








BERI PHARMA

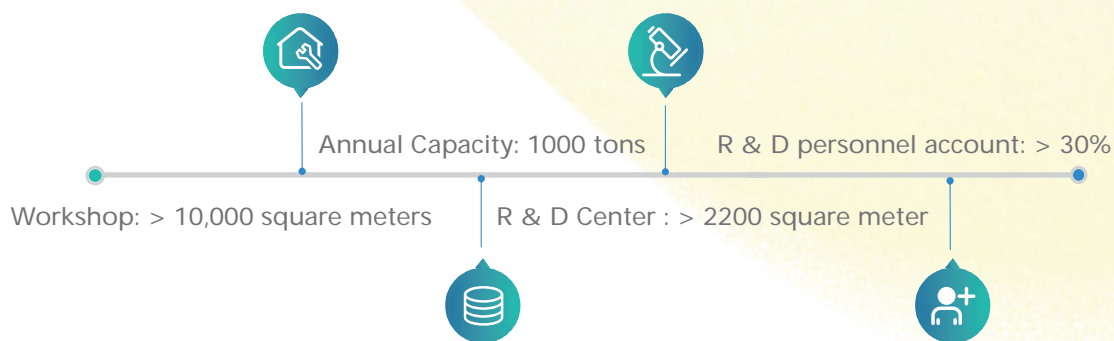
Professional Manufacturer of Cosmetic Ingredients

Providing Customers with Professional Empowerment Solutions

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COMPANY PROFILE



BERI PHARMA CO., LTD. is a national high-tech enterprise focusing on the R & D and manufacturing of raw materials and preparations for pharmaceutical, health products and cosmetics.

BERI PHARMA CO., LTD. has a 2200 square meter R & D center, with Synthesis Lab, Fermentation Lab, Preparation Lab, Physics and Chemistry Lab, Safety and Efficacy Evaluation Room, Nano liposome Lab, etc., equipped with liquid phase, gas phase, mass spectrometry, electro spray type detector, preparation liquid phase, optical rotation and other analysis and detection instruments, as well as 3D facial imager, zebrafish culture system, stereomicroscope, enzyme marker, skin elasticity meter, cuticle hydration meter, testing instruments such as skin cortical meter, transdermal moisture loss meter.

The R & D team is composed of PhD, masters and undergraduates, and the R & D personnel account for more than 30%.

Enterprise Vision

Pursue the ultimate technology and always maintain a keen insight into the industrial trend; build a world-class and respected technology leading enterprise and make the human being more healthy and more beautiful by serving the society with high-quality and advanced products.

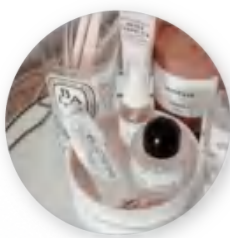


Industrial Layout



Pharmaceutical

Pharmaceutical raw materials
Pharmaceutical preparation
New drug quality research
Drug registration



Cosmetic Raw Materials

Active ingredients
Development and registration of
new ingredients
Nano encapsulation
Efficacy evaluation
Safety evaluation

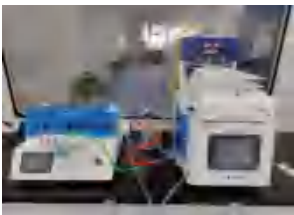


Health Products

Health products raw material
Health product preparation

Formulation development

Research Strength



BERI PHARMA CO, LTD. has a 2200 square meter R & D center, with Synthesis Lab, Fermentation Lab, Preparation Lab, Physics and Chemistry Lab, Safety and Efficacy Evaluation Room, Nano liposome Lab, etc. equipped with liquid phase, gas phase, mass spectrometry, electro spray type detector, preparation liquid phase, optical rotation and other analysis and detection instruments, as well as 3D facial imager, zebrafish culture system, stereomicroscope, enzyme marker, skin elasticity meter, cuticle hydration meter, testing instruments such as skin cortical meter, transdermal moisture loss meter.

Technical Service



Honors & Qualifications



- National High-tech Enterprise
- Specialized Innovation Enterprise of Guangdong Province
- Technical Enterprise of Guangdong Province
- Innovational Enterprise of Guangdong Province
- Zhuhai Engineering Research Center of Cosmetic Ingredient Preparation
- TOP 100 of Innovation Enterprises in Zhuhai
- Innovation-driven Enterprise of Zhuhai City

CATALOG

1 Whitening & Anti-oxidation Ingredients :

| | |
|--|----|
| 01 BeriCos® VC-IP Ascorbyl Tetraisopalmitate CAS : 183476-82-6 | 8 |
| 02 BeriCos® EAA Ethyl Ascorbic Acid CAS : 86404-04-8 | 9 |
| 03 BeriCos® AA2G Ascorbyl Glucoside CAS :129499-78-1 | 10 |
| 04 BeriCos® W-37 Phenylethyl Resorcinol CAS : 85-27-8 | 11 |
| 05 BeriCos® W-47 4-Butylresorcinol CAS : 18979-61-8 | 12 |
| 06 BeriCos® 4MSK Potassium Methoxysalicylate CAS : 152312-71-5 | 13 |
| 07 BeriCos® GSH Glutathione CAS :70-18-8 | 14 |
| 08 BeriCos® FerAC Ferulic Acid CAS No: 1135-24-6 | 15 |
| 09 BeriCos® Pterostilbene Pterostilbene CAS No: 537-42-8 | 16 |
| 10 BeriCos® TA Tranexamic acid CAS No: 1197-18-8 | 17 |
| 11 BeriCos® EUK134 CAS No: 81065-76-1 | 18 |
| 12 BeriCos® Thiotaurine CAS No: 2937-54-4 | 19 |
| 13 BeriCos® Melatonin CAS No: 73-31-4 | 20 |

2 Moisturizing & Anti-aging Ingredients :

| | |
|--|----|
| 14 BeriCos® GG Glyceryl Glucoside CAS No.: 22160-26-5 | 21 |
| 15 BeriCos® Proxylane-POW Hydroxypropyl Tetrahydropyrantriol CAS No: 439685-79-7 | 22 |
| 16 BeriCos® HPR Hydroxypinacolone Retinoate CAS No: 893412-73-2 | 23 |
| 17 BeriCos® Chromanol Dimethylmethoxy Chromanol CAS No.: 83923-51-7 | 24 |
| 18 BeriCos® DCP Dimethylmethoxy Chromanyl Palmitate CAS No.: 1105025-85-1 | 25 |
| 20 BeriCos® 10-HDA 10-Hydroxydecanoic Acid CAS No: 765-01-5 | 26 |

3 Anti Hair Loss & Hair Growth Ingredient:

| | |
|--|----|
| 21 BeriCos® Copyrrol Pyrrolidinyl Diaminopyrimidine Oxide CAS No: 55921-65-8 | 27 |
| 22 BeriCos® Copexil Diaminopyrimidine Oxide CAS No.: 74638-76-9 | 28 |

4 Anti-inflammation & Repairing Ingredients:

| | | | | |
|----|-------------------|-------------------------------------|----------------------|----|
| 23 | BeriCos® Ectoin | Ectoin | CAS No.: 96702-03-3 | 29 |
| 24 | BeriCos® BeCalmin | Hydroxyphenyl Propamidobenzoic Acid | CAS No.: 697235-49-7 | 30 |

5 Sterilization, Acne Removal & Dandruff Removal:

| | | | | |
|----|------------------------|------------------------------------|---------------------|----|
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| 26 | BeriCos® HD-100 | 2-hydroxyethanesulphonic Acid | CAS No: 659-40-5 | 32 |
| 27 | BeriCos® PQ73 | Quaternium-73 | CAS No: 15763-48-1 | 33 |
| 28 | BeriCos® VB6-Trip | Pyridoxine Tripalmitate | CAS No: 4372-46-7 | 34 |
| 29 | BeriCos® Azelamide MEA | | CAS No: 242132-61-2 | 35 |
| 30 | BeriCos® AzA-60 | Micro powder of Azelaic Acid (60%) | | 36 |

6 Heat Sensitive Agent

| | | | | |
|----|--------------|----------------------|---------------------|----|
| 31 | BeriCos® VBE | Vanillyl butyl ether | CAS No.: 82654-98-6 | 37 |
|----|--------------|----------------------|---------------------|----|

7 Nano-encapsulated Products

| | | | |
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| 32 | BeriCos® VCIP-Nano | Sub-nano emulsion of VC-IP | 38 |
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BeriCos® VCIP

Ascorbyl Tetraisopalmitate

Product Introduction

Ascorbyl Tetraisopalmitate (i.e. VC-IP), is an esterified vitamin C derivative and a new generation of derivatives. It's also called "Tetrahexyl decanol ascorbic acid ester", "esterified VC", "fat soluble vitamin C".

In 2006, VC-IP was approved by the Ministry of Health, Labor and Welfare of Japan as "Quasi Drug active" in 2006. It's also a functional whitening agent officially approved by the Republic of Korea and the only "cosmeceuticals" among the 13 whitening ingredients approved by the Ministry of Health and Welfare of Taiwan.

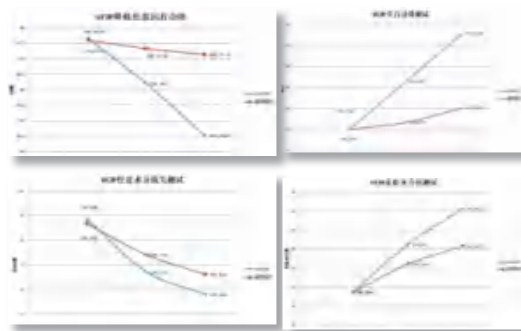
Efficacy Characteristics

- Extremely stable, Oil soluble, skin friendly and lipophilic, with excellent transdermal absorption capacity
- Lighten skin and lighten spots, inhibit melanin deposition, and fade elanin
- Anti inflammation, acne repair
- Antioxidant, resist free radical damage
- Promote collagen synthesis, reduce skin wrinkles and prevent skin aging

Efficacy Testing



From: BERI Efficacy Lab



Conclusion: After 4 weeks of use of 2% ascorbic acid tetraisopalmitate (VC-P) face cream, it has the efficacy of whitening skin, reducing skin pigmentation, improving skin roughness (improving skin texture), increasing skin hydration, reducing transcutaneous water loss (repairing skin barrier), and improving skin elasticity.

Application Guide

- 1、 Recommended for various skin care products, whitening and brightening products, sunscreen repair products, makeup lipstick and essential oil products, etc.
- 2、 Suggested dosage: 0.1%-5%
- 3、 PH range: < 6.0. If chelating agent or antioxidant added, it can be applied to the formula of about 7.0.
- 4、 Small amount can be used as the antioxidant component of the formula, and the added amount is enough to be used as the raw material for whitening and freckle removal.

BeriCos® EAA

Ethyl Ascorbic Acid

Product Introduction

Vitamin C ethyl ether is an efficient antioxidant that not only retains the redox effect of vitamin C, but is also very stable and a non discoloring vitamin C derivative.

