

PRODUCT, DESCRIPTION AND EVIDENCE

REFERENCE: FS3-11

PUBLISH DATE: 20/03/2023

## REJUVENATE

Formulated with Alpha Hydroxy Acids (AHA's) to gently remove build-up of dead skin cells, Rejuvenate increases cell turnover to reveal fresher, younger-looking skin. It also helps to control microbial growth, breakouts and the appearance of pigmentation, fine lines and wrinkles.

### KEY BENEFITS

- Contains 12% glycolic acid for gentle exfoliation of old skin.
- Supports formation of collagen and elastin.
- Supports sebum regulation in the skin.
- Provides long-lasting hydration up to 72 hours.
- Reduces appearance of hyperpigmentation.
- Improves appearance of aged skin by reducing signs of fine lines.

### DIRECTIONS FOR USE

Apply after cleansing by gently massaging onto areas of concern, avoid eye area. An SPF must be worn daily when using this product.

### WARNINGS

For external use only. Avoid contact with eyes. If this occurs, wash affected area thoroughly with water. If irritation occurs, discontinue use. Store this product below 40°C.

### INGREDIENTS

Aqua, Glycolic Acid, Aloe Barbadensis Leaf Juice, Sodium Gluconate, Glycerin, PPG-26-Buteth-26, Cellulose Gum, Benzyl Alcohol, Cocamidopropyl Dimethylamine, PEG-40 Hydrogenated Castor Oil, Saccharide Isomerate, Salicylic Acid, Parfum, Tocopherol, Calendula Officinalis Flower Extract, Citrus Aurantium Amara Fruit Extract, Citrus Aurantium Sinensis Peel Extract, Citrus Reticulata Fruit Extract, Helianthus Annuus Seed Oil, Inulin, Xanthan Gum, Glycogen, Fructose, Glucose, Phenoxyethanol, Sodium Hyaluronate, Potassium Sorbate, Sodium Benzoate, Ascorbic Acid, Citric Acid, Lactic Acid, Sodium Citrate, Sodium Hydroxide, Hexyl Cinnamal, Limonene, Linalool.

### ACTIVE INGREDIENTS

Glycolic Acid 12%  
Aloe Vera 3%  
Glycerin 1.5%  
Saccharide Isomerate 0.5%  
Salicylic Acid 0.5%  
Tocopherol 0.5%  
Calendula Officinalis 0.5%

### GLYCOLIC ACID

Glycolic Acid occurs naturally in sugar cane and has the best track record of all the Alpha Hydroxy Acids. Glycolic Acid is an alpha hydroxy acid (AHA) which has an effect on the epidermis by dissolving the bonds of thickened dead skin cells on the surface of the skin causing exfoliation of the upper surface to reveal newer hydrated healthy skin. AHA's have also been shown to effect the deeper layers of the skin by increasing the gel matrix and creating plumper looking skin, they also reduce pore size and fine lines and wrinkles and can have an effect on reducing the signs of acne prone skin.

Link: <https://www.ncbi.nlm.nih.gov/pubmed/26032934>

It also has significant effects on the process of keratinization and stratum corneum exfoliation, and has demonstrated anti-aging benefits by increasing synthesis of dermal matrix components including collagen and glycosaminoglycans (e.g., Hyaluronic Acid). Additional beneficial effects on skin include antioxidant effects, skin barrier strengthening and MMP inhibition. It is the most researched AHA and studies show that glycolic acid, demonstrates the most impressive results for all ages and skin types. Glycolic Acid is special because of its small molecule size which enables it to easily penetrate through the top layers of skin and reveal healthier-looking skin. Glycolic Acid also has the ability to hydrate skin and to 'teach' skin to retain its natural moisture. When used in concentrations of 5% and upwards, Glycolic Acid can also improve firmness and resilience while lessening other signs of sun damage.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6017965/>

Glycolic Acid has also been shown to show an effect on cell proliferation, thus thickening and strengthening the feel and appearance of the skin.

Link: <https://www.ncbi.nlm.nih.gov/pubmed/9563274>

Studies demonstrated that topical glycolic acid provides a photoprotective effect to pre treated skin yielding an SPF of approximately 2.4. In addition, when Glycolic Acid is applied to irradiated skin, it accelerates resolution of erythema. The data obtained from both studies support the hypothesis that glycolic acid acts as an antioxidant.

