitening and wrinkle efficacy by Rg3, Rk1, and Rg5.
- Unique method maximizes skin efficacy by using “Korean Ginseng”.
- The nine times heating removes benzopyrene of Black Ginseng.



Anti-Wrinkle

# Jellyfish Extract

ICID Name : Jellyfish Extract



## ◆ ‘Collagen’, the substance revitalizing and enhancing skin elasticity.

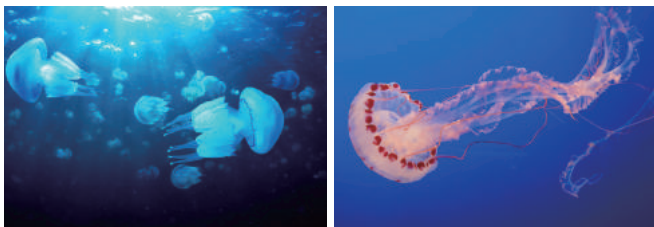


Collagen is produced less and aging starts as the secretion of female hormones is reduced beginning at 20 to 25 years of age.

While there are lots of collagen products for eating or applying to the skin, Are they all absorbed well?

Better absorption, Less stimulation, Cleaner, More naturally as it is.

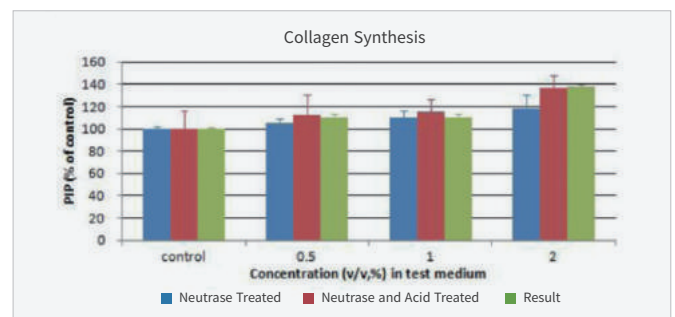
## ◆ “Jellyfish” The Origin of Collagen



- Jellyfish, the ‘pirate of the sea’, is detested as an uninvited guest in the sea during summer, but is the origin of collagen. In the West, it has been named ‘jellyfish’ because of the gelatin of which its body is configured.
- The tentacles of the jellyfish are characterized by strong, quick resilience and enough strength to entangle a human being or a fish bigger than itself.
- Jellyfish contains relatively high protein, 57.8%. The contents of collagen are 34.7%. This indicates that the proteins that make up jellyfish are mostly collagen protein. Electrolysis analysis of the amino acid contained in the collagen of jellyfish has found proline, glycine, arginine and valine were contained in higher amounts in that sequence.
- Proline has a cold tolerance function in plants and hydroxyl proline is known as the substance that stimulates the biosynthesis of collagen. Thus, it has been recently used widely because it is very useful as a cosmetic ingredient.

< 2008 International symposium and annual meeting, 2008.10, 235-235 >

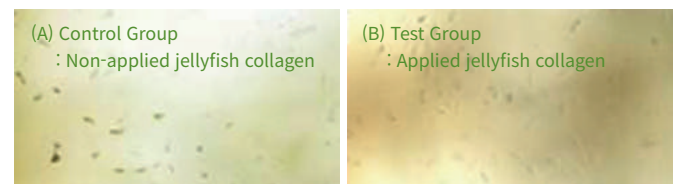
## ◆ Collagen Synthesis Efficacy of Jellyfish Collagen in Skin



The more the concentration of jellyfish collagen increases, the more the collagen synthesis efficacy is improved. Application of jellyfish collagen by 2% increased the collagen synthesis efficacy in skin by 37%.

< publicized patent 10-2015-0069610 >

## ◆ Efficacy of JellyFish Collagen to Activate Skin Cells



Cells dyed in blue were significantly reduced in the jellyfish collagen extract group as compared to the control group. This indicates that the jellyfish collagen extract group has fewer aged cells than the control group.

< publicized patent 10-2014-0015756 >

## ◆ Identification of Collagen Type II by using SDS-PAGE

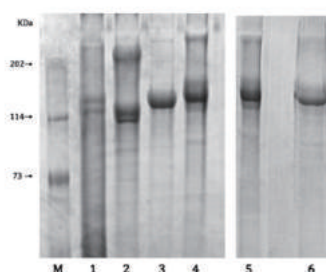


Figure 1. SDS-PAGE pattern of jellyfish PSC. M: high molecular weight protein marker; 1: type I collagen from calf skin; 2: type I collagen from salmon; 3: type II collagen from chicken sternum; 4 & 5: jellyfish PSC (non-reduced); 6: jellyfish PSC (reduced).