It is an lipophilic and hydrophilic amphoteric substance with good water solubility and excellent lipophilic properties, which not only makes it extremely convenient to use in formulas, but also makes it easy to penetrate the stratum corneum and enter the dermis. After entering the skin, it is easily decomposed by biological enzymes to play the role of vitamin C, thereby improving its bioavailability

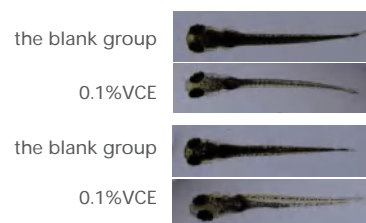
Efficacy Characteristics

- Inhibit tyrosinase activity; inhibit the formation of melanin; reduce melanin to colorless; effectively remove spots and whiten skin; improve dull and dull skin, and give skin elasticity.
- It has excellent antioxidant effect in cosmetics and ensures the utilization of vitamin C. Compared with the original vitamin C, EAA is very stable and will not turn colors.
- Strong anti-bacterial and anti-inflammatory effects; anti inflammation caused by light.
- After entering the dermis, EAA directly participates in the synthesis of collagen, repairs the activity of skin cells, increases collagen, and makes the skin full, elastic and smooth.
- With lipophilic and hydrophilic structure, it is easy to be absorbed by the skin and can reach the dermis directly. Good stability; light resistance; heat resistance; acid resistance,; alkali resistance; salt resistance and air oxidation resistance.

Efficacy Testing



Efficacy test showed a 76.3% improvement in whitening effect compared to the blank group.



Conclusion: Based on the above test results, 3-ethylenediamine (vitamin C, vitamin B, and MCE) has a whitening and dynamic effect, with only a significant difference in bitterness compared to the blank control

Application Guide

1. Recommended for whitening and freckle removing products, anti-aging products, anti-aging products, essence, facial mask, lotion, etc.
2. Recommended dosage: 0.5-3%
3. pH range: 3.5-6.5

BeriCos® AA2G

Ascorbyl Glucoside

Product Introduction

Ascorbyl Glucoside is a stabilized ascorbic acid derivative produced from Vitamin C, while retaining the natural biologic functions of Vitamin C. When used in facial product preparations, Ascorbyl Glucoside remains in its stable condition until it is applied on the skin, where it is activated by natural enzymes in the skin, delivering healthier and younger looking skin over a prolonged time. It is also used as a skin-brightening and anti-wrinkle agent in daily moisturizing and sunscreen products to prevent photo-aging. It is one of the whitening additives approved by the Department of Health and is also the most used whitening ingredient in major cosmetics brands.

Ascorbyl glucoside is a natural active substance containing vitamin C structure and it is a good VC derivative. Ascorbyl glucoside not only overcomes the shortcoming that VC is easily oxidized and unstable, but also has excellent stability under the condition of heat, oxygen and metal ions, and retains the normal activity of VC. The role of the skin, the slow release of vitamin C, can effectively exert its ability to inhibit melanin, reduce color, reduce pigmentation. Ascorbyl glucoside also has a bright skin, anti-oxidation, anti-aging skin, play a role in protecting the skin in sunscreen products.

Efficacy Characteristics

- **Brighten and even skin tone, Inhibit Melanin Deposition and Reduce Melanin Pigment:**

After Ascorbyl Glucoside is converted into vitamin C and enters skin cells, it can significantly reduce melanin formation by inhibiting tyrosinase activity. Inhibition of tyrosinase reduces dopa quinone, which is an intermediate in melanin synthesis. Another additional advantage is that the dopamine quinone is converted into levodopa at the same time, which can alleviate the melanin formed, and then reduce the skin pigment precipitation.

- **Resist UV damage and reduce UV damage to cells:**

After Ascorbyl Glucoside converted into vitamin C, it can significantly reduce the free radicals generated by UV radiation, significantly reduce skin damage, and play a role in protecting skin in sunscreen products.

- **Promote Collagen Synthesis, Anti-wrinkles, and Anti-aging.**

Application: Cream, lotion, essence, etc. Recommend Dosage: ≤5%

Application Guide

Cream, lotion, essence, etc. Recommend Dosage: ≤5%

BeriCos® W-37

Phenylethyl Resorcinol

Product Introduction

Its unique structure determines its outstanding whitening and freckle removing performance. It effectively inhibits the synthesis of melanin by acting on multiple targets of the melanin synthesis pathway, thus achieving the whitening increment effect.

The structure of bisphenol, similar to hydroquinone, retains the activity of bisphenol. At the same time, phenylethyl may increase the competitive inhibition of tyrosinase, which is a whitening and freckle removing raw material with multiple mechanisms.

The strong antioxidant property is conducive to the regression of melanin (the oxidation process is caused by the formation of melanin). The antioxidant property of Phenylethyl Resorcinol is about 40% higher than that of VE and BHT at the same concentration.

Its unique structure and low molecular weight (easy to dissolve in polar oil system) make it easier to penetrate into the stratum corneum and play a whitening and freckle removing role.

It has outstanding anti free radical and antioxidant capacity, and its antioxidant activity is far better than that of VE, BHA, BHT, etc., which can effectively clear harmful free radicals on the skin. It can fight against aging and wrinkles caused by free radicals.

Efficacy Characteristics

- Whitening effect: improve uneven skin tone and reduce skin coloring caused by ultraviolet radiation.
- Excellent antioxidant function.
- Good stability and safety, no potential irritation or sensitivity.

Application Guide

1. Recommended for whitening and brightening products, spot lightening and freckle removing products, sun protection and post sun repair products, skin activating and anti-aging products, etc.
2. Recommended dosage: 0.1-0.5%
3. PH range: 4-6 will be the best

BeriCos® W-47

4-Butylresorcinol

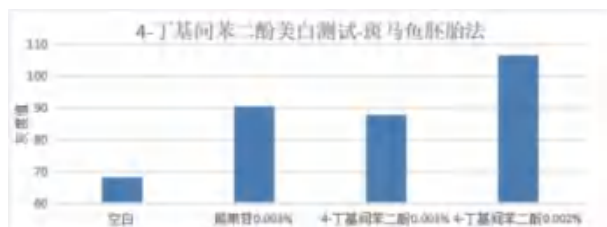
Product Introduction

Tyrosinase plays a key role in melanogenesis because it controls the rate of melanin deposition. 4-butyl resorcinol has an inhibitory effect on melanin production. It directly inhibits the activity of tyrosinase and the synthesis of tyrosinase in B16 melanoma cells without causing any cytotoxicity. In some in vitro studies, 4-butyl resorcinol can inhibit the production of melanin, tyrosinase activity and TRP-1.

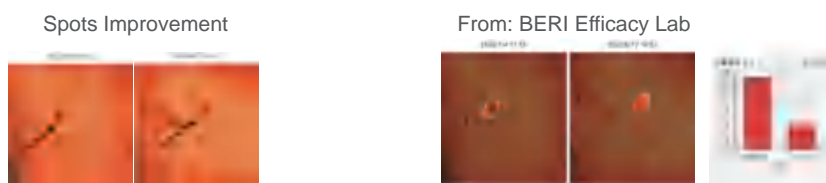
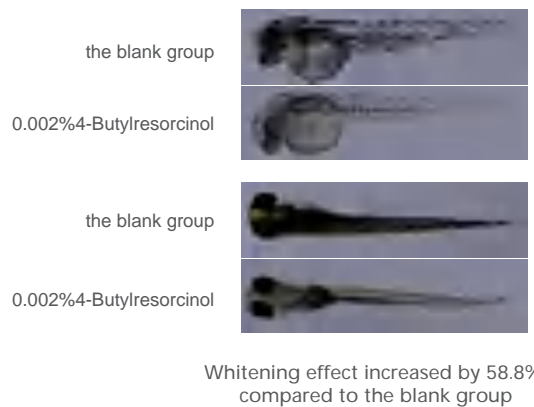
Efficacy Characteristics

- Whitening effect: improve uneven skin tone and reduce skin coloring caused by ultraviolet radiation
- Excellent antioxidant
- Good stability and safety, no potential irritation and sensitivity

Efficacy Testing



Zebrafish test conclusion: Based on the above test results, 4-butyl resorcinol has a whitening effect of 0.002%, which is significantly different from the blank control.



Test Conclusion: Using a cream containing 1% 4-butyl resorcinol significantly improves stain, while effectively reducing pigmentation and improving pigment uniformity.

Application Guidance

1. Recommended for whitening and brightening products, spot lightening and freckle removing products, sun protection and post sun repair products, skin activating and anti-aging products, etc.
2. Recommended dosage: 0.3%-2%
3. pH range: 4-5.5 will be best

BeriCos® 4MSK

Potassium Methoxysalicylate

Product Introduction

4MSK can correct atypical hyperplasia, poor keratinization and atrophy of the epidermis, significantly improve the keratinization process, and promote the smooth discharge of melanin; At the same time, it also promotes the enlargement and increase of transparent keratin particles, the thickening of the granular layer, the thinning of the stratum corneum, the acceleration of the layering of keratin cells, and the smoothness and whitening of the skin. 4MSK not only has the same effect of inhibiting melanin production as the existing whitening active ingredients, but also has the effect of regulating keratinocyte differentiation, which can improve the skin state where melanin is easy to be excessively deposited. The human effectiveness test confirmed that it also has excellent defense effect against artificial induced pigmentation.

Efficacy Characteristics

● Inhibit melanin synthesis

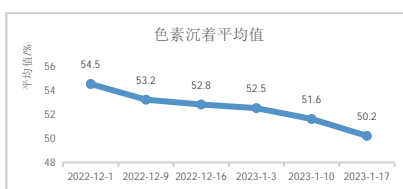
In the study of whitening ingredients, a very important link is of course the analysis of the actual production of melanin and the inhibition of tyrosinase. Simply put, the result is that 4msk can inhibit melanin production and tyrosinase activity at a certain concentration.

4MSK has two major effects on melanin

● Accelerate melanin metabolism

Shiseido's Research Report observed the differentiation and expression of three-dimensional cultured skin models in this plate, mainly focusing on the level of "papulin" in the granular layer. The results showed that the skin model added with 4msk was irradiated with ultraviolet rays, which significantly inhibited the decrease of papulin expression caused by ultraviolet rays. This observation indicates that from the in vitro experimental model, 4MSK has certain functional similarities with salicylic acid and can promote the smooth metabolism of melanin.

Efficacy Testing



trial product: 1% 4MSK and cream

testing site: forearm

testing instrument: Antera3 D Antera3D skin imaging measuring instrument

Test project: pigmentation

Application Guidance

1. Suitable for all kinds of skin care products, recommended for whitening, freckle removing, smooth skin and other formulas
2. Recommended dosage: 1.0-3%
3. pH range: 5-7

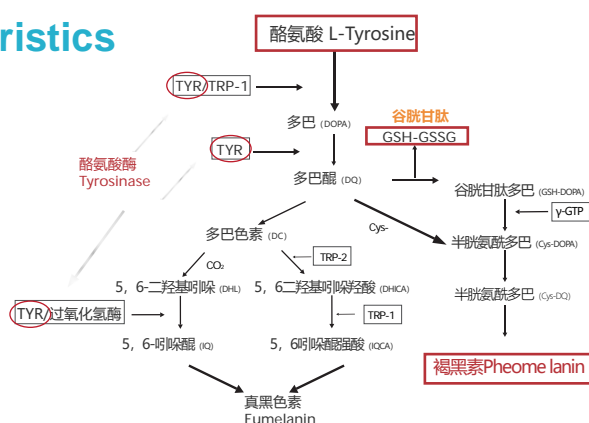
BeriCos® GSH Glutathione

Product Introduction

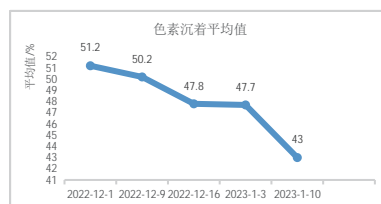
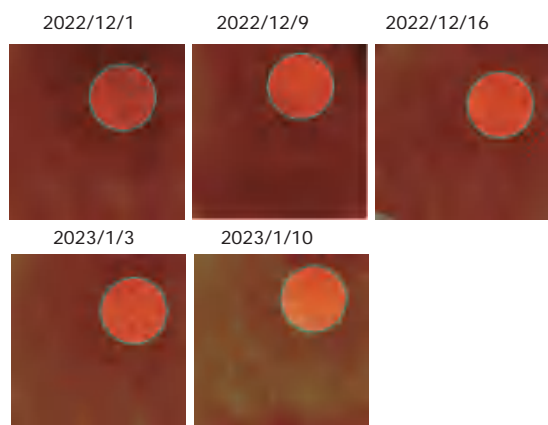
Glutathione is very familiar to many beauty lovers. It is the main ingredient in the whitening needle injection. There are also many beauty and skin care products on the market with it as the main ingredient.