Link: <https://www.ncbi.nlm.nih.gov/pubmed/8634805>

### **ALOE BARBADENSIS LEAF JUICE**

The botanical name of Aloe Vera is Aloe Barbadensis miller. It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea-green colour plant. It grows mainly in the dry regions of Africa, Asia, Europe and America. Aloe Barbadensis is a useful additive for cosmetics as it has many different properties to counteract the effects of ageing and to protect the skin. Aloe barbadensis, or Aloe Vera, is a succulent plant which offers many benefits and is suited for all skin types, especially dry, damaged, broken, sensitive and irritated skin. It offers anti-inflammatory, antimicrobial, antioxidant, humectant and soothing and anti-itch properties for skin. Aloe Vera contains Vitamin B complex, folic acid, Vitamin C and carotene, which is a precursor of Vitamin A.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/>

Soothes the skin, prevents transepidermal water loss (TEWL), cools and hydrates the skin, moisturises, promotes healing of breakouts.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/>

The Aloe vera plant has been known and used for centuries for its health, beauty, medicinal and skin care properties. The name Aloe vera derives from the Arabic word "Alloeh" meaning "shining bitter substance," while "vera" in Latin means "true". 2000 years ago, the Greek scientists regarded Aloe vera as the universal panacea. The Egyptians called Aloe "the plant of immortality."

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2763764/>

Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids.

Link: [https://www.researchgate.net/publication/334123567\\_Review\\_on\\_Aloe\\_Vera](https://www.researchgate.net/publication/334123567_Review_on_Aloe_Vera)

### **GLYCERIN**

Glycerin is a humectant which is present in all-natural lipids. Derived from natural substances by hydrolysis of fats and by fermentation of sugars<sub>1</sub>. Our palm-free vegetable glycerin is a skin-friendly humectant which draws water to the skin. It has wonderful emollient and water-retaining properties. Use it in your creams, lotions, and serums<sub>2</sub>. Known for its fantastic emollient and hydrating abilities, glycerin is one of the most versatile and widely used skin care cosmetic ingredients on the market. It is a natural humectant and lubricant, making it an ideal cosmetic ingredient for skin and hair care products<sub>3</sub>. Our palm-free glycerin is a non-irritating, soothing moisturiser that not only boosts skin elasticity, but it contains anti-bacterial and softening properties making it an ideal candidate for sensitive skin care; treating dry, cracked skin, eczema, acne or burns and rashes<sub>4</sub>.

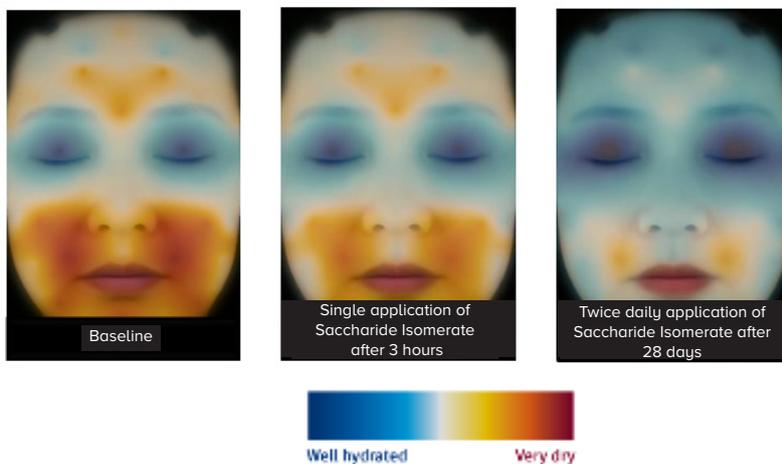
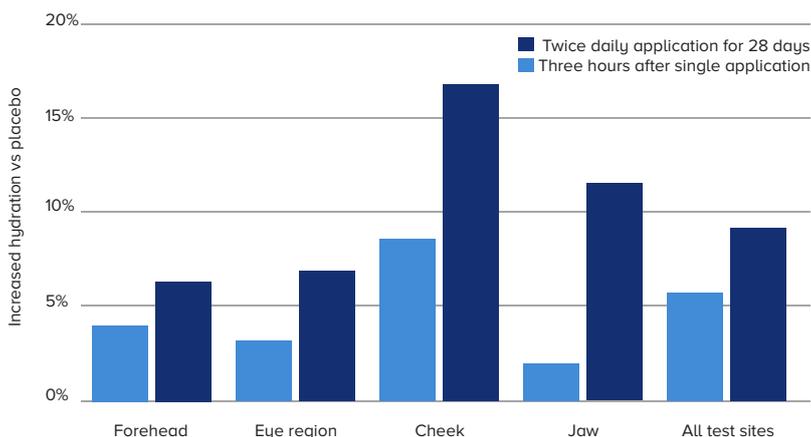
Link: [1: International Journal of Cosmetic Science, August 2016, ePublication](#)  
 Link: [2: British Journal of Dermatology, July 2008, pages 23-34](#)  
 Link: [3: Journal of Cosmetic Dermatology, June 2007, pages 75-82](#)  
 Link: [4: Proceeding of the National Academy of Sciences, June 2003, pages 7.360-7.365](#)