< Zoha Barzideh et al., International Journal of Food Science and Technology 2014, 49, 1490-1499 >

## ◆ Marketing Point

- Jellyfish collagen, the natural marine product having no skin toxicity!
- Protecting skin moisture by helping jellyfish collagen to be immediately absorbed through hydrolysis!
- Wrinkle decline by the powerful efficacy of jellyfish collagen to active cells !
- Jellyfish collagen having a similar structure to collagen Type II !



Moisturizing

# Vegetable Collagen

ICID Name : Tremella Fuciformis (Mushroom) Extract



## Characteristic

- Tremella fuciformis is a species of fungus. it produces white, frondlike, and gelatinous basidiocarps (fruiting bodies).
- Tremella fuciformis is commonly known as snow fungus, silver ear fungus, and white jelly mushroom.
- Vitamin D : Contains 420 times that of sunflower seeds and 60 times that of salmon.
- The ability to contain moisture about 500 times of its own weight.

## Efficacy

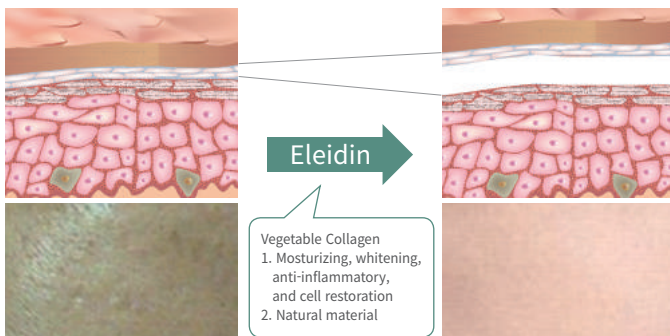
- Skin elasticity enhancer : Forming a flexible moisture film on the skin and providing moisture and elasticity for a long time.
- Anti-aging : The abundant collagen ingredients provide nourishment and skin moisture.

## Beauty and other usage

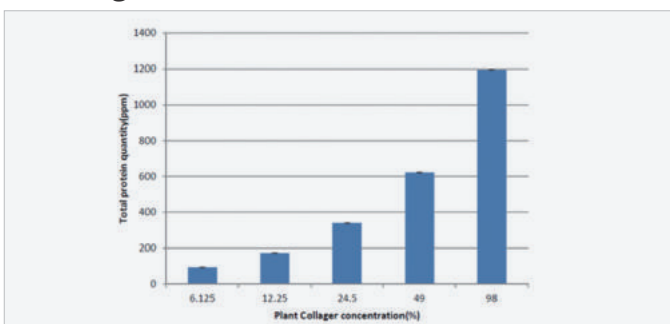


**The Empress Yang Kwei Fei** - Tremella fuciformis is well known as a beauty product by women in China and Japan as it reportedly increases moisture retention on the skin and prevents senile degradation of micro-blood vessels on the skin, reducing wrinkles, and smoothing fine lines

