

# VivGlow™

Aesthetic-Enhancing  
Product

## Outstanding Visual Impact and Strong Performance Benefits



## VivGlow™ VivGlow™ VG

### INCI Declaration

- Cholesteryl Isostearate (and)  
Cholesteryl Chloride (and)  
Cholesteryl Nonanoate (and) Silica

### Benefits

- Opalescent/ iridescent effect
- Anti-inflammatory property
- Moisturizing effect
- Great skin affinity
- Adjustable for more colors
- Lanolin or non-animal origin

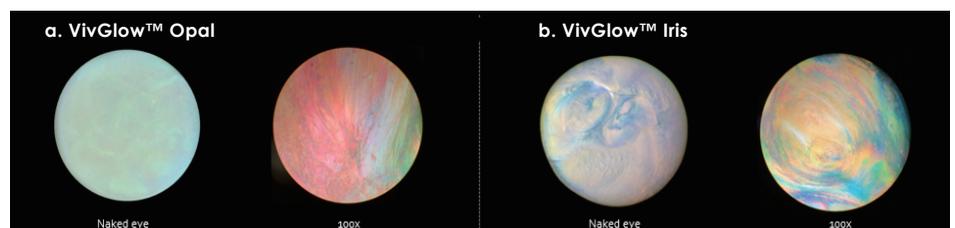
### Applications

- Holographic lip gloss
- Eye care
- In clear gel/ serum

### Adding holographic, rainbow-like iridescence to cosmetic products

What's not to love about the eye-catching visual impact from holographic, rainbow-like iridescence? The term "holographic" is sweeping not only the fashion runways but it also defining a new trend in the cosmetics industry. VivGlow™ is cholesteric liquid crystal, a fascinating thermotropic genre from the liquid crystal family, characterized by its mesophase and versatile properties. VivGlow™ imparts an exciting rainbow-like visual cascade that manifests erratic wide-spectrum colors from different angles, as well as with different circumference shades.

VivGlow™ is a unique blend composed of three cholesteryl esters: cholesteryl isostearate, cholesteryl chloride, and cholesteryl nonanoate. A number of fatty acids can be conjugated with cholesterol to synthesize cholesteric derivatives, but isostearic acid is specifically contrived to enhance the stability profile of VivGlow™. The cholesteric ester ratios predetermine varying iridescent colorization, which remains temperature-sensitive and prone to moderate alteration. Two shades are available: VivGlow™ Iris (pinkish white-green) and VivGlow™ Opal (greenish blue), both of which are adjustable with pigments for more color variations. The ingredient, in both shades, is also available in non-animal grade: VivGlow™ VG.

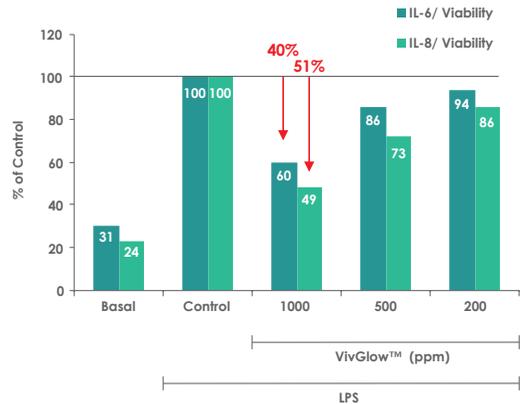


## In-Vitro Study: Anti-Inflammatory Property

The stratum corneum (SC) lipids, including cholesteryl esters, are arrayed in a highly organized structure with specific ratios to form the skin barrier. When these ratios become unbalanced, the barrier function becomes weaker and more vulnerable, allowing allergens and microbes to more easily penetrate to deeper layers of the skin where inflammatory pathway reactions are triggered. The atypical expression of cholesteryl esters on the skin may lead to atopic dermatitis.

To understand the anti-inflammatory property of VivGlow™, a study was conducted using HaCaT, a keratinocyte cell line from adult human skin. The results show that VivGlow™ effectively down regulated the secretion of two major cytokines IL-6 and IL-8 in a dose-dependent manner.

Inhibition of IL-6 & IL-8

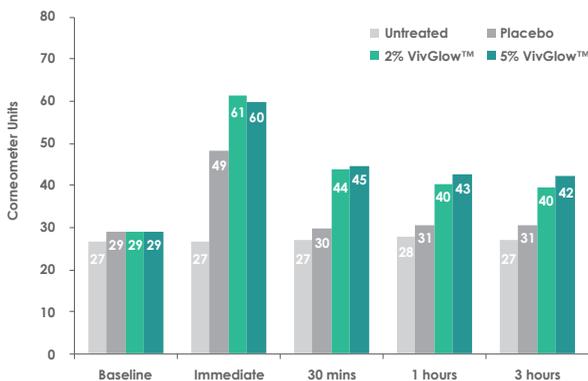


## In-Vivo Study: Moisturization Property

### Improving skin hydration

By replenishing and restoring the essential lipid ratio, VivGlow™ helps skin hydrated and strengthens skin barrier function. To further evaluate the moisturizing efficacy of VivGlow™, serum formulations containing 2% and 5% VivGlow™ were tested on human skin and analyzed by Corneometer® CM 825, which measures the change in dielectric constant due to skin surface hydration. The readings show that 2% VivGlow™ improved Corneometer® units (SC water content) by 24.5%, 46.7%, 29% and 29% respectively, while 5% VivGlow™ increased Corneometer® units by 22.4%, 50%, 38.7% and 35.5% respectively in four different time intervals (immediate, 30 mins, 1 hour, 3 hours), compared with a placebo formulation.

Clinical moisturizing test



## Applications of VivGlow™

The wow factor of VivGlow™ is undeniable. The ingredient can be added into clear water-based gel/serum, eye cream and holographic lip gloss, not only for its exciting rainbow-like, holographic effects but also for its moisturizing effect.

