

Azeclair™ Azeclair™ P

Solution to Oily
and Dull Skin

Oil Control Brightening Agent



Azeclair™ Azeclair™ P

INCI Declaration

Potassium Azeloyl Diglycinate

Benefits

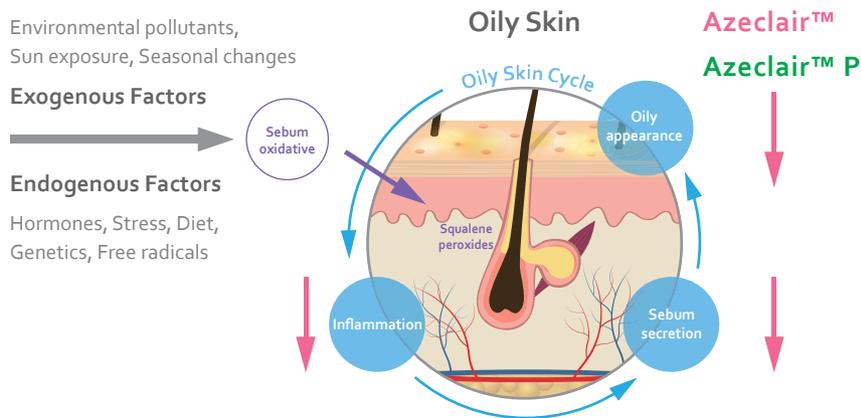
- Sebum regulating
- Skin brightening/clarifying
- Lighten acne spots
- Anti-pollution
- free of preservatives
- water conservation
- Carbon footprint reduction

Applications

- Oil control products
- Anti-acne products
- Skin clarifying products
- Even skintone

Azeclair™ is a sebum normalizing agent that improves the appearance of oily skin and brightens skin tone. It is safe, stable and compatible with other cosmetic ingredients.

Azeclair™ P (INCI: Potassium Azeloyl Diglycinate) is ameliorated from its original liquid counterpart through the removal of water to become 70% lighter in weight with the aim to reduce carbon footprint in the transportation and production of finished cosmetics. The weight in transportation is further 33% off, which in sum enables to largely reduce 11-15% of the CO₂ emission than before.



Azeclair™ (INCI: Potassium Azeloyl Diglycinate), a glycinated derivative of azelaic acid, inherits the benefits of azelaic acid, and at the same time provides ease of application in skin care cosmetics. It has outstanding oil control and skin clarifying properties, and is soluble in water without affecting the appearance or transparency of the finished products. It is also compatible with other cosmetic ingredients to impart a good, safe and stable profile.

Azeclair™ / Azeclair™ P

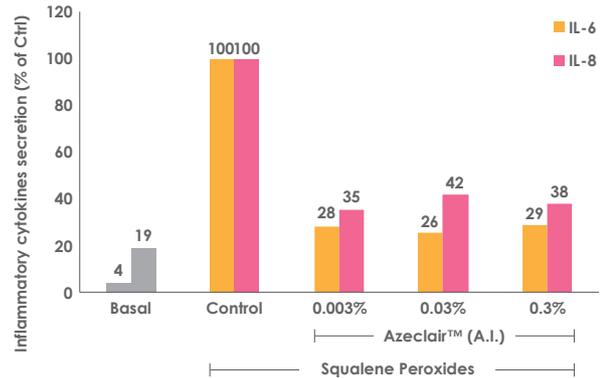
Efficacy Study

1

Sebum Normalizing:

Anti-inflammation

UV lights, air pollutants and seasonal changes are the factors that induce an oxidative response in human skin. More specifically, peroxidated squalene is formed and it induces upregulation of inflammatory cytokines. Hence, the anti-inflammatory property of Azeclair™ was investigated by measuring the protein levels of two cytokines IL-6 and IL-8. Azeclair™ successfully downregulates the production of IL-6 and IL-8 to alleviate inflammatory responses.

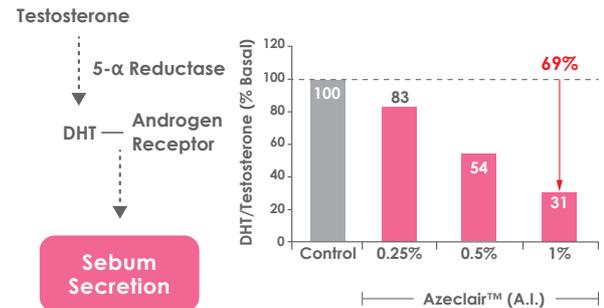


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Sebum Normalizing:

Inhibition the activity of 5-α reductase

The conversion of testosterone to dihydrotestosterone (DHT) by the enzyme 5-α reductase is an important enzymatic process involved in androgen activity, and the high level of androgens causes an increase in sebum production. An *in-vitro* study, conducted by lab BioAlternative (France), shows that Azeclair™ imparts inhibitory effects on 5-α reductase activity and thus lowers the DHT/Testosterone ratio in a dose-dependent manner.