### SACCHARIDE ISOMERATE

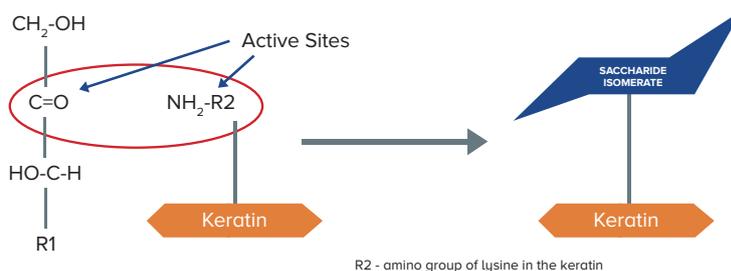
Saccharide Isomerate Complex is a 100% plant-derived carbohydrate complex, similar to that found in human skin. The molecules bind to the skin, preventing epidermal water loss, delivering immediate & long-lasting hydration for up to 72 hours. As a vegan hyaluronic acid booster, Saccharide Isomerate complex contains no animal by-products, so you can be confident that this product is cruelty-free and highly efficacious.

Saccharide Isomerate Complex is clinically proven to provide short and long-term hydration. The case study image below shows the increase in hydration to the stratum corneum after 3 hours and after 28 days, where Saccharide Isomerate Complex was applied twice per day.

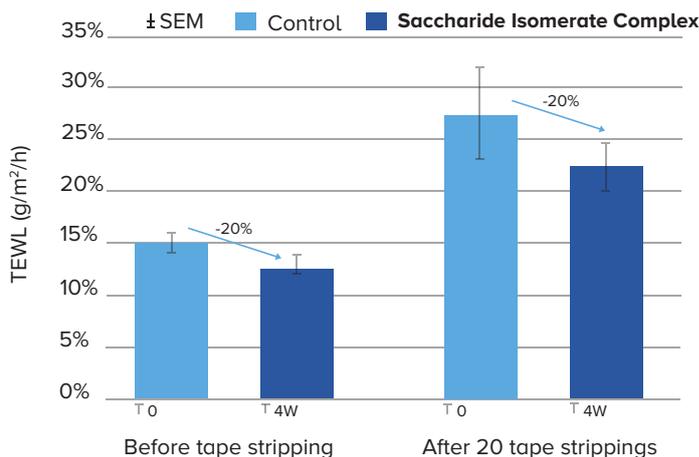
**Saccharide Isomerate vs. Placebo**  
 After twice daily application of Saccharide Isomerate Complex, there is a significant improvement in hydration across all facial areas. Just 3 hours after a single application, the excessively dry cheek area is significantly more hydrated.



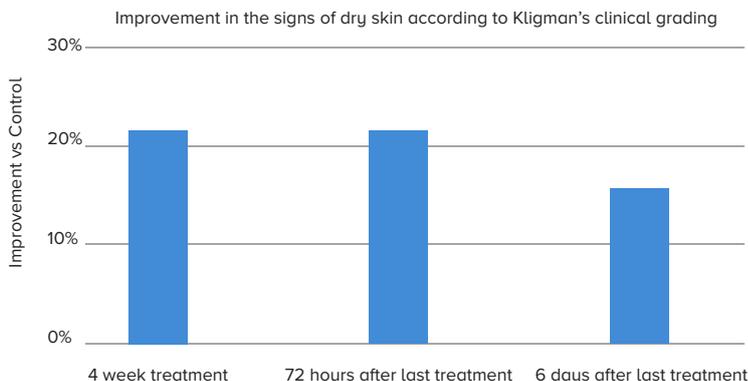
The in-vivo and in-vitro studies have proven the unique binding of this Saccharide Isomerate Complex to the free amino group of lysine in keratin. After 4 weeks of continuous use, Saccharide Isomerate improves the signs of dry skin by 20%, with effects lasting long after the final application 6 days later. This binding function allows the Saccharide Isomerate Complex to connect with the top layer of the skin, locking in moisture.