Glutathione is known as the "Mother of Antioxidants". It participates in almost all antioxidant reactions in the human body. It has super powerful antioxidant properties and can fade black, yellow, whiten and improve skin quality.

Efficacy Characteristics



Efficacy Testing



Tested product: 2% Glutathione essence

Duration: 6 weeks

Site: forearm

Equipment: Antera 3D Skin imaging Measuring Instrument Test

Item: Hyperpigmentation

Application Guidance

1. Suitable for anti-aging, sunscreen, post sun repair, whitening, anti-inflammatory and anti allergy products
2. Recommended dosage: 0.5 - 3%
3. Soluble in water, but not exposed to the air for a long time, and not at high temperature. It is recommended to be added below 45 degrees
4. It is easy to be oxidized into "oxidation form" by oxygen, so it is necessary to reduce the exposure time as much as possible during storage and use, and low-temperature storage can prolong its stability.

BeriCos® FerAC Ferulic Acid

Product Introduction

Ferulic acid was first found in the seeds and leaves of plants. It is a phenolic acid that widely exists in plants. It combines with polysaccharides and proteins in the cell wall to form the skeleton of the cell wall, and rarely exists in free form.

It is one of these important effective ingredients, which has a high content in ferula, cimicifuga, angelica, zizyphus jujuba and other Chinese herbal medicines. Ferulic acid exists in onion, chrysanthemum and other edible plants, and the content of ferulic acid in food raw materials such as wheat bran, rice bran, bagasse and beet meal is also high.

Efficacy Characteristics

- Whitening
- Anti-aging
- Anti-oxidation
- Anti ultraviolet
- Anti-bacterial Anti-inflammatory
- Anti-tumor

Efficacy Testing



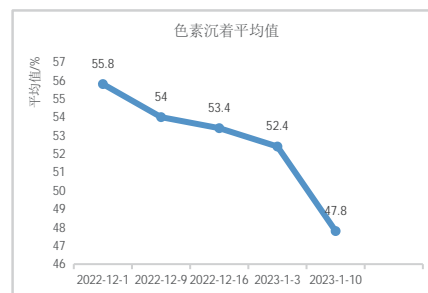
Tested product: 1% Ferulic Acid cream

Duration: 6 weeks

Site: forearm

Equipment: Antera 3D Skin Imaging Measuring Instrument

Test item: Hyperpigmentation



Application Guidance

1. Recommended for whitening and freckle removing products, anti-aging products, sun protection products, essence, facial mask, lotion, etc
2. Suggested dosage: 0.5-1%
3. PH range: 3.0-6.0

BeriCos® Pterostilbene

Pterostilbene

Product Introduction

Pterostilbene vs Resveratrol

Pterostilbene, as a trans stilbene compound, is a methylated derivative of resveratrol. It has antioxidant, anti-tumor, lipid-lowering, bacteriostatic and other biological activities, and its bioavailability is higher and more stable than Resveratrol.

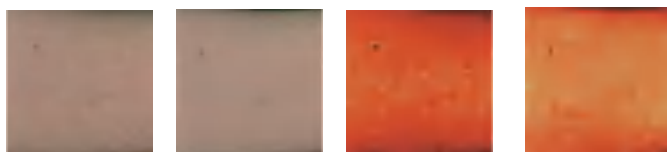
It has the similar mechanism to Resveratrol and is also a dimethylated derivative with better effect and better absorption.

Efficacy Characteristics

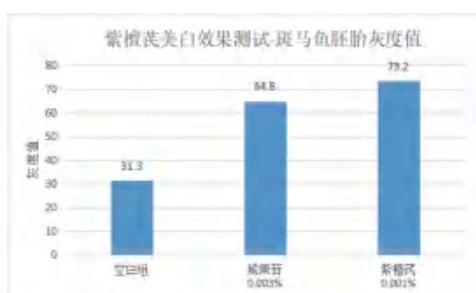
- Fight against a variety of free radicals; strong antioxidant
- Anti-inflammatory effect
- Anti-saccharification
- Inhibit melanin production
- Inhibition of tyrosinase activity
- Protect against ultraviolet rays and light damage
- Medicinal value of anti-cancer, hypolipidemic, hypoglycemic and anti-fungal

Efficacy Testing

Chromaticity 0 days Chromaticity 28 days Melanin deposition 0 days Melanin deposition 28 days

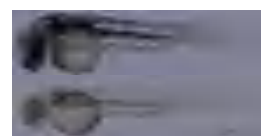


Conclusion: Using a 0.5% cream of Pterostilbene for 28 days can significantly brighten the skin tone and reduce pigmentation.



The whitening effect of the zebrafish test is significantly improved by 133.8% compared to the blank group

the blank group



0.01% Pterostilbene

the blank group



0.01% Pterostilbene

Conclusion: Based on the above test results, Pterostilbene has significant whitening effects compared to the blank control.

Application Guide

1. Applicable to all kinds of creams, lotion, facial mask and essence oil.
2. Suggested dosage: 0.05-0.75%. The historical maximum addition of palm bark extract was 0.525%, and that of rosewood extract was 0.75%.
3. Avoid light. The light will cause slight changes in the color of the product. It is recommended to use opaque packaging materials, and add light protectants to delay the color change.

BeriCos® TA

Tranexamic acid

Product Introduction

Tranexamic acid (TA) is a synthetic derivative of lysine, it has been safely used clinically for over 30 years to treat abnormal bleeding, as well as skin diseases such as eczema, hives, drug-induced irritation, and toxicoderma, via internal administration, and also orally to treat itching, swelling, and erythema.

With a Chemical structure partially similar to that of tyrosine, Tranexamic Acid (TA) is a skin whitening agent, it can reduce melanin production by inhibiting tyrosinase activity.

Confirmed by clinical trials, Tranexamic acid (TA) is suitable for all kinds of skin and can remove pigmentation, whitening, and lighten spots, such as pigmentation after sun exposure, dark spots (chloasma, freckles, senile lentils, etc.), sensitive skin, acne and inflammation, postoperative care after laser, pulse light treatment, etc.

Efficacy Characteristics

- Astringent
- Skin Conditioning
- Whitening/lightening Agent (10% liquid)

Application Guide

- 1.Application: Personal care products (Cream, lipstick, essential oil, etc.).
- 2.Suggested dosage: 1%-3%.

Product Introduction

Small molecule super antioxidant enzyme, stable, small, efficient absorption

EUK-134, First developed by Lucas Meyer, is a mimetic of superoxide dismutase and catalase, simulating the activity of two natural skin enzymes, which can scavenge superoxide free radicals and protect skin damaging from the so-called active toxic compounds of oxygen (ROS), O₂ and H₂O₂.

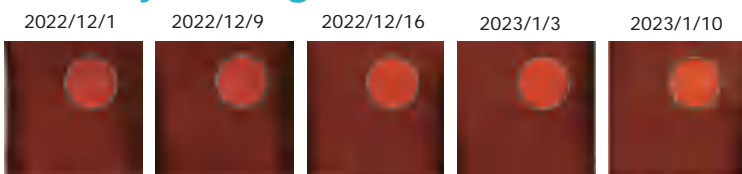
Citing research published by Estee Lauder, EUK-134 is UV resistant. When ultraviolet light hits the skin, a large number of oxygen free radicals will be generated, and photoaging occurs. EUK-134 can reduce the oxidative stress in skin cells after being irradiated by UVA, protect cells, reduce ultraviolet damage, and resist photoaging.

Mechanism of Action

Special action, unique function: dual pathway mechanism, circulation anti-oxidation

1. Double effect: It has the dual effects of superoxide dismutase SOD and catalase CAT, effectively improving cell damage caused by oxidative stress;
2. Catalytic regeneration: EUK-134 has a small molecular weight and can directly penetrate the skin and enter the skin to play a role. It is essentially a catalyst. The amount does not decrease after the reaction, and it can be reused. The dosage is small and the property is more stable.

Efficacy Testing



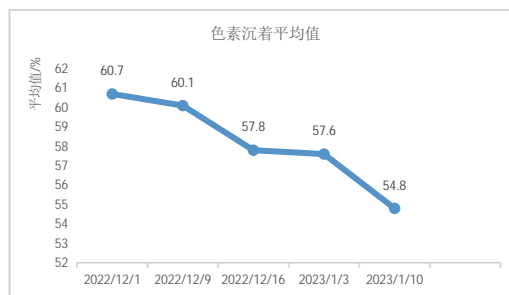
Tested product: 0.1% EUK 134 essence

Duration: 6 weeks

Site: forearm

Equipment: Antera 3D Skin Imaging Measuring Instrument

Test item: Hyperpigmentation



Application Guide

1. Suggested dosage: 0.01~0.1% (the highest dosage in history is 1%)
2. Application: Various functional cosmetics, including masks, essences, creams, and lotions. It is also recommended for anti-aging, after-sun repair, anti-oxidation and whitening systems.
3. Method of application: Water-soluble, but will easily be inactivated in water. It is recommended to use polyols to dissolve; at the same time, it is recommended to increase the proportion of polyols to stabilize its activity and extend the validity period.
4. Notice : Easily deactivate and discolor, strong acid and low pH VC will greatly reduced it when used in combination, so it's not recommended to be used with prototype VC; it is unstable even under weak acidic conditions, and chelator will also affect its activity. pH range: 6.0-8.0.

BeriCos® Melatonin

Melatonin

Product Introduction

Melatonin is one of the hormones secreted by the pineal gland of the brain. The secretion of melatonin has obvious circadian rhythm, which is inhibited in the daytime and active in the evening. It has strong neuroendocrine immunoregulatory activity and free radical scavenging antioxidant ability and may become a new antiviral treatment method and approach.

Melatonin plays a key role in rejuvenating skin through its interactions with major skin cells such as keratinocytes and fibroblasts. Melatonin protects keratinocytes against cell death, while stimulating the growth of fibroblasts. Fibroblasts produce the essential proteins collagen and elastin, which provide structural support for the skin.

Mechanism of Action

Melatonin has been found to be effective against skin aging. It has powerful antioxidant properties by quenching mainly hydroxyl radicals, the most damaging of all radicals. In addition, research shows that pretreating human skin with topical melatonin can confer strong protection against ultraviolet (UV) light-induced erythema (sunburn) by suppressing oxidative damage. Studies also show that while sleep deprivation can delay wound healing, topical treatment with melatonin can improve the quality of wound healing and scar formation.

