

Unique active solution with
UAT

Ventus G2

Cell Regeneration & Moisturizing



UAT 유에이티
Unlimited Active Technology

Ventus G2

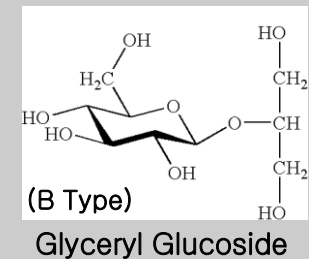
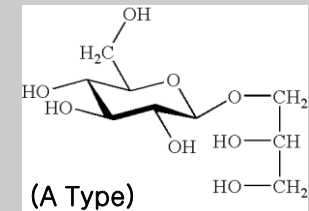
제품특징

- **Ventus G2**는 식물유래 성분으로 구성된 피부 컨디셔닝, 보습물질
- 노화방지, 항산화효과 세포재생능력이 탁월한 식물유래 성분
- INCI Name: Glyceryl Glucoside

INCI Name	CAS	C/N	EWG score
Glyceryl Glucoside	100402-60-6	O	1
Glycerin	56-81-5	O	1
Water	7732-18-5	O	1

* C/N : 중국화장품명부등록

* EWG score : 화장품성분의 안전도를 1~10 등급으로 분류(미국 EWG)



• BENEFITS

- 피부 촉촉함 유지
(Aquaporin 생성촉진, 수분채널을 활성화)
- 노화세포의 재 활성화
- 세포재생 상처회복
- 피부탄력과 매끄러움 부여
- 항산화 기능

• Competitive Information

- GLYCOIN(독일 Bitop 사)
- AQUA-GG(한국 젠캠)
- : 두 제품 모두 kg당 가격이 50만원대 임
- Hydagen GG(BASF)
- : BDF사에 연간 3천톤 독점공급

Applications & Recommended dosage

- Essence, Lotion, Cream : 1~5 %

Ventus G2

Properties

성상	미황색 투명 점성 액상
odor	약한 제품 고유의 취
Active (%)	80 MIN.
pH (2% in water)	5.0 ~ 8.0
제품 pH 영역	pH 3~11 구간의 제품 추천
저장조건	실온 (2~30℃)
용 량	20kg/Plastic Pail, 150kg/Open Drum



Glyceryl Glucoside는 사막식물인 부활초의 구성성분



보습의 기전

* Aquaporin

2003년 미국의 화학자 Peter Agre가 발견하여 노벨상을 수상한 피부 속 수분 이동 조절 물질. 세포 내에서 다른 이온들을 통과시키지 않고 오로지 물 분자만을 통과 시킴으로서 동일한 량의 수분으로도 더욱 뛰어난 수분 공급성을 보이는 수분채널.

“그 동안 수분케어 제품들은 피부 표면에 바르면 흡수되며 일시적으로 촉촉한 느낌을 줬다. 하지만 아쿠아포린이 활발한 기능을 보이는 제품은 피부 속 수분을 잡아줘 피부 자체의 수분 보유력을 높인다. 아쿠아포린은 피부의 주름이 발생하는 수분 부족 현상을 해결해 피부를 촉촉하고 탄력있게 유지시킨다. 머지않아 아쿠아포린에 대한 심층적 연구가 진행된다면 늙어도 피부가 마르지 않고 탄력을 잃지 않게 될 날이 올지 모른다.”

분당 서울대학교병원 피부과 윤상웅 교수의 칼럼



보습의 기전

* 부활초

수분을 잃은 채로 수 십년 동안 죽은 모습으로 지내다가도 물을 만나면 놀라운 재생 능력으로 부활
⇒ '부활초'로 불리우는 생명력이 질긴 신비의 사막식물.

건조상태 : 글리세릴글루코사이드 성분은 식물의 구조가 손상되지 않도록 보호

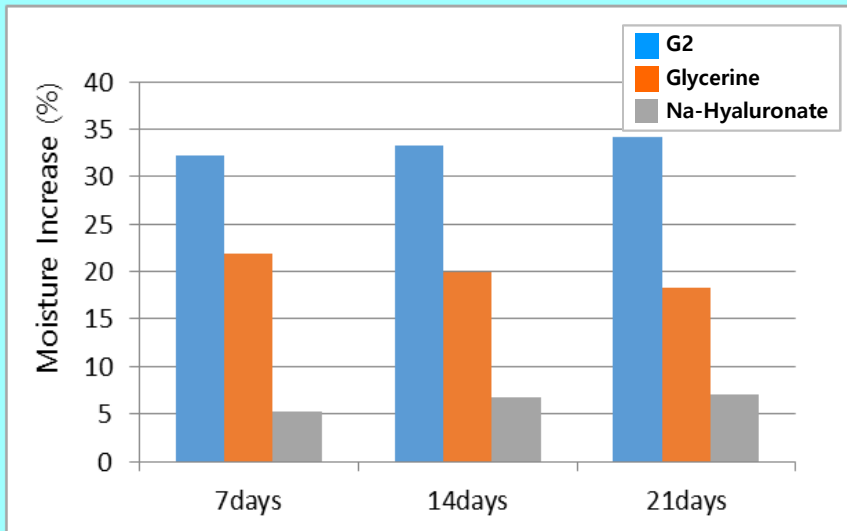
비가오면 : 글리세릴글루코사이드 성분은 식물의 세포기능을 자극하고 부스팅하여 식물을 되살리고 활기를 불어넣어 주는 역할.