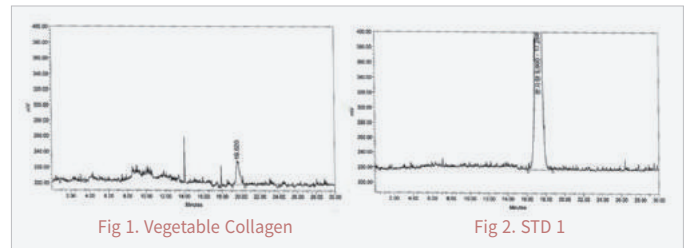
## Promote Creation of the Eleidin



## Collagen Concentration



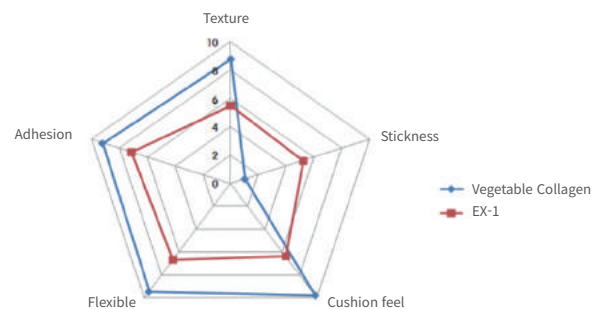
## Collagen Peptide



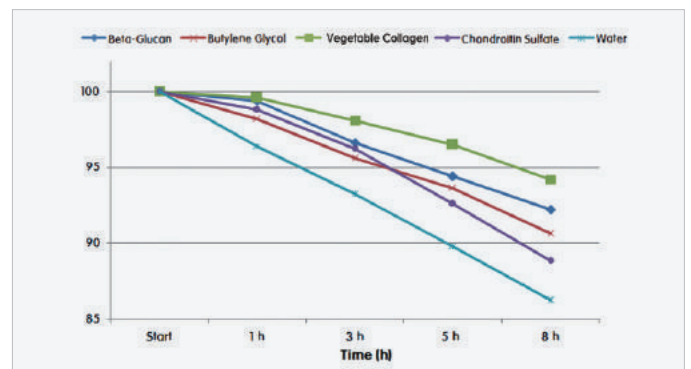
	Peak Name	RT	Area	% Area Height	Squalane
1	Vegetable Collagen-TF	19,620	815815	100.00	30491
2	STD 1 (molecular weight:5,900)	17,258	17100426	100.00	573428
3	STD 2 (molecular weight:11,800)	16,548	23433486	100.00	61913

## Usability of Vegetable Collagen

(Questionnaire survey target : Twenty people, Perfect 10)



## Water Holding Capacity



## Marketing Point

- Low molecular weight of vegetable collagen for skin.
- Promoting creation of eleidin inside skin.
- Excellent water-holding capacity and abundant vitamin D.
- Natural ingredient with high absorption and flexibility.

Moisturizing

# CS-Jeju Horse Fat

ICID Name : Horse Fat



## Introduction

### Horse Fat

#### [Folk Remedy]

- Horses are unique in maintaining body temperature by sweating like human → Skin and fatty acid structures are similar to human → Outstanding affinity and absorption.
- Producing oil film that can not be generated inside the body → Skin protection and anti-bacterial efficacy.
- Excellent anti-bacterial , anti-inflammatory , and wound healing effectiveness as folk remedy.
- Valuable ingredient from clean area of Jeju island.

## CS-Horse Fat

Fatty Acid	Com (%)	Remarks
Myristic acid	3.66	saturated fatty acid
Palmitic acid	26.86	saturated fatty acid
Stearic acid	9.46	saturated fatty acid
<b>Total</b>	<b>39.98</b>	

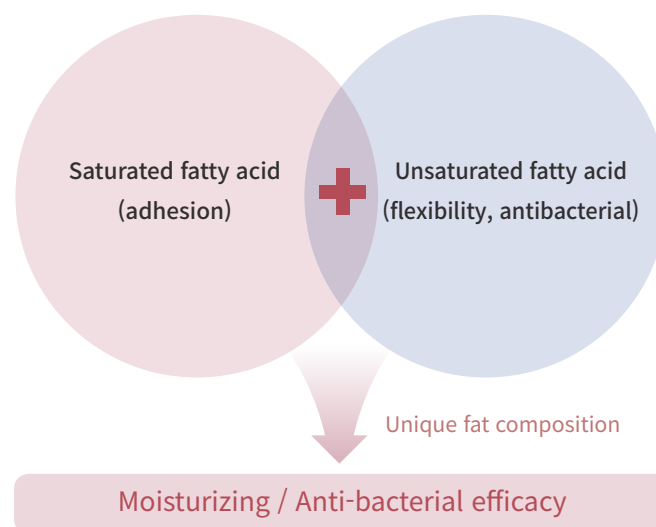
## Refining Process of Horse Fat

Natural monounsaturated fat extraction method of Horse'muscular tissue.

Natural monounsaturated fat  
(Contains palmitoleic and Linoleic Acid)

## Characteristics of CS-Jeju Horse Fat

The Balance of saturated and unsaturated fatty acid



Fatty acid	Com(%)	Effect	Note
Palmitoleic acid	7.28	Burn & wound treatment	Unsaturated fatty acid (C16:1)
Oleic acid	34.75	Moisturizing & atopy	Unsaturated fatty acid (C18:1)
Linoleic acid	14.15	Atopy	Omega6 unsaturated fatty acid precursor (C18:2)
Linolenic acid	0.87	Atopy	Omega3 unsaturated fatty acid (C18:0)
<b>Total</b>	<b>57.05</b>		

- Easily accessible moisturizer, anti-bacterial, anti-inflammatory material.
- Outstanding wound healing efficacy.
- Abundant unsaturated fatty acid and Vitamin E.

Clean and natural material for improving all types of skin.