Saccharide Isomerate Complex in an aqueous solution improves and strengthens the skin barrier function as shown by the 20% reduction in trans-epidermal water loss before and after 20 successive tape strips after a 28-day application.



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Link: [1. International Journal of Cosmetic Science, 2015, 37, 595-605](#)

Link: [2. International Journal of Cosmetic Science, 2016 38, 217-223](#)

Link: [3. Data on file.](#)

Link: [4. Data on file.](#)

Link: [5. G.Padberg, J. Soc.Cosmetic Chemists 23, 271-279, 1972](#)

## SALICYLIC ACID

Salicylic Acid is a Beta Hydroxy acid. It is considered to have aspirin-like, anti-inflammatory properties and is a popular ingredient in acne treatment formulas and is extracted from willow bark. Salicylic Acid is one of several beta hydroxy acids, and works as a keratolytic by exfoliating the skin, causing the cells of the epidermis to shed more readily, preventing pores from clogging up, and allowing room for cell growth. It is considered especially effective because of its ability to penetrate the follicle, clearing the pores of debris at a deeper level and reducing blockage and in turn, acne flare ups and breakouts, it also has antimicrobial properties. It is also well documented that salicylic acid can improve skin thickness, barrier functions, and collagen production, making it very useful for acne prone skin.

Link: <https://www.ncbi.nlm.nih.gov/pubmed/1535287>

Link: <https://www.ncbi.nlm.nih.gov/pubmed/30173582>

## **TOCOPHEROL (VITAMIN E)**

Tocopherol or Vitamin E is an important fat-soluble antioxidant and has been in use for more than 50 years in dermatology. It is an important ingredient in many cosmetic products. It protects the skin from various deleterious effects due to solar radiation by acting as a free-radical scavenger.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4976416/>

One of the most well-known and researched antioxidants for the body and for skin. Vitamin E occurs naturally in human skin, but can become depleted due to constant environmental exposure in the absence of sun protection. There are eight basic forms of the entire fat soluble vitamin E molecule, which are either synthetically or naturally derived. The most typical forms are d-alpha-tocopherol, d-alpha-tocopherol acetate, dl-alpha tocopherol, and dl-alpha tocopherol acetate. Research has shown that natural forms of vitamin E are more effective than their synthetic counterparts, but both definitely have antioxidant activity. Vitamin E is an important fat-soluble antioxidant and has been in use for more than 50 years in dermatology. It is an important ingredient in many cosmetic products. It protects the skin from various deleterious effects due to solar radiation by acting as a free-radical scavenger. Experimental studies suggest that vitamin E has photoprotective properties and is a powerful antioxidant

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4976416/>

## **CALENDULA OFFICINALIS**

Native to the Mediterranean area, it has been known to old herbalists as a medicine particularly in Arab and Hindu cultures. The Ancient Romans also called it solsequium, meaning "sun follower" because its flowers open at dawn and close at the sunset. Extracts of the plant contain Triterpenoids which provide anti-inflammatory properties to help soothe irritated skin.

### **Supporting evidence:**

Della Loggia R. et al. The Role of Triterpenoids in the Topical Anti-inflammatory Activity of *Calendula officinalis* Flowers. *Plant. Med.*, 1994; 60: 516-20 (ref. 415).

Dilika F. et al. Antibacterial activity of linoleic and oleic acids isolated from *Helichrysum pedunculatum*: a plant used during circumcision rites. *Fitoterapia*, 2000; 71(4): 450-52 (ref.3992).

Calendula oil is a natural oil extracted from marigold flowers (*Calendula officinalis*). It's often used as a complementary or alternative treatment. Calendula oil has antifungal, anti-inflammatory, and antibacterial properties.

Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3270572/>