* 부활초의 재생기능의 핵심을 글리세릴글루코사이드 성분이 맡고 있으며, 다양한 연구를 통해 글리세릴글루코사이드는 아쿠아포린의 활성성분임이 발견된 바 있음.



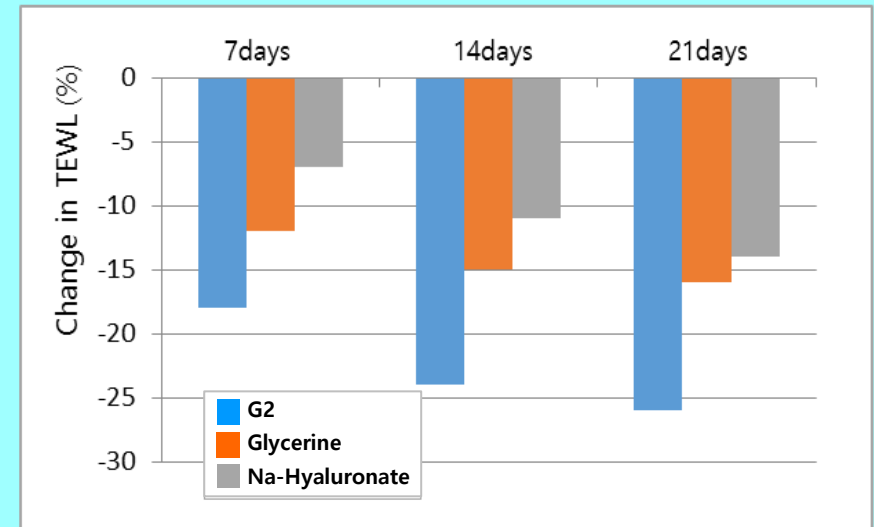
Ventus G2 보습력 비교

* Moisturizing test



Change of surface hydration of forearms treated with emulsion formulations. Measurements were taken 24 Hours after product application.
(2.0% G2, 2.0% Glycerine, 0.2% Na-Hyaluronate)

Glycerin cream 처방에 비해 G2 cream 처방 사용시 3주 후 각질층의 수분량이 86.3% 높게 나타남.



Change of transepidermal water loss (TEWL) of forearms treated with Emulsion formulations. Measurements were taken 24 hours after product application.
(2.0% G2, 2.0% Glycerine, 0.2% Na-Hyaluronate)

Glycerin cream 처방에 비해 G2 cream 처방 사용시 3주 후 표피의 수분감소율이 62.5% 개선되었음.

* 25 to 40 years old dry skin volunteers, Forearms, two times a day use.



관련특허 review

합성특허

Patent No.	Application Date	Applicant	Patent Content
USP3729461	730424	Yeshajahu Pormeranz	Synthesis of Glycosyl Glyceride → 특허만료
USP8088742 B2	030410	Seppic	Polyol glycoside composition → 반응조건이 당사와 다름
WO2013061802 A1	121012	Japan Carlit	Method for producing composition containing glyceryl glucoside → 반응조건이 당사와 다름

물질합성 자체에 대한 특허는 이미 만료되었고, 합성조건 특허도 당사 합성방법은 기존 기술과 다름.

응용특허

Patent No.	Application Date	Applicant	Patent Content
USP5891854	1995.11.2	Beidersdorf	- Cosmetic formulations having an effective content of glycosyl glycerides - 화장품, 의약품으로 Glyceryl glucoside를 보습기능으로 사용하는 조성물 - D-form, L-form 중 어느 하나 또는 혼합된 구조 → 특허만료
EP0770378 A1	1996.10.17	Beidersdorf	- Kosmetische Zubereitungen mit einem wirksamen Gehalt an Glycosylglyceriden - 독일어특허 (분자구조, 화장품응용 예시 제시) → 특허만료
USP0130223 A1	2006/4/27	Greenblum & Bernstein P.L.C.	- Cosmetic preparation with aquaporin stimulators and the use thereof. - 글리세릴글루코사이드를 통해 피부에 아쿠아포린을 활성화 시키는 방법 (처음으로 아쿠아포린 언급 ??)

화장품 응용 자체에 대한 특허는 이미 만료되었고, “제품에서 아쿠아포린을 활성화시킨다”라는 표현을 표기할 경우 특허저촉 여부를 판단 필요.



시판제품 비교

	Ventus G2 (UAT)	Hydagen GG (BASF)	Glycoin (Bitop)	Agua GG (Genchem)
Appearance	Light yellow liquid	–	Light yellow liquid	Light yellow liquid
Glyceryl Glucoside(%)	75~80	54	More than 50	65~70
Glycerol (%)	Below 10	43	–	Below 5
pH (2% in water)	5.0 ~ 8.0	–	5.0 ~ 8.0	5.0 ~ 8.0
Storage Condition	Room temperature	–	Room temperature	Room temperature
presevatives	Nothing	–	Nothing	Nothing
Manufacturing Process	Organic Synthesis	Organic Synthesis	Enzymatic Synthesis	Enzymatic Synthesis

* 비교 업체 3사의 데이터들은 해당업체 자료에 표기된 수치임.