## Anti-Irritation

# Germination Flavone

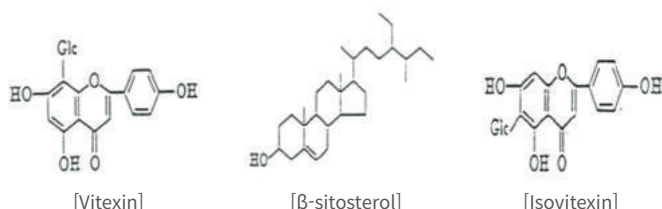
ICID Name : Phaseolus Radiatus Seed Extract



### Germination Mung Bean

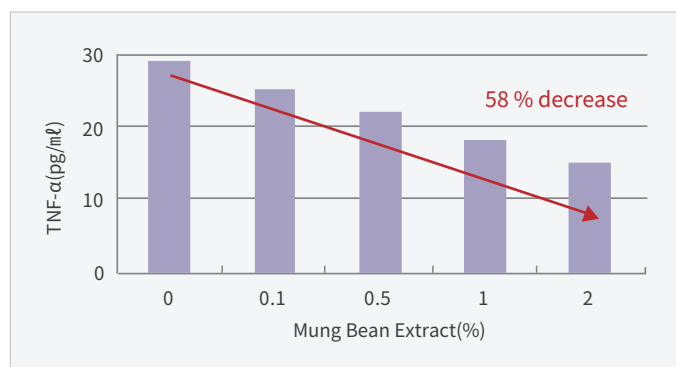
- Mung bean contains abundant vitamin C.
- Mung bean promotes collagen to prevent aging.
- Mung bean shows soothing efficacy from damage of ultra violet, skin trouble, and controlling sebum.

### Composition of Mung Bean



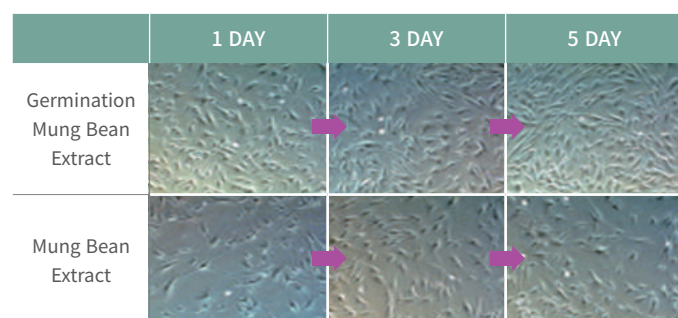
### Anti-Inflammation Efficacy of Mung Bean

Reduction of Inflammation-Mediating Cytokines

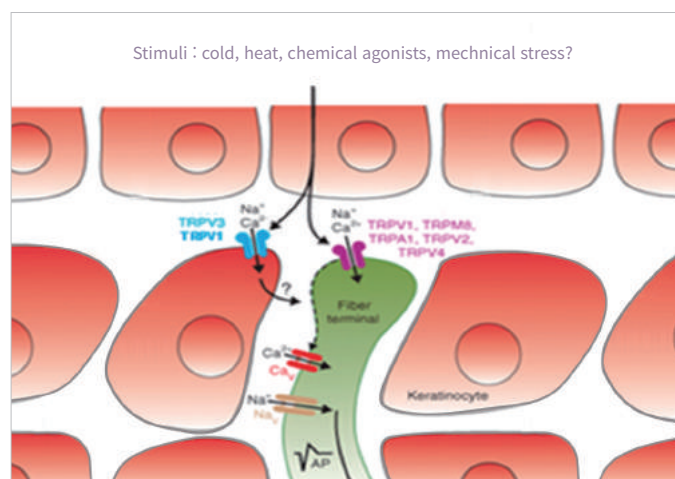


### Cell Proliferation Efficacy

It shows strong cell proliferation efficacy as it is germinated.

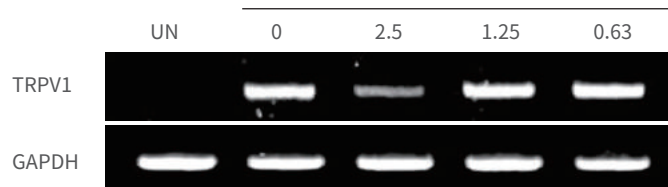


### Anti-irritation Mechanism & Efficacy

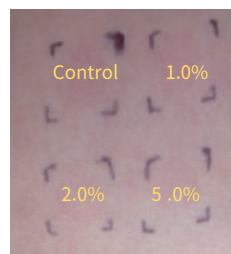


- Germination Flavone decrease TRPV1 revelation.

2-APB (300mM) + Germinated mung bean (%)



### Inhibition of Artificially Induce Skin Flush



Test Sample	Δa* value	Erythema degree (%)	Fluch inhibition (%)
Control	1.58	100.0	
1.0% Greenbean extract	1.30	82.3	17.7
2.0% Greenbean extract	1.12	70.9	29.1
5.0% Greenbean extract	0.85	53.8	46.2

### Marketing Point

- Natural material with cooling property to decrease skin fever to control sebum.
- Anti-inflammation efficacy by controlling TNF-alpha.
- Strong cell proliferation efficacy.
- TRPV1 revelation to anti-irritation efficacy.