Application Guide

- 1.Application: Lotion, cream, essence, facial mask and other anti-oxidation whitening products.
- 2.Recommend Dosage: 0.0015%

BeriCos® GG Glyceryl Glucoside

Product Introduction

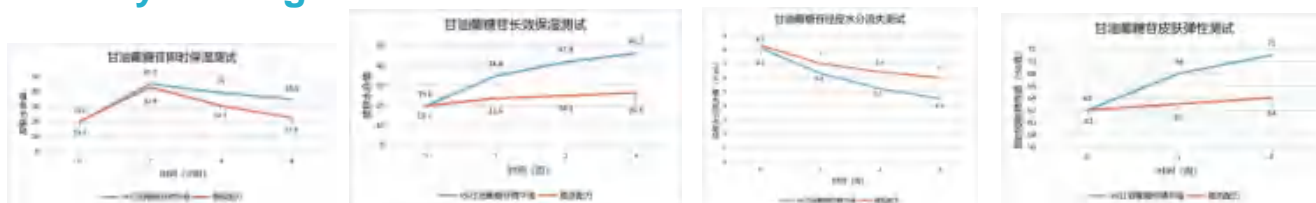
Glycerol glucoside is a glycoside compound composed of glucose and glycerol linked by glycosidic bonds. It can protect cells from harsh environments such as high osmotic pressure, high temperature, drought, and ultraviolet radiation. With a very small molecular weight of only 254DA, it can directly penetrate into the dermis of the skin, exerting multiple physiological effects, improving skin problems such as dryness, dullness, fine lines, redness, and relaxation, achieving a comprehensive and three-dimensional repair effect



Efficacy Characteristics

- Strong and lasting moisturizing and water locking function
- Increase aquaporin expression, protect cell membrane and prevent water loss
- Activate cell vitality and accelerate skin cell metabolism
- Enhance the antioxidation of skin cells
- Promote the synthesis of type I collagen precursor
- Reduce redness of skin and fight against rash
- Accelerate wound healing and tissue repair

Efficacy Testing



Conclusion: after using 3% glycerol glucoside essence for 4 weeks, it has significantly improved skin hydration value, reduced transcutaneous water loss (repair skin barrier), and improved skin elasticity

Application Guidance

1. Suitable for all types of facial mask, skin care, facial cleansing, hair care, makeup and other products
2. Recommended dosage 0.05-2% (99% purity pure frequency) liquid version addition 1-5%
3. pH range: 3-11
4. Tips: Glyceryl glucoside can also protect hair and nourish hair. It can effectively promote the synthesis of vascular endothelial growth factor 9vegf in dermal papilla cells, enhance the vitality of keratinocytes, and have a good effect on hair growth and nourishment

BeriCos® Proxylane-POW

Hydroxypropyl Terrahydropy Rantriol

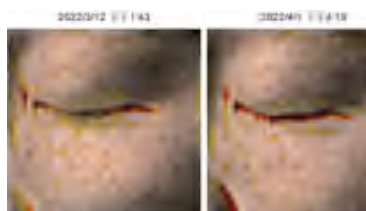
Product Introduction

Proxylane is a mixture of glycoproteins that can stimulate the production of aminoglycans (GAGs) in the skin, prevent water loss, maintain skin elasticity and firmness, promote collagen type and IV type bovine growth, and strengthen the connection between the dermis and epidermis. Help the skin absorb the active ingredients in cosmetics. According to the research data in the patent application "New C-glycoside Derivatives and Their Cosmetic Uses" from Oulaitui, the higher the S-configuration content, the better its activity and efficacy. Our company adopts chiral separation technology to obtain a Bose product with S: R=90%: 10% or more, which has excellent activity and efficacy. The pure product is white to almost white powder, and can be customized with a 30% 50% content solution

Efficacy Characteristics

- Basement membrane proteoglycans increased, CD44 increased, and multi ligand proteoglycans increased
- The bonding force at the junction of epidermis and dermis was enhanced
- Synthesis of glycosaminoglycans (GAGs) synthesis of proteoglycans (PGs)
- Repair, compact and elastic

Efficacy Testing



Conclusion: Using a cream containing 9% hyaluronic acid for about 20 days can significantly improve the number, length, width, depth, and other phenomena of skin wrinkles, and lighten skin fine lines

Application Guidance

1. Recommended for long-term moisturizing, anti-aging, repair, and wrinkle removal formulas;
2. Product specifications: 99% content, 30% content
3. Suggested dosage: 0.2-10% (powder): 10% -30% (30% liquid): Pure substance with a maximum historical addition amount of 10.5%
4. pH range: 4.5-8.5. Solubility: water-soluble

Hydroxypinacolone Retinoate

Product Introduction

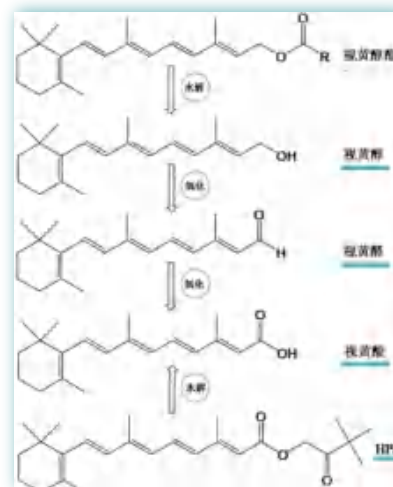
Hydroxypinacolone retinoate (HPR) is a revolutionary new retinoid. Research shows that compared with other vitamin A products, it does not need to undergo metabolic transformation (generally, retinol needs to undergo two-step transformation in the skin) to directly play its role through agonizing receptors.

It is less irritating, but it is highly effective, more stable, and less prone to oxidative failure.

It is a safe and effective anti-aging (effectively reducing fine lines and wrinkles, and lightening color spots) and anti acne ingredient.

Efficacy Characteristics

- Improve fine lines and wrinkles
- Antioxidant
- Fade epidermal pigment and reduce skin roughness
- Reduce age spots and skin peeling
- Acne treatment
- Control oil and inhibit sebum secretion
- Promote collagen production
- Higher stability and lower stimulation than retinol



Transformation chain of vitamin A derivatives
Ester→Alcohol→Aldehyde

Application Guidance

1. It is suitable for skin care products such as facial mask, essence, night cream, etc., especially recommended for products with anti-aging and wrinkle removing effects;
2. Specification: 98% powder, 10% liquid
3. Recommended dosage: Powder: 0.001~0.3%; 10% liquid: 0.01-3%,
4. pH range: 5.0-6.5, optimal result; Solubility: Oil soluble.

BeriCos® Chromanol

Dimethylmethoxy Chromanol

Product Introduction

Professional free radical scavenging, with dual scavenging effects against RNS and RCS, it effectively scavenges singlet oxygen activity, reduces lipid per-oxidation in human cells, resists photo-oxidation, protects DNA, improves cell vitality, and reduces oxidative stress. It is especially suitable for anti-aging and anti premature aging products.

Efficacy Characteristics

- Dual cleaning effect of RNS and RCS
- Effective elimination of singlet oxygen activity
- Effectively inhibit oil peroxidation induced by peroxynitroso anion
- Prevent skin damage caused by excessive production of nitroso anions and nitrogen-containing oxides
- By inhibiting the production of oxygen free radicals, it can resist the light damage of UVA and play a protective role
- Inhibition of oil peroxidation at low concentration
- Avoid peroxidation of oil in essential oil
- Protection of human fibroblasts against oxidative stress

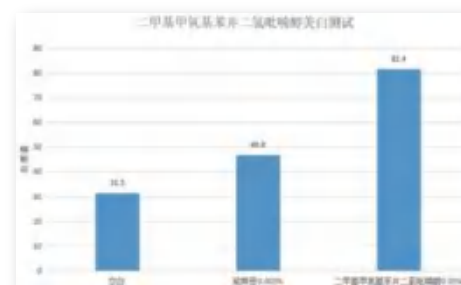
Efficacy Testing

Zebrafish test with 0.05% dimethoxybenzaldehyde and dihydrogen for less than 3 days.



the blank group

0.05% Chromanol



From: BERI Efficacy Lab

Conclusion: According to the above test formula, dimethoxybenzaldehyde and dihydrogen have a whitening effect, which is significantly different from the control group.



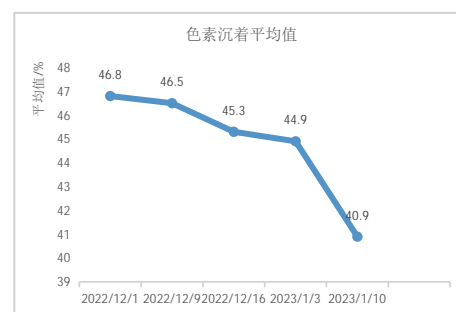
Tested product: 0.5% Dimethylmethoxy Chromanol cream

Duration: 6 weeks

Site: forearm

Equipment: Antera 3D Skin Imaging Measuring Instrument

Test item: Hyperpigmentation



From: BERI Efficacy Lab

Application Guidance

1. Suitable for facial mask, essence, night cream, lipstick, essential oil and other skin care products, especially recommended for products of anti early aging
2. Suggested dosage: 0.01-02%, pH range: no strict requirements

BeriCos® DCP

Dimethylmethoxy Chromanyl Palmitate

Product Introduction

A whitening molecule specially designed for skin whitening - Pyran whitening agent.

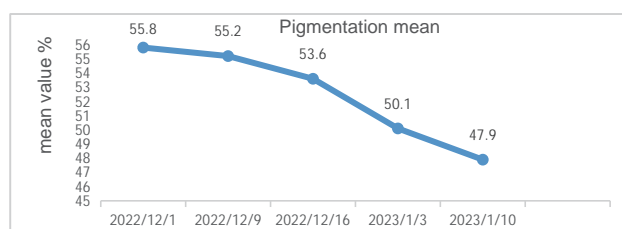
Dimethylmethoxy Chromanyl Palmitate is a new skin whitening molecule. It has all the characteristics of a new whitening and freckle removing product. It is a skin whitening active substance of complete elements in cosmetic application, and has significant whitening effect and light protection effect.

Product Performance

- Inhibition of mushroom and endogenous human tyrosinase activity
- Inhibition of melanogenesis in human epidermal melanocytes
- It has a significant whitening effect in human experiment
- It has a obvious freckle removing effect
- It has a significant cell light protection effect and can protect skin from UV damage
- At the same concentration, compared with the obvious cytotoxicity of hydroquinone, it has lower cytotoxicity and
- better safety in cosmetics

Efficacy Testing

2022/12/1 2022/12/16 2023/1/3 2023/1/10



Tested product: 1% Dimethylmethoxy Chromanyl Palmitate cream

Duration: 6 weeks

Site: forearm

Equipment: Antera 3D Skin Imaging Measuring Instrument

Test item: Hyperpigmentation

Application Guidance

- 1.Recommended Dosage: 0.1% - 0.5%.
- 2.Application: suitable for whitening and freckle removing, skin brightening, sun protection, cell light protection, anti-oxidation, anti-aging and other products.
- 3.Usage: add to oil phase, dissolve and emulsify.