※ 당사 측정치

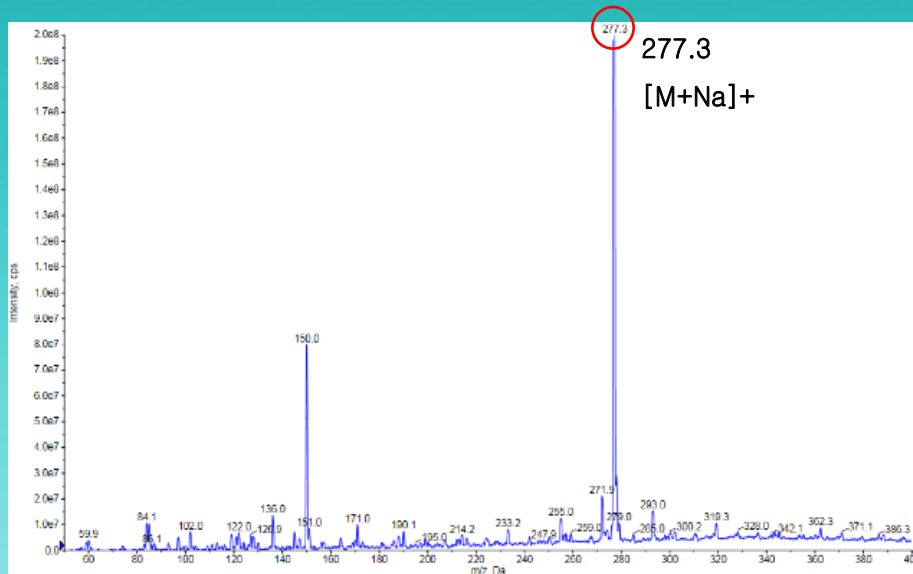
	Ventus G2 (UAT)	Glycoin (Bitop)	Agua GG (Genchem)
Solid (105℃. 2hr)	82.5%	71.3%	71.5%
Water (Karl fischer)	13.3%	38.5%	31.7%

* -OH기가 많은 구조들은 수분이 모두 날아가지 않으므로 전체 합이 100% 이상으로 나올 수 있음.