## Anti-Irritation

# Sophoricoside

ICID Name : Sophora Japonica Fruit Extract



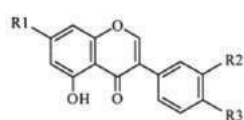
### ◆ Sophora Japonica?

- Sophora japonica is well known as medical tree normally raised in palace. There is a superstition that sophora japonica tree drives out an evil spirit.
- Sophora japonica has bitter and sour flavor with no toxicity.
- It also shows wound healing efficacy such as broken bone, burn, and festering wounds.
- Its fruit, sophorae fructus, shows hemostatic efficacy and it is good for climacteric women due to isoflavonoid component.

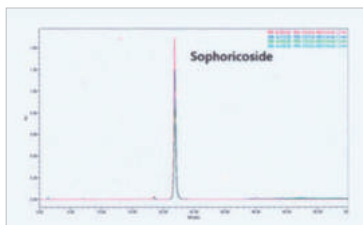
### ◆ About Sophoricoside?

- Sophoricoside is a main ingredient of sophora japonica fruit.
- There are a lot of advanced researches on anti-irritant and anti-sensitizer efficacy of sophoricoside.

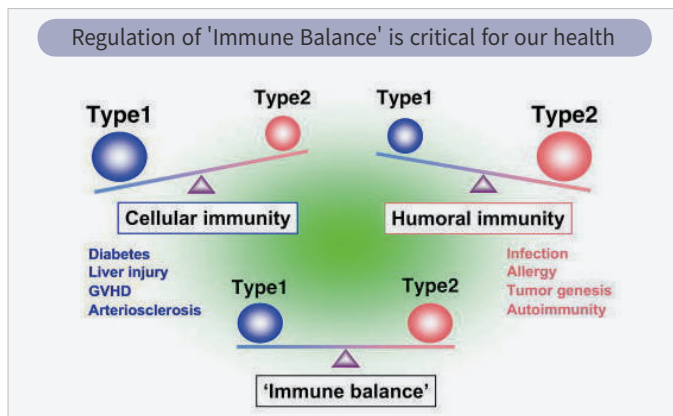
### ◆ Isoflavonoid of Sophoricoside



Sophoricoside R1=OH, R2=H, R3=OGlc  
 Genistin R1=OGlc, R2=H, R3=OH  
 Genistein R1=OH, R2=H, R3=OH  
 Oroboin R1=OH, R2=OH, R3=OH

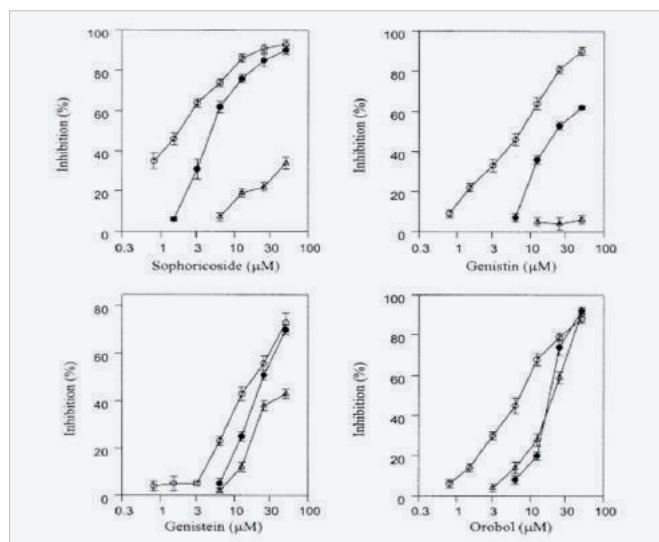


### ◆ Immune System Balance : Skin Stimulation Mechanism



Type	Related cytokine	
Th1	Irritant	IL-1, IL-6, IL-8, TNF-a, NF-kB
Th2	Allergy	IL-3, IL-4, IL-5, IL-10

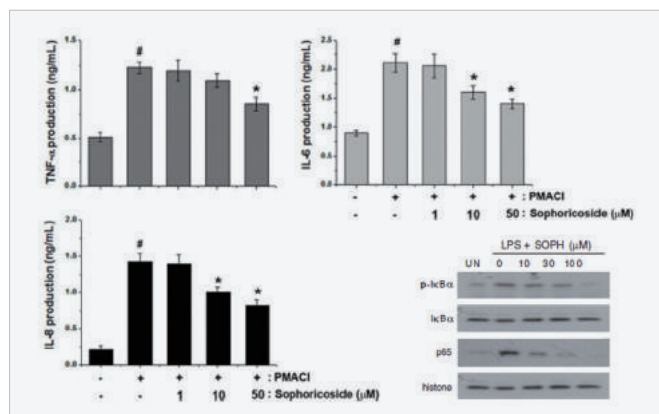
### ◆ Anti-Allergic Efficacy of Sophoricoside



Cytokine, such as IL-5, IL-3 and GM-CSF, inhibitory effects of sophoricoside and isoflavonoid.

