

AC Vegetable Ceramides G



water soluble Botanical Ceramides
 Natural Alternative anti-inflammatory conditioning
 Vegetable Derived

BACKGROUND

Ceramides are classified as lipid molecules and are typically composed of fatty acids and sphingosine. Present in high concentrations within cellular membranes, ceramides are components of sphingomyelin, one of the major lipids of the lipid bilayer. Credited with providing structural support to cells and improving cellular integrity, ceramides, such as plant derived vegetable ceramide, may be used in a wide variety of cosmetic and personal care applications.

Ceramides are thought to increase collagen production in fibroblasts when administered in small doses. When the amount of ceramide is slightly increased, the extracellular matrix becomes homeostatically synthesized, therefore increasing the amount of collagen. This increase in collagen production goes hand in hand with ceramides' ability to increase cellular turnover. Ceramides are essentially the "glue" that holds our skins surface cells together. When the skins barrier is intact, the skin looks smooth, glowing and younger. Ceramides help to support the skin in order to maintain natural collagen, elastin and structural proteins for younger looking skin.

Ceramides are also present in the hair cuticle. The cuticle is the thin outermost layer of the hair that serves to protect the hair shaft and provide the hair with strength. Damaged hair often has ceramides that are missing, causing the hair to become dull, dry and increasing the chance of breakage. When used in hair care applications, ceramides can improve the hair cuticle and restore the hairs natural moisture balance. Ceramides can also protect the hair from environmental conditions as well as mechanical damage to improve the hairs shine, texture and combability. Ceramides are also believed to have an important role in the hair's transition from 'live cells' within the follicle and beneath the skin's surface, to the keratinized shafts which we see.

SCIENCE

Vegetable ceramide is an excellent plant derived ingredient, recognized for reinforcing and protecting the skin from transepidermal water loss (TEWL), while reducing inflammation. It's also believed that ceramides help improve epidermal integrity while providing skin and hair protection from photo-damage, surfactants, stress, and low humidity conditions. Environmental factors cause the skin and hairs natural ceramides

Code Number: 16558G

INCI Name: Glycerin & Glycosphingolipids

INCI Status: Conforms

REACH Status: Complies

CAS Number: 56-81-5 & 308067-30-3

EINECS Number: 200-289-5 & N/A

Origin: Botanical

Processing:

GMO Free

No Ethoxylation

No Irradiation

No Sulphonation

Additives:

Preservatives: None

Antioxidants: None

Other additives: None

Solvents Used: Glycerin

Appearance: Clear to Slightly Hazy Syrupy Solution

Soluble/ Miscible: Water Soluble
 92.90% Biodegradability

Microbial Count: <100 CFU/g,
 No Pathogens

Suggested Use Levels: 1.0 - 10.0%

Suggested Applications: Nourishing, Conditioning, Rejuvenating

Benefits of AC Vegetable Ceramides G:

- Anti-inflammatory
- Vegetable Derived
- Conditioning
- Reinforcement of Skin Barrier & Hair Shaft

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to be compromised, leading to loss of moisture and allowing irritants to easily penetrate. Ceramides help to increase hydration, reduce inflammation, and to reinforce the skins protective barrier as well as the hair shaft. **AC Vegetable Ceramides G** can capitalize on the benefits of ceramides in hair and skin care applications.

BENEFITS

Glycosphingolipids are a type of glycolipid, which is built on a ceramide lipid moiety. Glycosphingolipids, derived from rice, present a natural alternative to synthetic ceramides. **AC Vegetable Ceramides G** is intended to reinforce the protective skin barrier and hair shaft, condition, and reduce inflammation.

EFFICACY DATA

Interleukin-6 ELISA was conducted to assess the changes in IL-6 levels in **AC Vegetable Ceramides G**-treated in-vitro cultured human dermal fibroblasts. As shown in Figure 1, **AC Vegetable Ceramides G** exhibited anti-inflammatory effects on LPS-treated fibroblasts. This decrease in IL-6 production indicates a reduced inflammatory environment which could decrease the signs of aging and reduce the formation of fine lines and wrinkles. This data suggests that **AC Vegetable Ceramides G** enhances soothing and anti-aging properties at normal use concentrations.

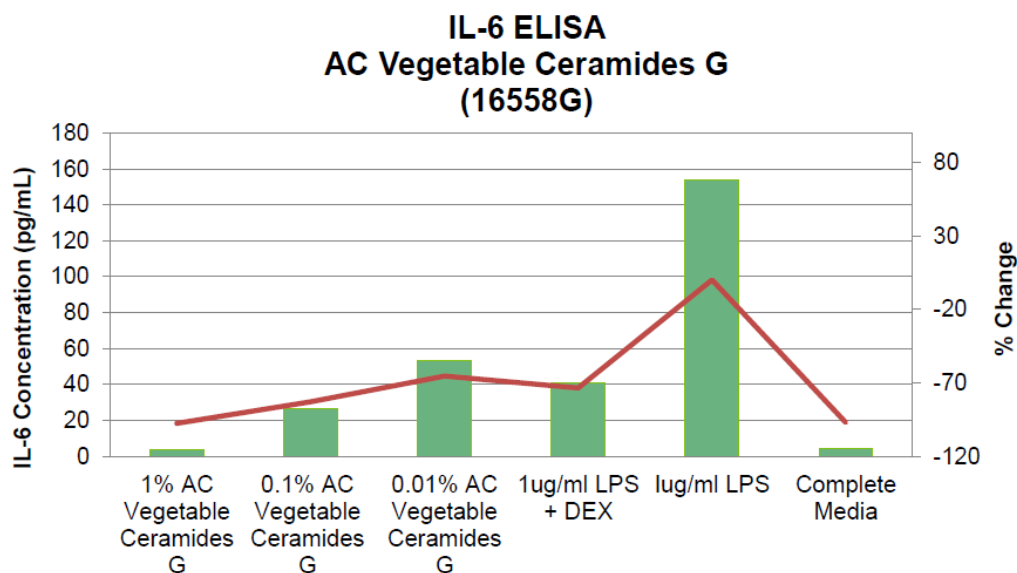


Figure 1. AC Vegetable Ceramides G-treated fibroblasts IL-6 concentrations and percent change.

References:

1. Ceramides - The Dermatology Review. (2018). Retrieved from <https://thederreview.com/ceramides/>
2. Christie, W. (2014). Ceramides: structure, occurrence, biosynthesis and analysis. Retrieved from <http://aocs.files.cms-plus.com/AnnualMeeting/images/lipidimporthtml/lipidlibrary/Lipids/ceramide/index.htm>



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