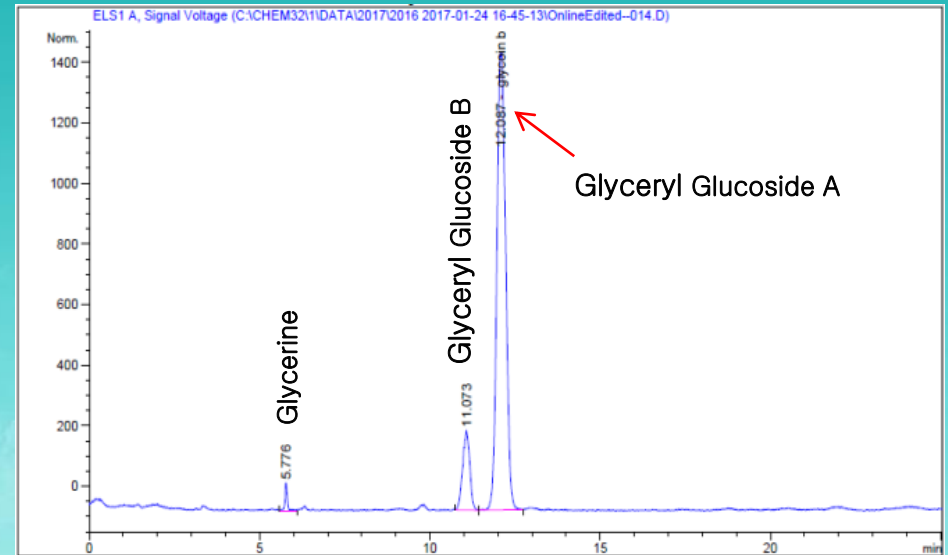


Component analysis

<Mass analysis>



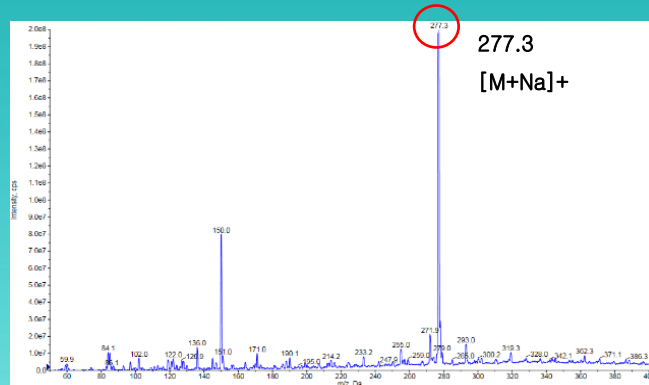
<LC analysis>



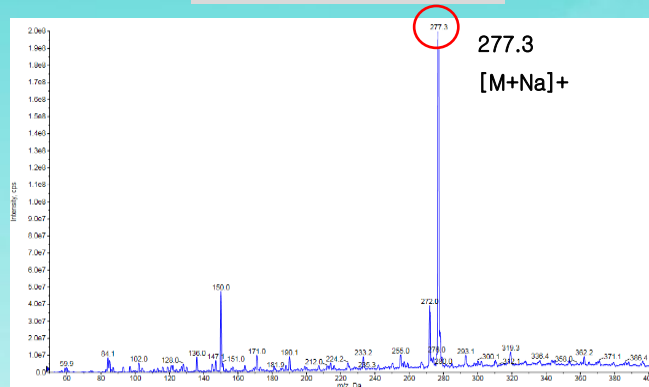
Comparison of other companies

Result of analyzing Product

<Mass Analysis>

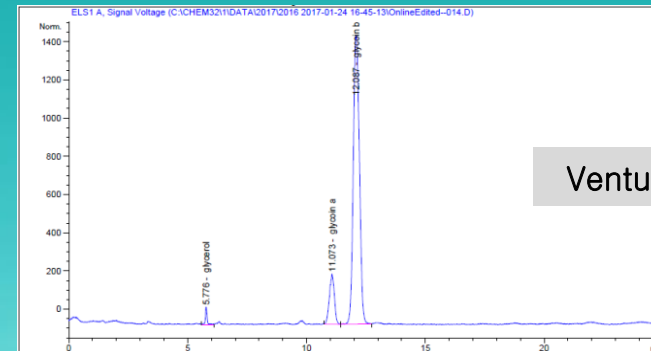


Ventus G2 (UAT)

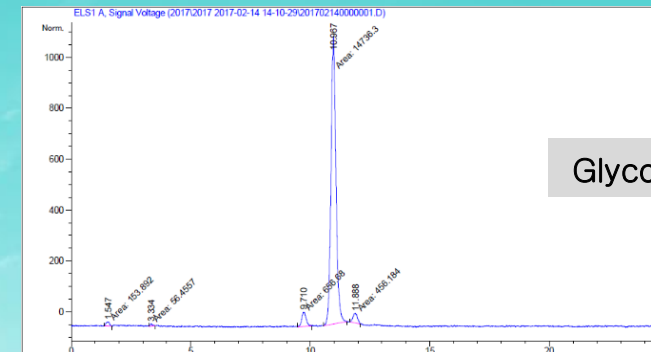


Glycoin (Bitop)

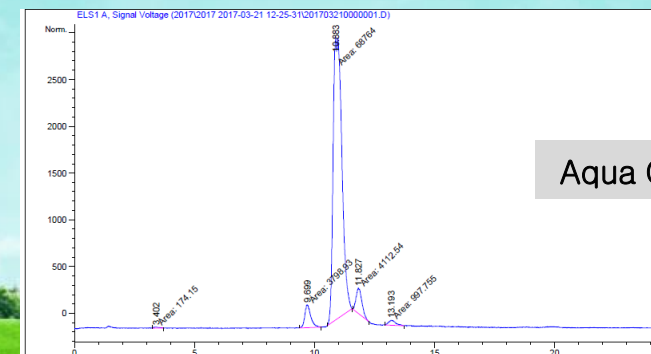
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Ventus G2 (UAT)



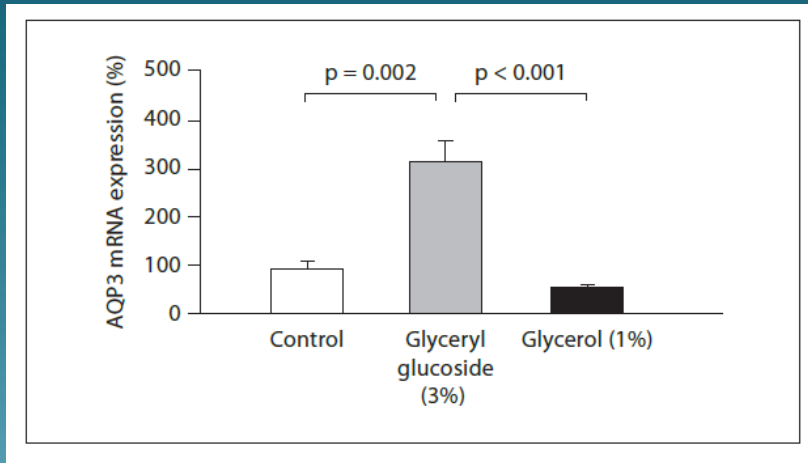
Glycoin (Bitop)



Aqua GG (Genchem)