< Life Sciences 67 (2000) 2855-2863 >

### ◆ Anti-Irritant Efficacy of Sophoricoside



- Cytokine, such as TNF-a, IL-8 and IL-6, inhibitory effects of sophoricoside and isoflavonoid.
- Down regulated express of inflammatory related cytokines

< Molecules 2013, 18, 6113-6127;doi:10.3390/molecules18056113 >

### ◆ Marketing Point

- Protect skin and improve immune system of allergy and irritant materials.
- Dosage : 5~10%

# Dust Smart Solution

ICID Name : Saururus Chinensis Leaf/Root Extract



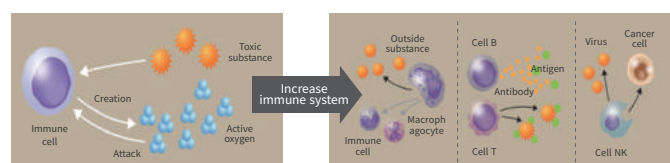
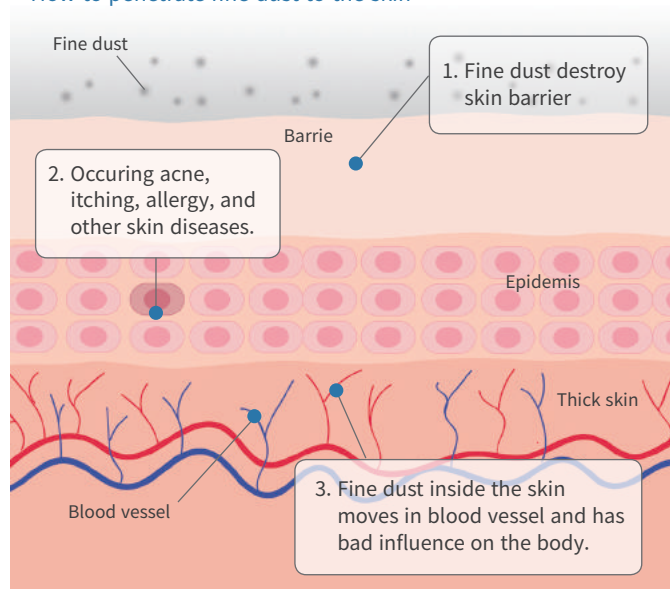
## ◆ Fine Dust? "A silent murder"

- Fine dust (Particulate Matter, PM) contains a lot of heavy metals that occur allergic reaction, atopy, and other diseases.
- When fine dust meets the oil on the skin, it occurs skin trouble and inflammation. Also, this reaction decreases the level of immunity.

## ◆ Influence on Skin by Fine Dust Size



### How to penetrate fine dust to the skin

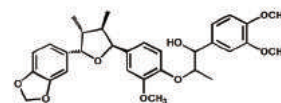


- Inducing allergy of heavy metals in fine dust.
- Allergic reaction about heavy metals.

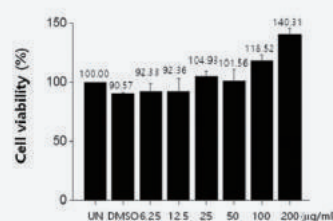
< Monatsh Chem (2009) 140:147-151 >

## ◆ The Efficacy of Saururus Chinensis

- Increasing water metabolism, skin reproduction, and skin elasticity.
- Detoxification, skin suppression, and recovery of cell damage.
- Whitening, anti-inflammatory, and anti-oxidant efficacy by active ingredient of Sauroneol D (SD)

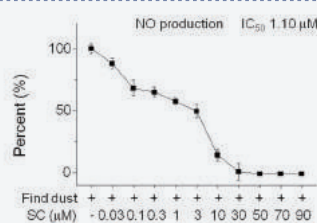


## ◆ Immunity Cell Proliferation and Inhibition of Inflammatory Cytokine by Saururus Chinensis Extract

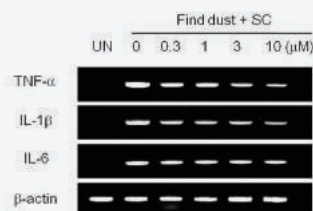


Over 40% cell proliferation efficacy in 200 µg/ml concentration

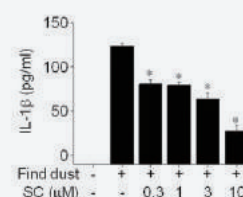
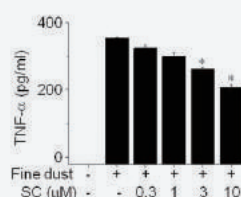
Fig1. Immune cell proliferation effect