BeriCos® Thiotaurine

Thiotaurine

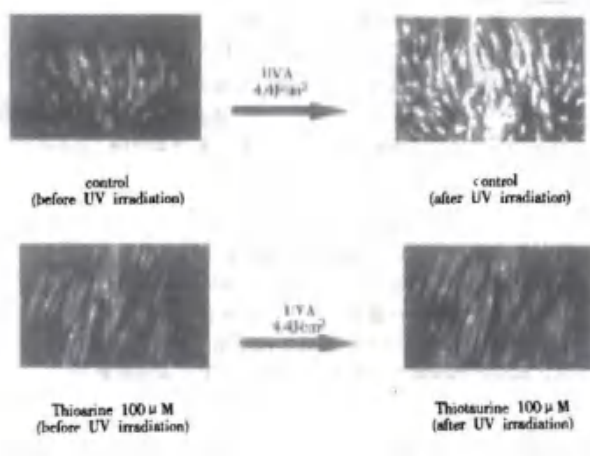
Product Introduction

It is a strong antioxidant that can scavenge free radicals produced by polycyclic aromatic hydrocarbons (the main organic pollutants that affect human health), and has a protective effect on fibroblast damage caused by polycyclic aromatic hydrocarbons.

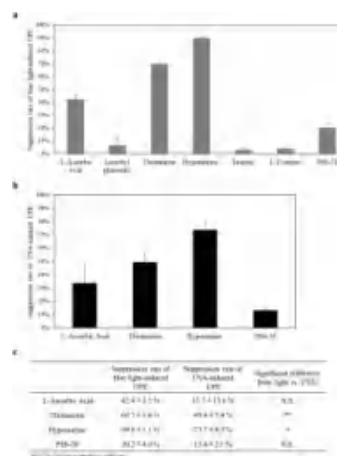
At the same time, it can relieve protein carbonylation, prevent lipid peroxidation on the skin surface, eliminate free radicals, and has a strong antioxidant effect. It is often used in anti-aging products. In addition to anti-oxidation, it also plays a role in many aspects such as anti-pollution, anti-oxidation, anti-inflammation, and anti-sugar.

Efficacy Testing

Inhibit blue light or UVA-induced peroxidation



Defense against lipid peroxidation on the skin surface



Application Guidance

1. Applicable to various functional cosmetics, recommended for anti-aging, anti-wrinkle, sunscreen repair, redness reduction, brightening and other series of products;
2. Suggested dosage: 0.02~0.07%;
3. pH range: 5.0-9.0;
4. Avoid high temperature and light for a long time; if iron ions are contained in the system, it may cause yellowish turbidity.

BeriCos® 10-HDA

10-Hydroxydece Noic Acid

Product Introduction

Royal jelly:

It is the secretion of the pharyngeal glands of young workers who cultivate larvae in the honeycomb. It is the food for the larvae that will become the queen bee, and it is also the food for the queen bee for life. The queen bee can therefore also obtain stronger fertility and a long life span.

10-HYDROXYDECE NOIC ACID

It is a unique unsaturated fatty acid in royal jelly. Only royal jelly contains this substance in nature. Many properties of royal jelly, such as odor and pH value, are related to this substance, and its antibacterial and anti-inflammatory effects are also related to the existence of this substance.

Features:

1. Antibacterial activity;
2. Anti-inflammatory activity;
3. Immunomodulatory activity;
4. Anti-aging activity;
5. Antitumor activity;
6. Anti-radiation activity;
7. Hypoglycemic and hypolipidemic activity;
8. Neuromodulatory activity

Application Guidance

1. Suitable for all kinds of health foods and beverages, and the recommended dosage is 1.4-2.0%;
2. Applicable to various functional cosmetics, recommended for oil control regulation, antibacterial anti-inflammatory and anti-aging products. Suggested dosage: 0.5~2.0%;
3. Oil-soluble. Recommended to be added after dissolution in polar oil;

BeriCos® Copyrrol Pyrrolidinyl Diaminopyrimidine Oxide

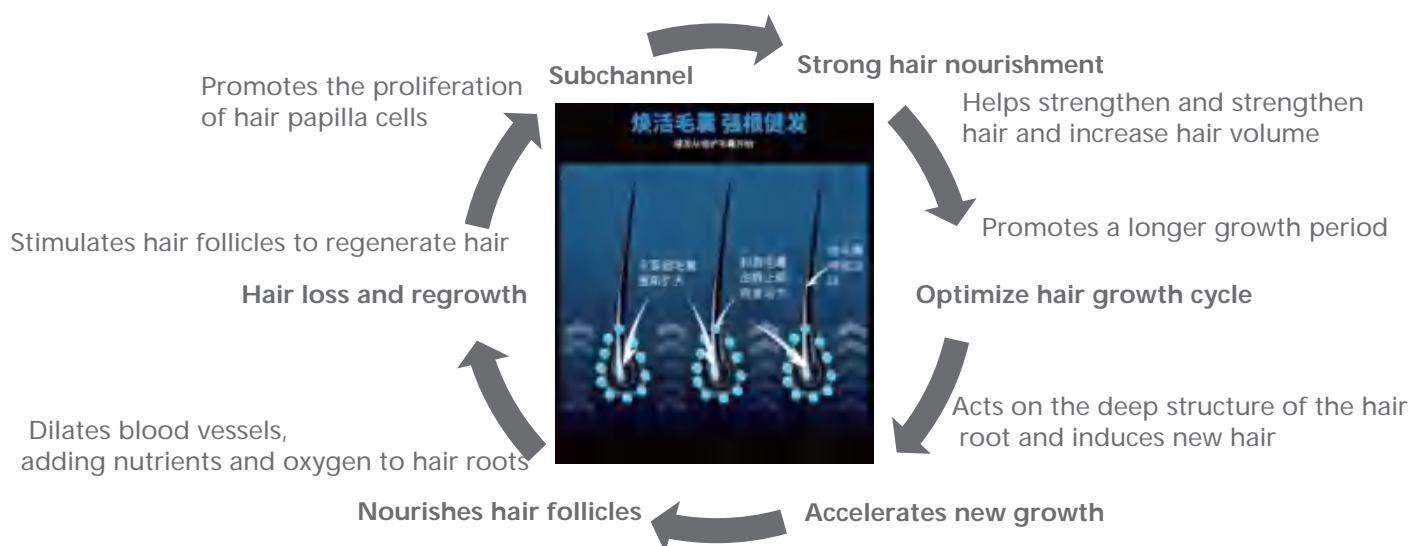
Product Introduction

Repair weak hair follicle cells by supplying nutrients required for hair growth, and acts on the deep structure of hair roots, thereby increasing the number of hair in the growth period.

Through blood circulation, it acts on the root of hair, which plays an important role in a healthy scalp and show. It is often used in hair care products to combat hair loss caused by premature aging of hair roots.

Efficacy Characteristics

- By supplying the nutrients needed for hair growth, it repairs weakened hair follicle cells and acts on the deep structure of the hair root, thereby increasing the amount of hair during the anagen period.
- Through blood circulation, it acts on the hair roots that play an important role in a healthy scalp and beauty. It is often used in hair care products to combat hair loss caused by premature aging of hair roots.



Efficacy Testing



Efficacy Test of Anti-hair loss & Hair Growth

From: BERI Efficacy Lab

Products tested: 1.0% Pyrrolidinyl Diaminopyrimidine Oxide & 1.5% Diaminopyrimidine Oxide

Cycle: 6 months; Frequency: 4-5 times per week

Test Result: After 6 months of use, there is obvious hair regeneration observed, which indicates that the product has the effects of preventing hair loss and promoting hair growth.

Application Guidance

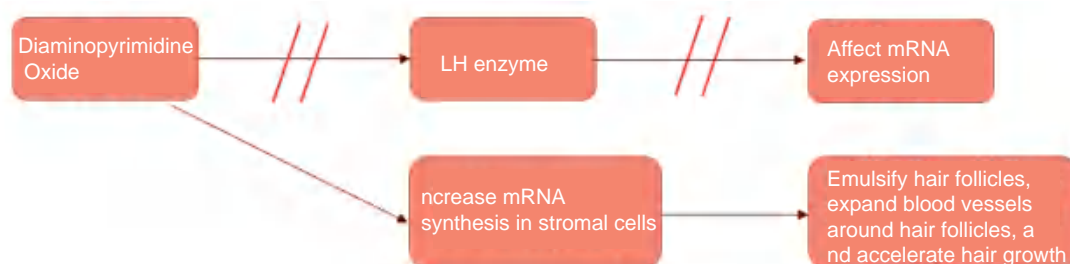
1. Recommended for hair care products, hair loss prevention products, eyelash growth products, etc
2. Suggested dosage: 0.5-1%, Solubility: alcohol soluble.

BeriCos® Copexil

Diaminopyrimidine Oxide

Product Introduction

The new anti-hair loss ingredient takes into account the comparable effect and also adds a new skill to effectively soften keratin, balance control and reduce inflammation. As a hair growth promoter, diaminopyrimidine oxide acts on the deep structure of the hair root during the hair growth stage, thereby increasing the number of hair, restoring the vitality of the hair root, and allowing the hair to continue healthy growth.



- **Inhibits LH (lysine hydroxylase)**

Helps soften collagen, inhibit the production of collagen around hair follicles, avoid fibrosis, and treat hair loss due to premature hair root loss.

- **Increases the synthesis of mRNA in stromal cells**

It Emulsifies hair follicles, dilates blood vessels around hair follicles, and accelerates hair growth.

- **Open potassium channels.**

It can shift the hair follicle from the telogen phase to the growth phase and can prolong the growth phase of hair, expand peripheral capillaries, promote nutrients needed for hair growth, and promote the proliferation of hair papilla cells.

Application Guidance

1. Recommended for hair care and toughening products, hair loss prevention products, eyelash growth products, etc
2. Suggested dosage: 0.5-1.5%
3. Solubility: water-soluble can completely dissolve if the dosage is < 1.5% (the solubility in 100g water is 3.3g)

Product Introduction

Ectoin comes from high salt phages, so it is also called "extract of salt tolerant bacteria". It is an amino acid derivative and belongs to the extreme enzyme component. Extreme electrolyte is a protective molecule with very little stress. Under extreme conditions of high salt, high temperature and high ultraviolet radiation, it can protect extreme microorganisms and plants from harmful environmental effects such as salt lakes, hot springs, ice blocks, deep seas or deserts, so as to avoid harm.

Efficacy Characteristics

- Strong water molecule capture and complexation ability: its unique ring-shaped molecular structure makes it have a strong water molecule complexation ability. One molecule of ectoine can complex four or five water molecules, which can structure free water in cells.
- Powerful cell repair function, anti-inflammatory repair: it has a miraculous effect on repairing cell DNA damage caused by ultraviolet rays. It can effectively reduce the generation of sunburn cells and prevent cell membrane structure from being damaged. At the same time, it can increase the cell repair ability, repair the cell DNA damage caused by ultraviolet rays, and repair the light damage and photo-aging caused by drinking ultraviolet rays.



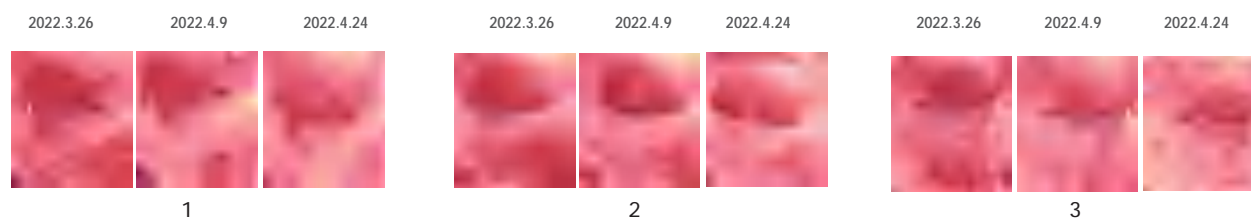
high salt phages



Ectoin

Efficacy Testing

Improve the effect of redness.