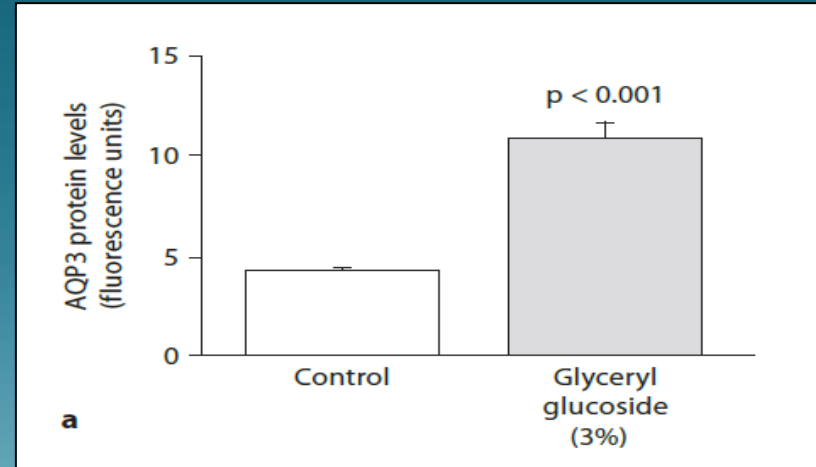
인용저널

아쿠아포린 활성화



keratin생성세포 단일층에서의 AQP3 mRNA 발현 시험 (n=9)

24시간 동안 3% 글리세릴글로코사이드로 배양 한 단 층은 AQP3 mRNA 발현에서 평균 215% 증가.
대조적으로, 1% 글리세롤이 보충되었을 때, 대조군과 비교 하여 mRNA 발현에서 유의 한 차이가 관찰되지 않 음.



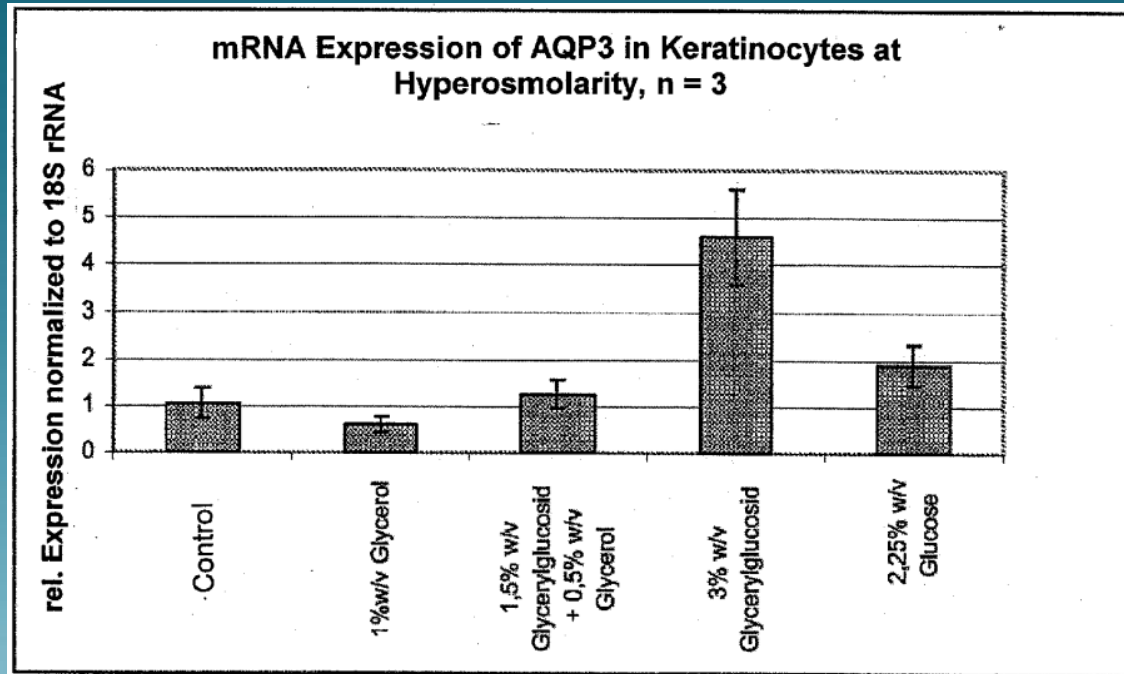
FACS 측정(Keratin생성세포의 AQP3 단백질 증가

24시간 동안 3% 글리세릴글로코사이드를 처리한 세 포의 AQP3 단백질 수준은 156% 증가.

Skin Pharmacol Physiol 2012;25:192-199 195

인용저널(특허)

아쿠아포린 촉진 화장품조성물(특허)



keratin생성세포 단일층의 AQP3 mRNA 발현 정도를 측정

→ Glyceryl Glucoside가 아쿠아포린 발현을 촉진시킴을 확인할 수 있음

Patent *USP0130223 A1*



인용저널

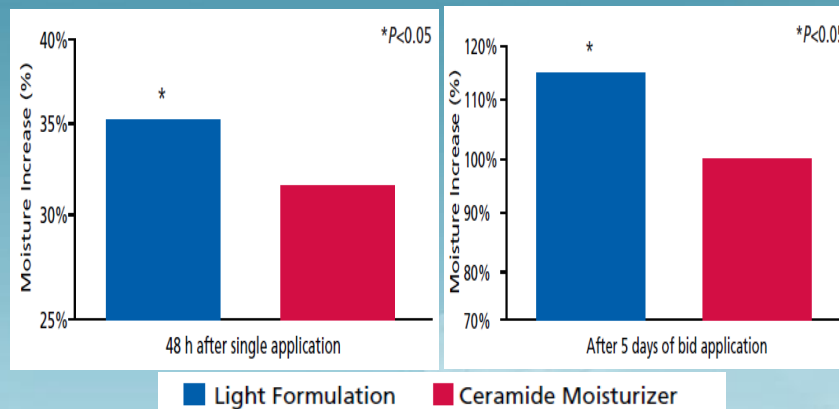
노인성건조증(Xerosis)의 개선효과

(노인성건조증에 대한 Ceramide처리에 있어 Glyceryl Glucoside가 효능을 활성화 시키는 역할을 한다)