Inhibition of NO by saururus chinensis extract



Inhibition of inflammatory cytokine revelation in mRNA standard



Inhibition of inflammation factor in fine dust by saururus chinensis extract

Fig2. Anti-inflammatory - Inhibit cytokine revelation of fine dust by saururus chinensis extract.



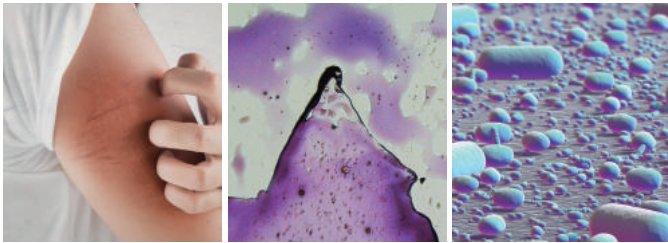
## Anti-Pollution

# Skin 3-Pure(C)

**ICID Name :** Tillandsia Usneoides Extract,  
Nelumbo Nucifera Flower Extract,  
Zostera Marina Extract



### Fine Dust



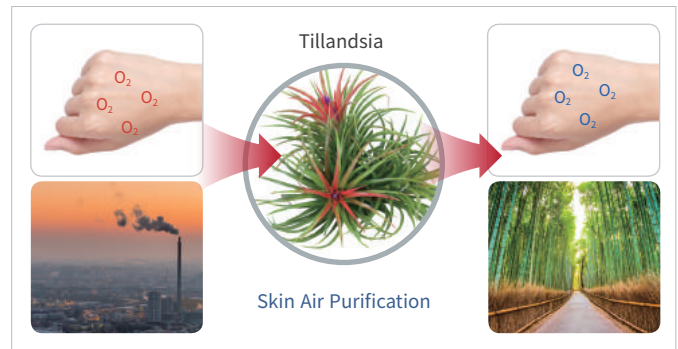
- Fine dust is a small particle which is 1/100 of hair thickness.
- High adsorption causes promoting body wastes such as heavy metals on skin pore.



### Skin 3-Pure(C)



### Skin Air Purification (Air Purifying Plant)



### Skin Surface Purification (Water Purifying Plant)



### Deep Skin Purification (Mud Flat Purifying Plant)



### Marketing Point

- Purification efficacy of fine dust and virus.
- Producing skin protective film from external toxic substances.
- Deep skin purification efficacy by mud flat purification.

## Preservative

# CS-BION I [Strong Antifungal Activity]

## Preservation and Skin flexibilizer

Check the S.Aureus, P.Aeruginosa, E.Coli, C.Albicans.

Applicable to a variety of formulation prescriptions.

### Introduction

- CS-BION I is a complete system for preservative-free cosmetics and personal care products. It can be used to improve the efficacy of traditional cosmetic preservatives such as Paraben or Phenoxyethanol.
- Applicable to a variety of formulation prescriptions.
- CS-BION I has proven safety with long-term use of domestic market.

### Composition

Caprylyl Glycol	
CAS No. 1117-89-8	ICID2004
Ethylhexylglycerin	
CAS No. 70445-33-9	ICID2004

### Solubility

- Applicable to a variety of formulation prescriptions of O/W, W/O, W/S.
- Excellent solubility at the concentration of 1%.

### MIC Value

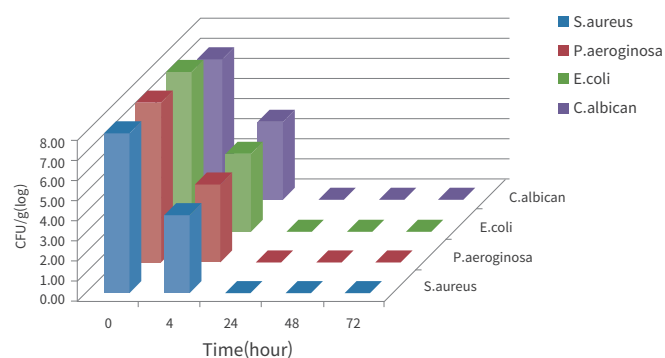
Species	CS-BION I (%)
S.Aureus	0.05
P.Aeruginosa	0.3
E.Coli	0.2
C.Albicans	0.2