The test conclusion is that the use of 1% ectoin essence, about one month, significantly improves skin redness and other phenomena.

Application Guidance

1. Suitable for all types of skin care products, especially for anti-aging, sunscreen, post sun repair, moisturizing, anti-inflammatory and anti allergy products
2. Suggested dosage: 0.05-2%; pH range: 1-9

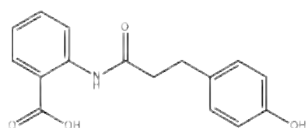
Hydroxyphenyl Propamidobenzoic Acid

Product Introduction

Modern studies have shown that oat alkaloids have strong anti-inflammatory and anti-pruritic properties, making them a powerful non-steroidal anti-inflammatory and anti-pruritic natural ingredient with potency equivalent to hydrocortisone.

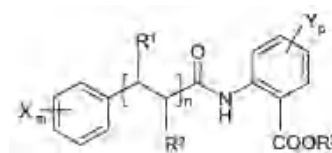
At the same time, it has multi-functional anti-inflammatory activities, including inhibiting the degradation of the keratinized nuclear factor NF kappa B-A, which is directly related to the occurrence of inflammation, and preventing the phosphorylation of p65 protein subunit on the nuclear factor NF kappa B-B, so as to block the occurrence of cellular inflammation, reduce the occurrence of verification immune response and the response of cutaneous neurodermatitis.

Natural plant structure: Hydroxyphenyl Propamidobenzoic Acid



The Hydroxyphenyl Propamidobenzoic Acid, synthesized based on oat alkaloids, is similar to the antihistamine drug tranestan. It can exert multiple effects such as antihistamine, anti-oxidation, anti-stimulation, anti-inflammation and erythema improvement, and has a good effect in alleviating itching, irritation and redness of sensitive skin.

Anti-allergy drug: Tranilast



Anti-allergic drug, as a release inhibitor of allergic reaction media, has the effect of stabilizing mast cells and alkaline granulocyte membranes. It is suitable for the treatment of bronchial asthma, allergic rhinitis and atopic dermatitis.

Application Guidance

1. As an anti-pruritic and anti-sensitive ingredient in various skin care products, bath shampoos and other products, it is especially suitable for sensitive skin, hormone face repair or children's products.
2. Suggested dosage: 0.05-2%
3. pH range: 5.5-7.5
4. This ingredient is mainly aimed at histamine inhibition (anti-pruritic effect), so it is recommended to mix other anti-allergy ingredients with other effects according to different products, so that the effect will be more comprehensive.

BeriCos® OCT

Piroctone Olamine

Product Introduction

Piroctone Olamine is the only dandruff and anti-pruritic agent that can be used for disposable hair products. It has a broad-spectrum killing effect on fungi and molds, and has a good therapeutic effect on tinea pedis and tinea manus. It can be used as a preservative in cosmetics, a bactericide in soaps, and a thickening agent. Therefore, Piroctone Olamine is a multi-functional anti-dandruff and anti-itch bactericide that is widely used in shampoo and hair care products, baths, cosmetics and washing products.

Efficacy Characteristics

- Broad spectrum antibacterial, no Paraben, non formaldehyde releasing agent
- Effectively inhibits Malassezia, removes dandruff and itch, and relieves scalp inflammation
- Safe, mild, low irritation, no hair loss or break
- Due to the limited use of ZPT, OCT is a very suitable alternative product. At the same time, it is flexible to be used in the formula, suitable for transparent formula, and does not need a suspension stabilizer. In addition, it can act as a thickener in sulfate formulation.
- It can reduce sebum secretion on the skin surface and is suitable for oily scalp and skin, men's formula, and it has an anti-acne effect and can alleviate acne skin.

Efficacy Testing



Test conclusion: After using OCT 2-3 days, the bacteria that produce dandruff are reduced several times, and the effect is significant for removing dandruff.

Application Guidance

1. Suitable for dandruff removing shampoo, disposable hair conditioner, deodorizing and bacteriostatic spray, pet care and other products
2. Suggested dosage: 0.1% - 1%
3. pH range: 3.0-9.0

BeriCos® HD-100

2-hydroxyethanesulphonic Acid

Product Introduction

A new anti-dandruff antipruritic agent with a very strong killing effect on Malassezia (Pityidium ovum), which causes dandruff. Broad-spectrum bacteriostatic agents, fungicides against bacteria, molds and yeasts. It is increasingly widely used in the cosmetics industry, with good anti-acne, oil control, anti-irritation, and anti-dandruff effects.

Efficacy Characteristics

● Broad spectrum bacteriostasis

Compared with other anti-acne products, the anti-bacterial effect on Propionibacterium acnes (MIC)



Before



After 4 weeks



Stop using for 2 weeks

Clinical test (scalp ultra close shot)

Use a shampoo containing 0.03% 2-hydroxyethanesulphonic Acid dandruff remover for 4 weeks, and observe the scalp condition.

| ANTI-ACNE AGENT | MIC(µg/ml) |
|----------------------------------|--------------|
| Erythromycin | 1000 |
| Clindamycin | 500 |
| Tetracycline | 31 |
| Benzoyl peroxide | 50 |
| Salicylic acid | 1000 |
| Triclosan | 400 |
| Quercetin | 30 |
| Quercetin + Salicylic acid (1:1) | 58 |
| 2-hydroxyethanesulphonic Acid | 0.1 |

Test results: after 4 weeks, the dandruff was significantly improved and could last for a long time

● Effectively reduce odor caused by bacteria

Sweat itself will not have a bad smell, and the main reason why sweat has a bad smell is that sweat is mixed with bacteria on the skin's surface and breeds in large numbers. 2-hydroxyethanesulphonic Acid can effectively inhibit the growth of bacteria and reduce the bad smell of sweat.

The excessive smell produced by pets also comes from the propagation of bacteria. 2-hydroxyethanesulphonic Acid can effectively reduce the growth of bacteria, alleviate the unpleasant smell of pets, and make companionship more comfortable.

It can be used to improve various cases of odor caused by bacterial breeding

Application Guidance

1.Suitable for anti-dandruff:shampoo, hair care products, anti-acne products, odor-removing products, and as anti-corrosion ingredients in various products.

2.Method of Application:Soluble in water (80 ℃), ethanol, propylene glycol (60 ℃); insoluble in oil; pH range: 3-8

3.Recommended dosage:Anti-dandruff & anti-itching: 0.02-0.05%,Anti-pruritic: 0.01-0.02%,Acne removal: 0.08-0.1%,Odor removal: 0.05-0.1%.

BeriCos® PQ73

Quaternium-73

Product Introduction

Quaternium-73 has strong antibacterial properties and effectively inhibits *Propionibacterium acnes*, a leader in acne removal. It has an excellent broad-spectrum antibacterial effect and has an obvious inhibitory effect on common strains such as *Staphylococcus aureus*, *Escherichia coli*, and *Propionibacterium acnes*.

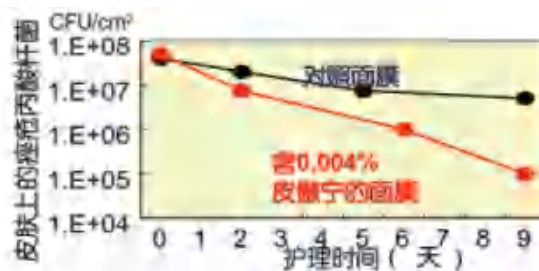
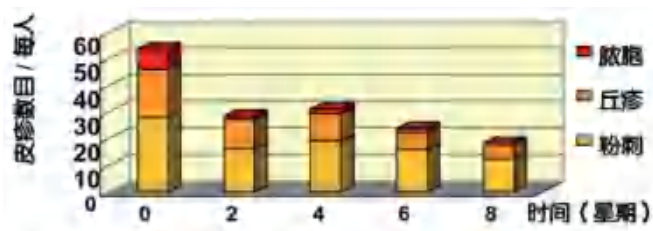
Mechanism of Action

- It destroys bacterial and fungal cell membranes and has excellent effects on *acnes propionate*.
- Promote bacterial cell degeneration and accelerate maturation.
- Its main mechanism of action is to start with bacterial cells, destroy their cell membranes, promote the degradation of bacterial cells, remove their skin bags, accelerate the maturation of acne and promote the outflow of secretions, then the acne will disappear soon.

Efficacy Testing

Strong inhibitory effect on *Propionibacterium acnes*

Test method: 38 testers with acne problems were given a cleanser containing 0.001% Quaternium-73 daily, and a mask containing 0.005% Quaternium-73 three times a week twice a week.



- Test results: the number of rashes in 2 weeks was significantly reduced, about 50%; With continuous use, the effect is maintained for a long time.
- The test results concluded that *Propionibacterium acnes* will resist conventional fungicides, but due to the special mechanism of action of Quaternium-73, it can be inhibited to a certain extent with only a very low dosage. From the perspective of *Propionibacterium acnes* to inhibit acne, it also has the effect of breaking the anaerobic environment and inhibiting seat sores in practical applications.

Application Guidance

1. Suitable for all kinds of skin care products, recommended for oil control and acne removal, anti-acne, whitening, freckle removal and men's skin care products.
2. Suggested dosage: 0.001-0.005% (powder); 1%-5% (0.1% liquid)
3. pH range: 5.5-8.0

BeriCos® VB6-Trip

Pyridoxine Tripalmitate

Product Introduction

Pyridoxine tripalmitate is a B6 derivative of vitamin, which completely retains the activity and corresponding efficacy of VB6. For example, it can regulate sebum vitality, normalize skin protein and amino acid metabolism, prevent rough skin, acne and sunburn, increase skin mucosal Metabolism, and have curative effects on dermatitis, eczema and acne. And VB6, like VB5, can increase the content of hyaluronic acid in the epidermis and has an anti-aging effect on the skin.

Efficacy Characteristics

Repair: Prevent rough skin, acne and sunburn

Adjust: Normalize protein and amino acid metabolism of head skin

Oil control: Regulates the vitality of sebaceous glands and can be used in oil control products for skin and hair

Hair care: Maintain the health of hair follicles and hair and treat hair loss

Advantages

Pyridoxine tripalmitate vs VB6

- Pyridoxine tripalmitate is added with three palmitates to the basic structure of VB6. Yes, the originally water-soluble property has changed into lipophilic and ester lipophilic properties, and the particularly good oil-soluble property has brought about improvement in absorption and stability.
- Pyridoxine tripalmitate -- better stability, ester affinity and better absorption

Application Guidance

- 1.Suggested dosage: 0.01-0.09% (historical maximum dosage: 0.090948%)
- 2.Application: suitable for oil control and anti-dandruff shampoo, hair care products, anti-acne products, and other personal care products
- 3.Usage: good oil solubility; can be pre-dispersed in grease
- 4.Precautions: recommended to be added below 40-50℃ after pre-dispersed with various grease; avoid prolonged heating or high temperature to reduce discoloration.

BeriCos® Azelamide MEA

Azelamide MEA

Product Introduction

As a derivative of azelaic acid, Azelamide MEA has good water solubility and the same biological activity as azelaic acid, but it does not have the inherent shortcomings of azelaic acid, which is hard to dissolve in water/oil, damage emulsification system, hard to play the effect and high irritation, so it is often used to replace azelaic acid in cosmetics. Azelamide MEA is often used instead of azelaic acid in cosmetics.

Efficacy Characteristics

Whitening spot:Can selectively act on abnormal pigment cells (such as spots or hyperpigmentation), inhibit their tyrosinase activity, reduce skin melanin production, and treat pregnancy chloasma.