- 2가지 조건에서 피부의 수분을 측정
①1회 도포 후 48hr 경과 후, ②1일 2회씩 5일간 도포 후
- 측정: **Corneometer**
- 정규성 검증: **Shapiro Wilk test**

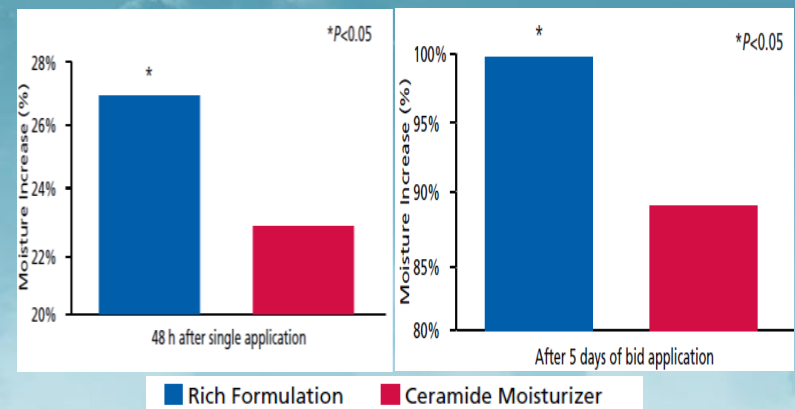
Light Formulation (O/W emulsion)

: Glyceryl Glucoside, 5% NMFcomponent, Ceramide 3
Ceramide Moisturizer (O/W emulsion)
: Ceramides 1, 3, and 6



Rich Formulation (W/O emulsion)

: Glyceryl Glucoside, 10% NMFcomponents, Ceramide 3
Ceramide Moisturizer (W/O emulsion)
: Ceramides 1, 3, and 6

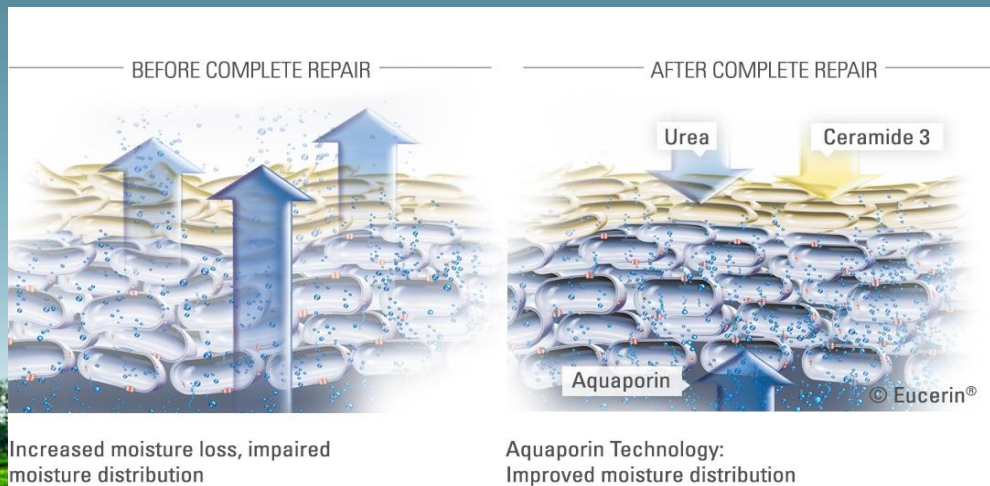


ref. Beiersdorf Inc. Journal of Clin Aesthet Dermatol 5: 29-39, 20120

참고사항

Beiersdorf

- Global 화장품업체인 Beiersdorf에서 최초특허 출원 (제조/응용 특허 만료)
- 제품 Category
 - ① Mass Market : **Nivea**
 - ② Premium Market : La Prairie
 - ③ Dermocosmetic Market : **Eucerin** (피부과전문 화장품 시장)



'14년 기준 Global 화장품시장

1. L'Oréal Group(\$27.4 billion)
2. Unilever(\$21.5 billion)
3. Procter & Gamble(\$18.1 billion)
4. Colgate Palmolive(\$11.7 billion)
5. Estée Lauder(\$10.8 billion)
6. Johnson & Johnson(\$7.9 billion)
7. Shiseido(\$6.5 billion)
8. Avon(\$6.3 billion)
9. **Beiersdorf(\$6.3 billion)**
10. Kao (\$5 billion)