\* Initial microorganism count:

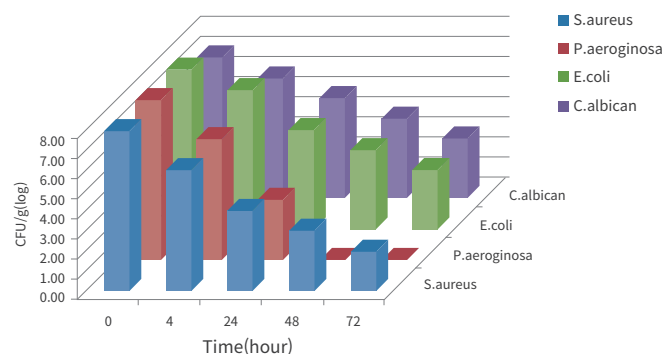
[S, P, E -  $10^7 \sim 10^8$  cfu/ml ; C -  $10^5 \sim 10^6$  cfu/ml]

### Challenge Test

#### 0.3% CS-BION I (O/W Emulsion)



#### 0.3% Eux\*\*(Parabens) (O/W Emulsion)



### Application

- Lotion
- Cream
- Facial Mask
- Toner
- Essence

### Dosage

0.3% ~ 0.6%

## Preservative

# CS-DIOL II [Skin & Emulsion]

Water-soluble preservation, Skin flexibilizer, Clear formulations

Check the S.Aureus, P.Aeruginosa, E.Coli, C.Albicans

Applicable to clear formulation prescriptions.

## Introduction

- CS-Diol II is a complete system for preservative-free cosmetics and personal care products. It can be used to improve the efficacy of traditional cosmetic preservatives, such as paraben or phenoxyethanol
- Applicable to a variety of formulations prescription.
- This product has proven safety with long-term use of domestic market.
- Applicable to a clear formulations prescription.

## Composition

Ethyl Hexanediol	
CAS No. 94-96-2	ICID2004
1,2-Hexanediol	
CAS No. 6920-22-5	ICID2004
Glyceryl Caprylate	
Glyceryl Caprylate	ICID2004

## Solubility

- Applicable to a variety of formulations.
- Prescription for O/W, W/O, W/S.
- Excellent solubility at the concentration 3%.

## MIC Values

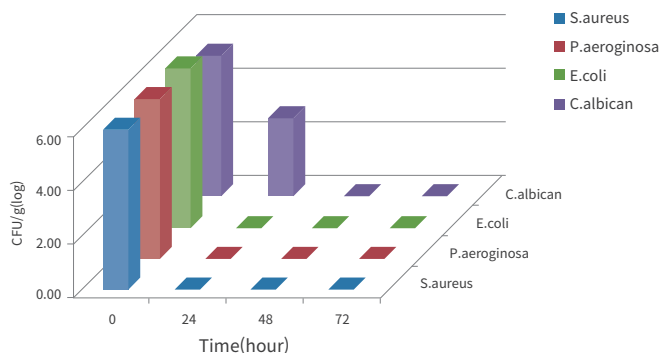
Species	CS-DIOL II (%)
S.Aureus	1.5
P.Aeruginosa	0.5
E.Coli	0.5
C.Albicans	1.5

\* Initial microorganism count:

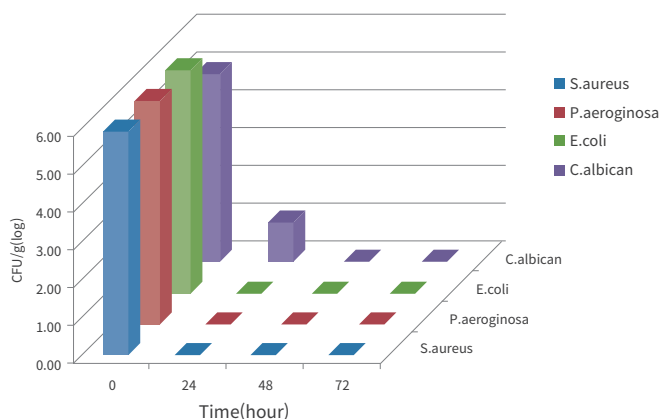
[S, P, E –  $10^7 \sim 10^8$  cfu/ml ; C –  $10^5 \sim 10^6$  cfu/ml]

## Challenge Test

### 1.5% CS-DIOL II (S/W Emulsion)



### 1.5% CS-DIOL II (O/W Solubilization)



## Application

- Lotion
- Cream
- Facial Mask
- Toner
- Essence

## Dosage

1.5% ~ 2.0%



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vital and beauty.  
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