Oil control:By competitively inhibiting 5- α reductase (that is, inhibiting the conversion of excess testosterone into dihydrotestosterone), it can inhibit the excessive secretion of oil in the sebaceous glands and play the role of oil control.

Antibacterial and anti-acne:Provides a good weak acidic environment for the skin, and has a strong inhibitory effect on propionibacterium acnes which causes acne on the skin. It inhibits inflammatory intermediates and regulates keratin, prevents hyperkeratosis of hair follicles, and reduces the occurrence of acne closure by reducing the synthesis of filamentous keratin,

Advantages

Good solubility, high utilization rate, low irritation, Has higher activity than azelaic acid

- As a derivative of azelaic acid, it has higher activity, stability and solubility, and it is commonly used as a substitute for azelaic acid in cosmetics.
- It is a new type of sebum balancer, which is suitable for the care of oily and seborrheic skin. 100% monomer, non-itchy, non-irritating, and will not cause skin redness or irritation, or dry the skin too much.
- When Azelaamide MEA meets the skin, it will generate azelaic acid to play a role, so its efficacy is equivalent to that of azelaic acid. Owing to its better solubility, less addition (0.2~2.35% addition) can achieve the same effect as azelaic acid (10~20% addition).
- With strict quality control, the product has high purity, and the risk substances are controlled at a very low level, so it can be safely used.

Application Guidance

1.Application: Applicable to various functional cosmetics, recommended for oil control, acne removal and acne marks, acne treatment, whitening and freckle removal, acid removal, goose bumps removal, and hair loss prevention products.

2.Suggested Dosage: Exfoliator: 0.2~2.35%; Oil control and acne removal: 0.5~1.5%; Whitening and lightening: 1.5~2.35%; Auxiliary hair loss: 1.0~2.0%; (the highest dosage in history is 2.355%)

60% Ultrafine Azelaic acid

Product Introduction

Azelaic acid, also known as azalea acid, has many effects such as acne elimination, oil control, anti-inflammatory, whitening, etc. However, Azelaic acid has the characteristics of high melting point (109-111 °C) and low solubility (0.24% in water at 25 °C, and poor oil solubility), which limits its application in cosmetics.

BeriCos® AzA-60 is developed by using ultra-fine comminution technology and high-pressure homogenization technology. The particle size of azelaic acid is < 1 micron (generally, the diameter of cream / Lotion chyle is about 1 micron). It can be added to cream / lotion products after emulsification, which is convenient for use in high content azelaic acid products and is more conducive to use in skin drugs, cosmetics and care products.

Advantages

- Good stability: Azelaic acid particle diameter < General chylous particles. It can be stably suspended in cream / lotion system, and is not easy to aggregate, precipitate and precipitate.
- Good skin feeling: Ultrafine particle diameter, fine skin, no particle feeling.

Efficacy Characteristics

- **Antibacterial and anti-inflammatory effects:** Azelaic acid can inhibit the protein synthesis of bacteria, directly inhibit and kill aerobic and anaerobic bacteria on the skin surface and in hair follicles.
- **Regulate sebaceous gland function:** competitive inhibition 5- α The role of reductase can reduce sebum secretion, reduce the formation of acne and blackheads, improve the coarse pores, reduce acne, and fight against seborrheic alopecia.
- **Prevent skin keratosis:** It has anti keratinization effect on normal skin and acne infected skin, reduces the synthesis of filamentous keratin, and prevents excessive keratinization of hair follicles.
- **Whitening and lightening spot:** inhibit the transition activity of abnormal melanocytes, inhibit the production of reactive oxygen free radicals, and weaken pigment precipitation.

Application Guidance

- 1.Suggested dosage: 0.5~30%
- 2.Application: Cream, lotion, essence, facial mask and other products
- 3.Storage Conditions: Store in a dry and cool place, sealed and avoid light
- 4.Method of Usage: After emulsification, add it to the cream / lotion, stir and disperse.

BeriCos® VBE

Vanillyl butyl ether

Product Introduction

It is an oil-soluble heat sensitive agent, which can quickly produce a mild and lasting heat source response after local action on the skin, including accelerating micro-circulation, stimulating subcutaneous fat metabolism, promoting capillary circulation, etc. The thermal sensation of Vanillyl butyl ether is several times that of general pepper extract, with low irritation. The thermal sensation can be held for several hours, and a strong thermal sensation can be obtained at a very low dosage. At the same time, Vanillyl butyl ether is stable and has a pleasant vanilla flavor.



Mechanism of Action

- Vanillyl butyl ether induces nervous system heat sensation through vanilla groups, and sensory neurons are activated by the binding of vanilla groups to their receptors, called vanillin receptors (VR-1).
- It is a non-selective cation channel that, after ligand/acceptor binding, opens the channel to allow the main calcium ions to flow in. In turn, this action leads to membrane depolarization, which creates an action potential once the threshold is reached. The action potential then propagates the axon to the synapse for a long time.
- Activated sensory neurons release glutamate, ATP and various neuropeptides as synaptic neurotransmitters, which reach the central nervous system and send a cascade of warmth sensations, which are also triggered by a temperature $\geq 43^{\circ}\text{C}$.

Efficacy Characteristics

Mild and safe:

Vanillyl butyl ether is similar to most heat sensitive agents (capsaicin and ginger extract) in structure. Compared with other heat sensitive agents, vanillin butyl ether is less irritating, mild and safer

Quick onset:

it can produce a strong heat sensation on the skin, alleviate and last for a long time. Promote subcutaneous fat metabolism and slim down. When vanillin butyl ether acts on the skin or mucosa, it can quickly activate the calcium channel of vanillin like receptor (also known as capsaicin receptor, a channel complex protein) to open, depolarize the membrane of primary sensory nerve terminals, quickly generate a strong heat sensation in about 2 minutes, and last for about 2 hours.

Application Guidance

1. Application: suitable for all kinds of winter care products in the north, such as hand cream, body milk, shower gel, etc. It is also recommended to be used in various formulas such as thermal facial mask, breast enhancement and slimming, spa massage, blood circulation and dredging.
2. Suggested dosage: 0.1-0.5% (not to exceed 0.1% for lips or sensitive parts), pH range: 3.0-10.0.

BeriCos® VCIP-Nano

Sub-nano emulsion of VC-IP

Product Introduction

Ascorbic Tetraisopalmitate (VC-IP) is an esterified vitamin C derivative. VC-IP was certified as a "foreign product of the Ministry of Medicine" by the Ministry of Health, Labor and Welfare of Japan in 2006. It's a functional whitening agent approved by the Korean government and the only "medicated cosmetics" among the 13 whitening ingredients recognized by the Ministry of Health and Welfare of Taiwan.

BeriCos® VCIP-Nano, the Ascorbic Tetraisopalmitate sub-nano emulsion prepared by nano dispersion technology, the particle size is controlled at 100-150nm, and the smaller particle size leads to faster absorption. LOGAN transdermal diffusion instrument is used to test the percutaneous absorption rate, and the absorption rate is more than 20% higher than the prototype VC-IP.

BeriCos® VCIP-Nano, is an oil-in-water lotion, which can be added to cream and lotion after emulsifying and cooling down, and it's easy to use. It avoids degradation of VC-IP during high-temperature emulsification, and does not degrade its activity.

Compositions

| INCI Name | Content |
|--------------------------------|----------|
| Water | 49-51% |
| Ascorbyl Tetraisopalmitate | 39-41% |
| PEG-20 Hydrogenated Castor Oil | 4-6% |
| Pentylene Glycol | 2-4% |
| Lecithin | 0.8-1.2% |
| Sodium Oleate | |
| Tocopheryl Acetate | 0.3-0.8% |

Product Features

- Strong skin affinity
- Excellent transdermal absorption
- Convenient application
- Low temperature addition after emulsification
- Avoid high-temperature emulsification process
- Does not affect product activity

Application Guidance

1. Recommended dosage: 0.3%-30%
2. Scope of application: Skin care products, makeup products (lipstick, etc., which can resist oxidation and increase luster), sun protection products, facial masks, etc
3. Storage conditions: Store in dry, sealed and cool conditions

Product Introduction

BeriCos® Nano-ACE contains Hydroxypinacolone Retinoate, Ascorbyl Tetraisopalmitate, and Tocopherol acetate. With a strong combination and synergism, it can alleviate dull skin color, rough skin, loose contour, sagging, wrinkles and other conditions caused by aging from multiple angles.

The composite vitamin sub-nano emulsion prepared by nano dispersion technology has better stability after encapsulation and smaller particle size (100 - 150nm particle size control). It has advantages such as easier absorption, improved transdermal retention, higher bio-availability, better efficacy, which make it better meet various needs.

As an oil in water lotion, it can be added to cream and lotion after emulsification and cooling, which is convenient to use. It avoids degradation of vitamin components during high-temperature emulsification, and has no discount in activity.

Compositions

| INCI Name | Content |
|--------------------------------|----------|
| Water | 52-58% |
| Ascorbyl Tetraisopalmitate | 29-31% |
| PEG-20 Hydrogenated Castor Oil | 4-6% |
| Tocopheryl Acetate | 4-6% |
| Pentylene Glycol | 2-4% |
| Hydroxypinacolone Retinoate | 1-2% |
| Lecithin | 0.8-1.2% |
| Sodium Oleate | 0.3-0.8% |

Product Features

- Strong skin affinity
- Excellent transdermal absorption
- Easy to use
- Low temperature addition after emulsification
- Avoid high-temperature emulsification process
- Does not affect product activity

Application Guidance

- 1.Recommended dosage:0.3%-30%
- 2.Scope of application:Skin care products, makeup products (lipstick, etc., which can resist oxidation and increase luster), sun protection products, facial masks, etc
- 3.Storage conditions:Store in dry, sealed and cool conditions

BeriCos® 477-Nano

Nano liposome of 4-Butylresorcinol

Product Introduction

4-Butylresorcinol is a new antioxidant that can inhibit browning, and it's also one of the strongest tyrosinase inhibitors found so far. It has a super whitening effect and can strongly inhibit melanin synthesis, melanosin, chloasma and freckles. 4-Butylresorcinol is insoluble in water, easy to be oxidized and discolored, which limits its application in cosmetics.

BeriCos® 477-Nano uses nano liposome encapsulation technology to stably encapsulate 4-butyl resorcinol in nano carriers, which can greatly increase the absorption efficiency and bioavailability, overcome the original defects and maintain the advantages, be more convenient and widely used in cosmetic formulations.

Compositions

| INCI Name | Content |
|--------------------------------|------------|
| Water | 27.5-32.5% |
| PEG-20 Hydrogenated Castor Oil | 22.5-27.5% |
| 4-Butylresorcinol | 13.0-15.0% |
| Butylene Glycol | 14.0-16.0% |
| Lecithin | 6.0-8.0% |
| 1,2-Hexanediol | 6.0-8.0% |
| Tocopheryl Acetate | 2.0-3.0% |

Product Features

- Excellent skin affinity and cell compatibility
- It can improve the skin feeling of the product
- Small particle size, easy to penetrate and absorb
- High transdermal retention and bioavailability
- Good stability and high safety
- Good compatibility, suitable for various formulas

Application Guidance

- 1.Suggested Dosage: 0.5%-15%
- 2.Applications: Lotion, cream, gel, water agent and other formulations; whitening and lightening spots products.
- 3.Storage conditions:Store in dry and cool place; sealed up

BeriCos® GSH-Nano

Nano Liposome of Glutathione

Product Introduction

Glutathione is known as the "Mother of antioxidants". It has important physiological activities in the human body, such as activating the redox system, activating sulfhydryl enzymes, detoxification, etc.