Glyceryl Glucoside 사용 예

Nivea & Eucerin of Beiersdorf

제품명	제품이미지	성분
Eucerin AQUAporin ACTIVE Erfrischende Lotion Reichhaltig - 400ML		Aqua, Glycerin, Glyceryl Glucoside , Dicaprylyl Ether, Alcohol Denat, Glyceryl Stearate SE, Isopropyl Palmitate, Nylon-12, Cetearyl Alcohol, Dimethicone, Butyrospermum Parkii Butter, Sodium Carbomer, Sodium Cetearyl Sulfate, Phenoxyethanol, Parfum
EUCERIN AQUAporin ACTIVE contour des Yeux Revitalisant 15ml		Aqua, Glycerin, Glyceryl Glucoside , Dicaprylyl Carbonate, Distarch Phosphate, Glyceryl Stearate Citrate, C12-15 Alkylbenzoate, Dimethicone, Myristyl Myristate, Octyldodecanol, Cetearyl Alcohol, Butylene Glycol, Carbomer, Sodium Polyacrylate, Alcohol Denat., Methylisothiazolinone, Phenoxyethanol, Parfum
NIVEA Hydro Care Szampon pielęgnujący		Aqua, Sodium Laureth Sulfate, Cocamidopropyl Betaine, Sodium Chloride, Lanolin Alcohol (Eucerit), Macadamia Ternifolia Seed Oil, Nymphaea Odorata Root Extract, Aloe Barbadensis Leaf Juice Powder, Glyceryl Glucoside , Panthenol, Polyquaternium-10, Guar Hydroxypropyltrimonium Chloride, PEG-40 Hydrogenated Castor Oil, Glycerin, Citric Acid, Sodium Benzoate, Propylene Glycol, Citronellol, Limonene, Alpha-Isomethyl Ionone, Benzyl Alcohol, Parfum
Nivea Bb Cream Light 50MI		Aqua, Glycerin, Triisostearin, Isopropyl Stearate, Talc, Cetearyl Alcohol, Hydrogenated Coco-Glycerides, Octocrylene, Methylpropanediol, Butyrospermum Parkii Butter, Glyceryl Stearate, Palmitic Acid, Stearic Acid, Panthenol, Butyl Methoxydibenzoylmethane, Tocopheryl Acetate, Glyceryl Glucoside , Oleic Acid, Myristic Acid, Arachidic Acid, Sodium Carbomer, Xanthan Gum, Dimethicone, Trisodium EDTA, Phenoxyethanol, Methylparaben, Linalool, Limonene, Benzyl Alcohol, Citronellol, Geraniol, Alpha-Isomethyl Ionone, Butylphenyl Methylpropional, Parfum,

Glyceryl Glucoside 사용 예

제품명	제품이미지	성분
CU:Nature French Lilac Brightening Balm		French Lilac extract, Arbutin, Ethyl Ascorbyl Ether , Niacinamide, Dioscorea japonica root extract, Glyceryl glucoside , Vitamin U
CU: Nature Broccoli Peeling Gel		Vitamin U (Broccoli extract), Glyceryl glucoside , Betaine (Sugar cane extract), Licorice extract and Portulaca oleracea extract, Green tea, Rosemary, Chamomile, Gold, Knotweed extract
CU: Nature GG Serum		Glyceryl glucoside , Hyaluronic acid, β -Glucan, Moist 1000 (Polyglutamic Acid/ Methionine/ Serine, etc.), Aminocoat, Epidermal Growth Factor (EGF), Vitamin U
CU: Nature Renew Eye Cream		Baobab tree extract, Glyceryl glucoside , Ethyl ascorbyl ether, Adenosine, E.G.F, Vitamin U
"Organic Cosmetic Series"		Placental extract, Glyceryl glucoside , Trisodium Ascobyl palmitate phosphate, Carnosine, Rosa centifolia flower extract, Hydrolyzed Collagen, Malus Domestica fruit cell culture extract, Soy isoflavones, Sodium Hyaluronate, Chamomilla recutita,



Glyceryl Glucoside 사용 예

제품명	제품이미지	성분
Pore Face Wash		water/aqua/eau, glycerin, palmitic acid, lauric acid, potassium hydroxide, myristic acid, stearic acid, glycosyl trehalose, glyceryl glucoside , sodium bicarbonate, hydrogenated starch hydrolysate, caprylic/capric triglyceride, isopropyl lauroyl sacrosinate, pentasodium pentetate, butylene glycol, citrus grandis (grapefruit) peel extract, cocos nucifera (coconut) oil, citrus reticulata (tangerine) peel extract, citrus medica limonum (lemon) peel extract, calendula officinalis flower extract, lactobacillus/pear juice ferment filtrate, olea europaea (olive) leaf extract, punica granatum extract, laminaria digitata (horsetail kelp) extract, plantago major seed extract, limonene
M. Asam VINOLIFT® Antiage Day & Night Care Set		Aqua (Water), Glycerin, Pentylene Glycol, Squalane, Butylene Glycol, Vitis Vinifera (Grape) Seed Oil, Butylene Glycol Dicaprylate/Dicaprate, Persea Gratissima (Avocado) Oil, Prunus Armeniaca (Apricot) Kernel Oil, Dicaprylyl Ether, Sodium Stearoyl Glutamate, Vitis Vinifera (Grape) Seed Extract, Macadamia Ternifolia Seed Oil, Oenothera Biennis (Evening Primrose) Oil, Helianthus Annuus (Sunflower) Seed Oil, Tocopheryl Acetate, Butyrospermum Parkii (Shea) Butter, Panthenol, Phospholipids, Tocopherol, Acetyl Dipeptide-1 Cetyl Ester, Sodium Hyaluronate, Vitis Vinifera Fruit Meristem Cell Culture, Resveratrol, Tetrapeptide-21, Palmitoyl Hexapeptide-19, Ascorbyl Tetraisopalmitate, Ubiquinone, Diisopropyl Adipate, Isoniacinamide, Lecithin, Potassium Phosphate, Glyceryl Glucoside , Parfum (Fragrance), Sorbitan Laurate, Sodium Acrylates Copolymer, Carbomer, Hydrogenated Polyisobutene
M. Asam VINOLIFT® Special Night Care		Aqua (Water), Glycerin, Cetearyl Ethylhexanoate, Cocoglycerides, Simmondsia Chinensis (Jojoba) Seed Oil, Vitis Vinifera (Grape) Seed Oil, Acacia Decurrens/Jojoba/Sunflower Seed Wax/Polyglyceryl-3 Esters, Cetearyl Alcohol, Glyceryl Stearate, Macadamia Ternifolia Seed Oil, Argania Spinosa Kernel Oil, Butyrospermum Parkii (Shea) Butter, Persea Gratissima (Avocado) Oil, Potassium Palmitoyl Hydrolyzed Wheat Protein, Saccharide Isomerate, Vitis Vinifera (Grape) Seed Extract, Tocopheryl Acetate, Palmitic Acid, Oenothera Biennis (Evening Primrose) Oil, Stearic Acid, Rosmarinus Officinalis (Rosemary) Leaf Extract, Helianthus Annuus (Sunflower) Seed Oil, Vitis Vinifera Fruit Meristem Cell Culture, Sodium Hyaluronate, Tocopherol, Ubiquinone, Ceramide NP, Ceramide NS, Isoniacinamide, Resveratrol, Retinyl Palmitate, Palmitoyl Tripeptide-1, Palmitoyl Tetrapeptide-7, Ascorbyl Tetraisopalmitate, Sodium Ascorbate, Diisopropyl Adipate, Phosphatidylcholine, Lecithin, Hydrogenated Lecithin, Cholesterol, Glyceryl Glucoside , Oleic Acid, Sodium Lactate, Parfum (Fragrance), Alcohol,

Glyceryl Glucoside 사용 예

제품명	제품이미지	성분
Labello Cherry and Fruity Lip Balm		Ricinus Communis Seed Oil, Polyisobutene, Octyldodecanol, Pentaerythrityl Tetraistearate, Hydrogenated Polydecene, Candelilla Cera, Butyrospermum Parkii Butter, Cera Microcristallina, Isopropyl Palmitate, Synthetic Wax, Polyglyceryl-3 Diistearate, Glycerin, Glyceryl Glucoside , Aqua, Prunus Cerasus Juice, Mica, Silica, Propylene Glycol, BHT, Limonene, Eugenol, Aroma, CI 15850, CI 77891, CI 77492, CI 77499
Japaness Foods Body Lotion		Water, BG, Glycerin, Lactobacillus, Wasabi root fermented extract, Sodium citrate, PEG/PPG/ Polybutylene glycol-8/5/3 Glycerin, Diglycerin, Pentylene glycol, Maltitol, Glyceryl glucoside , PEG-40 Hydrogenated castor oil, Betaine, Rosemary leaf extract, Polysorbate 80, Hydrogenated lecithin, Citric acid, Squalane, Hexahydroxystearic acid dipentaerythrityl, Xanthan gum, Arginine, Carbomer, Glycyrrhizic acid 2K, Lactobacillus fermentation, Glucosilltin, Hamamelis leaf extract, Tocopherol, Hyaluronic acid, Quaternium-73, Arborea extract, Polyquaternium-51, Hydrolyzed rice bran extract, Orange peel extract, Cherry leaf extract, Hydrolyzed soy extract, Loquat leaf extract, Eggplant fruit extract, Soluble proteoglycan, Royal Jelly extract, Fruit essence
Soy Milk & Yogurt All-in-One Gel "Tamanokoshi (Cinderella)"(80g)		Water, glycerin, propanediol, pentylene glycol, glycogen*, glyceryl glucoside , grape leaf extract, betaine, squalene, rice bran sphingoglycolipid, hydrogenated lecithin, lysolecithin, diglycerin, perilla leaf extract, ginger root extract, Satsuma mandarin peel extract, tomato extract, Asian ginseng root extract, aloe vera leaf extract, greater burdock root extract, apple extract, soybean seed extract, hydrolyzed okra seed extract, liquid yogurt (dairy), lactoferrin (dairy), royal jelly extract, dipotassium glycyrrhizinate, fermented soy milk, honey, kale extract, hydroxypropyl



Summary

- INCI : Glyceryl Glucoside/Glycerin/Water
- Physical Form : Water soluble transparent viscous liquid
- Recommended Dosage : 1.0 ~ 5.0%
- Benefits & Uses
 - Excellent moisturizing & soft feeling
 - Skin regeneration & Aging cell reactivation
 - To adapt to a wide range of pH & Temperature
- Applications : Skin, Body and Sun care
- Packing : 20kg/Plastic Pail, 150kg/Open Drum