It can effectively remove free radicals, prevent skin aging and pigmentation, reduce melanin formation, improve skin antioxidant capacity, and make the skin shiny. Studies have shown that GSH can correct the imbalance of acetylcholine and cholinesterase and play an anti allergic role.

BeriCos® GSH-Nano uses nano liposome encapsulation technology to make GSH into nano liposomes, effectively improving the stability of glutathione and covering its special smell.

The particle size range of BeriCos® GSH-Nano is 50-100 nm, which can effectively improve the transdermal absorption rate of glutathione.

Compositions

| INCI Name | Content |
|----------------|------------|
| Water | 52-58% |
| Lecithin | 8-12% |
| Alcohol | 8-12% |
| Glutathione | 2-4% |
| Cholesterol | 1.5-2.5% |
| Polysorbate 80 | 1.5-2.5% |
| Phenoxyethanol | 0.4-0.6% |
| Citric Acid | 0.09-0.11% |

Product Features

- Excellent skin affinity and cell compatibility
- It can improve the skin feeling of the product
- Small particle size, easy to penetrate and absorb
- High transdermal retention and bioavailability
- Good stability and high safety
- Good compatibility, suitable for various formulas

Application Guidance

- 1.Suggested dosage: 0.5%-30%
- 2.Scope of application: Suitable for lotion, cream, gel, water agent and other formulations; suitable for anti-aging, wrinkle removing, whitening and spot lightening formulations.
- 3.Attention : Glutathione is easy to be oxidized to "oxidized form" by oxygen, so the exposure time should be reduced as much as possible during storage and use, and the stability can be prolonged by low-temperature storage. The nano liposome has an internal water phase, which should be avoided from freezing to damage the liposome structure.

BeriCos® NanoWhite

Multi whitening nano liposome (4-Butylresorcinol, VC-IP, GSH)

Product Introduction

BeriCos® NanoWhite contains Glutathione, 4-butyl resorcinol and Ascorbyl Tetraisopalmitate. The three active ingredients work together to fight against melanin. The target covers most of the steps of melanin production, with strong and medium effect matching, and with long and short action time matching, it can alleviate the dark and dull skin color, rough skin and other conditions from multiple angles, and effectively brighten the skin color.

The wrapped product can effectively cover the special odor of Glutathione, balance the irritation of 4-butyl resorcinol, improve the stability of Glutathione and 4-butyl resorcinol, effectively promote the absorption of active ingredients, and improve the bio-availability.

Compositions

| INCI Name | Content |
|---------------------------|------------|
| Water | 70-75% |
| Lecithin | 8-12% |
| Alcohol | 8-12% |
| Cholesterol | 1.5-2.5% |
| Polysorbate 80 | 1.5-2.5% |
| Glutathione | 0.8-1.2% |
| 4-Butylresorcinol | 0.8-1.2% |
| Ascorbyl Tetraisopalmitat | 0.8-1.2% |
| Phenoxyethanol | 0.4-0.6% |
| Citric Acid | 0.09-0.11% |

Product Features

- Excellent skin affinity and cell compatibility
- Improve the skin feeling
- Small particle size, easy to penetrate and absorb
- High transdermal retention and bioavailability
- Good stability and high safety
- Good compatibility, suitable for various formulas

Application Guidance

- 1.Suggested dosage:0.5%-30%
- 2.Application: anti-aging, sunscreen, post sun repair, whitening, anti-inflammatory and anti allergic products
- 3.Attention: GSH is easy to be oxidized to "oxidized form" by oxygen, so the exposure time should be reduced as much as possible during storage and use, and the stability can be prolonged by low-temperature storage. The nano liposome has an internal water phase, which should be avoided from freezing to damage the liposome structure.

Nano inclusion complex of Azelaic Acid

Product Introduction

Azelaic acid, also known as azalea acid, is a naturally occurring saturated dicarboxylic acid with nine carbon atoms. It is an important medium and long chain dicarboxylic acid. Azelaic acid has been used in cosmetics for a long time. It has the functions of inhibiting excessive oil secretion, removing acne and spots, and whitening skin. It is very safe.

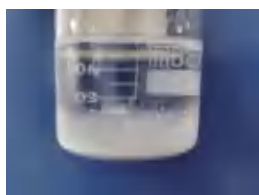
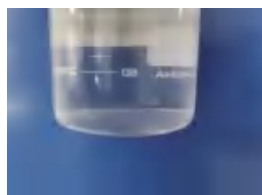
BeriCos® AzA-Nano uses supramolecular inclusion technology to provide a solution to the application difficulty of Azelaic acid. It has the characteristics of good solubility, high utilization and low irritation.

| INCI Name | Content |
|----------------------------|---------|
| Azelaic Acid | 13% |
| Hydroxypropyl Cyclodextrin | 87% |

Advantages

● Solubility

Azelaic acid complex Ordinary Azelaic acid



● utilization rate

| sample | Bacteriostatic ring diameter |
|---|------------------------------|
| Commercially available azelaic acid cream (Azelaic acid 10%) | 2cm |
| BeriCos AzA-Nano 20% (Azelaic acid 2.6%) | 2.5cm |

Efficacy Characteristics

- Anti-bacterial and anti-inflammatory effects: Azelaic acid can inhibit the protein synthesis of bacteria, directly inhibit and kill aerobic and anaerobic bacteria on the skin surface and in hair follicles.
- Regulate the function of sebaceous glands, competitively inhibit the action of 5- α reductase, reduce sebum secretion, reduce acne and blackhead formation, improve pore size, reduce acne and fight seborrheic alopecia.
- Prevent skin keratinization: it has an anti-keratinization effect on normal skin and acne infected skin, reduces the synthesis of filamentous keratin, and prevents excessive keratinization of hair follicles.
- Whitening and lightening spots: inhibit the excessive activity of abnormal melanocytes, inhibit the production of reactive oxygen radicals, and dilute pigment precipitation.

Application Guidance

1.Suggested dosage: 10%-20%.

2.Application: cream, lotion, essence, water agent, gel and other product formulations are all compatible. Suitable for oil control and acne removing products. Scalp care, whitening and spot lightening products, acne printing products, odor removal products are also applicable.

3.Usage: easily to dissolves in water, and the solubility in water is > 20%. However, there may be stickiness during the dissolution process. It can be heated slightly to accelerate the dissolution.

Nano inclusion complex of Thioctic Acid

Product Introduction

Thioctic Acid is a very excellent natural antioxidant with the effect of scavenging free radicals. Its ability to scavenge free radicals is more than 100 times that of vitamin C, which is especially suitable for anti-aging products. It has the effect of chelating metal ions and can bind copper ions in the enzyme. It is a competitive inhibitor of the enzyme and has a good whitening effect. However, Thioctic Acid has some problems such as low solubility, poor stability and significant odor, which limits its application in cosmetics.

By using supramolecular inclusion technology, Thioctic Acid is contained with hydroxypropyl cyclodextrin, which does not change the chemical structure and performance of Thioctic Acid, but also greatly improves its water solubility. The solubility can be as high as 20% (25 °C) and with high bio-availability. It can reduce irritation, which makes it more conducive to its use in skin drugs, cosmetics and personal care products.

| INCI Name | Content |
|----------------------------|---------|
| Azelaic Acid | 13% |
| Hydroxypropyl Cyclodextrin | 87% |

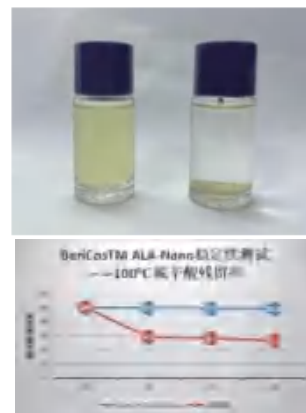
Characteristics & Advantages

● Dissolving function

The solubility of BeriCos® ALA-Nano in normal temperature water is > 20% (effective concentration of Thioctic Acid > 2.6%), and the solubility is significantly higher than that of ordinary Thioctic Acid (0.06%).

● Stability

The residue rate of BeriCos® ALA-Nano and ordinary Thioctic Acid was tested at 100 °C (the Thioctic Acid content was 100% at 0 hours). The test results showed that the stability of Thioctic Acid molecular capsules was significantly improved compared with that of ordinary Thioctic Acid.



Efficacy Characteristics

- Antioxidant effect: prevent free radicals from damaging skin and delay aging.
- Whitening and spot lightening effect: fight against melanin and color spot formation from multiple angles; improve skin tone or facial spots.
- Anti-aging effect.

Application Guidance

1. Suggested dosage: 5%-20%
2. Application: cream, lotion, essence, facial mask, water agent, gel and other product formulations are all compatible.
3. Usage: easily to be dissolved in water, and the solubility in water is > 20%. However, there may be stickiness during the dissolution process. Can heat it slightly to accelerate the dissolution.

BeriCos® Pterostilbene-Nano

Nano inclusion complex of Pterostilbene

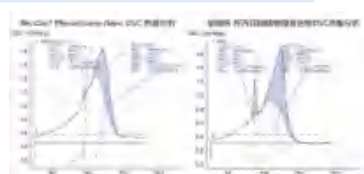
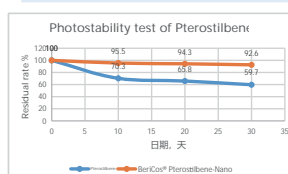
Product Introduction

Pterostilbene is a trans-stilbene compound naturally found in plants such as pterostilbene, Pterocarpus Marsupium, blueberry, etc., and is a methylated derivative of resveratrol, and its mechanism of action is consistent with resveratrol. Pterostilbene is a powerful natural antioxidant that fights many free radicals and enhances sun protection. Pterostilbene has a strong ability to inhibit melanin, and the effect is comparable to that of licorice, which is called "whitening gold", and has a highly effective freckle removal effect. Zebrafish embryos treated with 0.001% pterostilbene showed significant bleaching of the embryos.

Pterostilbene is an oil-soluble component, almost insoluble in water, and is prone to oxidative discoloration after being exposed to light and high temperature, and can be dissolved up to 20% after being wrapped in dextrin, and the solubility is increased by 257 times, improving the problem of insoluble water.

Compositions

| INCI Name | Content |
|--|---------|
| Pterocarpus Marsupium Bark Extract (Pterostilbene) | 9% |
| Hydroxypropyl cycloglutin | 91% |



Feature advantages

- Solubility :The solubility of BeriCos Pterostilbene-Nano in water at room temperature is more than 20% (the effective concentration of pterostilbene > 1.8%), the solubility is greatly improved, and the solution is clear and transparent, which significantly improves the problem of non-water solubility of pterostilbene.
- Stability:For the change of the residue rate of pterostilbene after light at room temperature after BeriCos@ Pterostilbene-Nano aqueous solution and Pterostilbene-Nano aqueous solution (solubilized with DMSO) under room temperature conditions, the residue rate of Pterostilbene-Nano was significantly higher than that of Pterostilbene-Nano aqueous solution, which significantly improved the photostability.

Application Guidance

1. Scope of application: creams, lotions, essences, masks and other product dosage forms are compatible;
2. Recommended dosage of cosmetics ≤ 5.5%; Solubility: Water soluble;
3. The method of use is easily soluble in water, and the solubility in water is > 20%, but the dissolution process may produce an adhesive phenomenon, which can be slightly heated to accelerate dissolution.

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