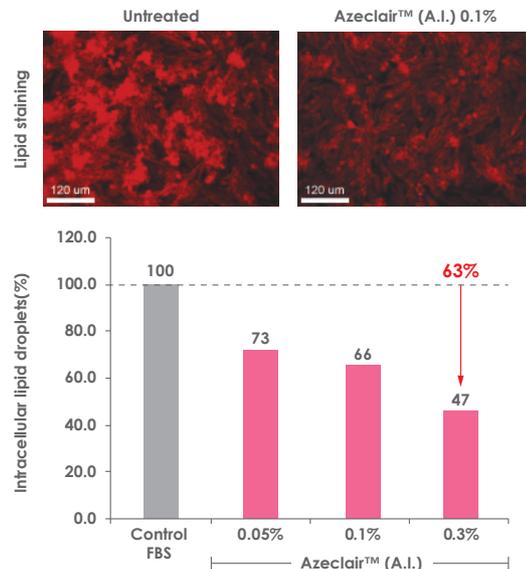


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Sebum Normalizing:

Reduction of lipid droplets in sebocytes

Sebocytes are sebum-producing epithelial cells that gradually accumulate lipid droplets and eventually release sebum to reach the skin surface via the hair canal. Lipid droplets are independent organelles that constituted by neutral lipids and are important for energy homeostasis within the cytoplasm. However, excessive lipid droplets may lead to cell dysfunction and have a negative impact on skin. Our results have realized Azeclair™ significantly decreases the content level of lipid droplets in a dose-dependent manner to impart a good ability of oil control.



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Efficacy Study

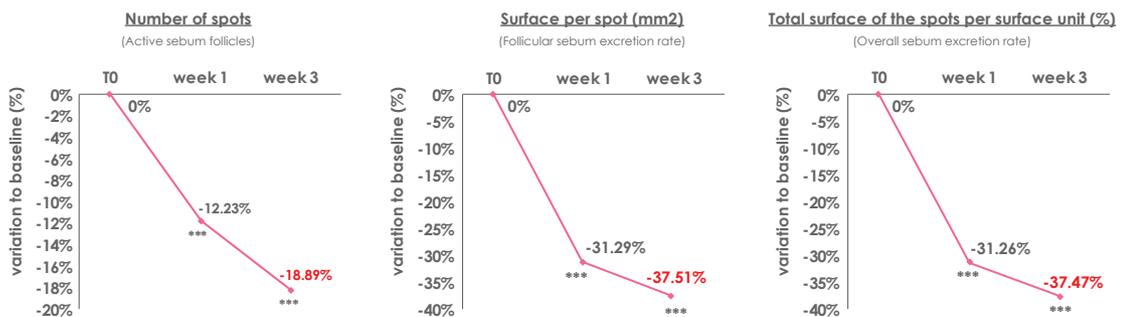
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Sebum Normalizing:

In-Vivo Sebutape® Analysis

20 healthy Asian subjects, age between 25~40 years old, with a greasy/seborrheic skin, were enrolled in this study to evaluate the *in-vivo* sebum-regulating effect of Azeclair™. 10% Azeclair™ cream (3% active) was applied on the subjects' faces for 3 weeks. The sebum droplet distribution on the forehead was analyzed using Sebutape®, a sebum-sensitive adhesive film used to visualize and measure human sebaceous secretion. The results were transferred to binary imaging after threshold process to further quantify the data.

Results show that Azeclair™ has significant effect in reducing **active sebum follicles (-18.89%)**, **follicular sebum secretion rate (-37.51%)**, as well as **total sebum excretion rate (-37.47%)** after 28 days of treatment.



Over 70% of volunteers found their skin felt **more hydrated and smoother** and **less greasy and oily** after application, and over 90% felt the improvement of skin oiliness **within 3 weeks**. The skin texture also became healthier and brighter during the treatment, with **none** of the volunteers reported any skin irritation after application.



Skin become less oily and brighter after 28 days of Azeclair™ application

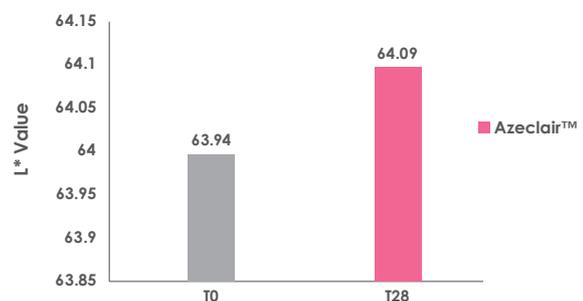
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Skin Brightening:

In-Vivo Brightening Efficacy

A 28-day skin lightening test was carried out by Spincontrol, according to the chromometry principle. The volunteers comprised 15 healthy females with skin type III. 10% Azeclair™ cream (3% active) was treated twice daily on the subjects' forearms. Data demonstrate a significant improvement in skin luminance (L* value) after 28 days of application, showing a significant skin lightening effect of Azeclair™.

Improvement in Skin Luminance (L* Value)



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Claim Ideas

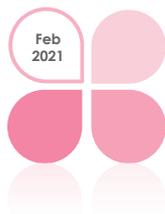
- Sebum regulating
- Skin brightening/ clarifying
- Lighten acne spots
- Improve radiance and hydration of the skin

Applications

- Oil control products
- Anti-acne products
- Skin clarifying products
- Even skintone

Marketing Benefits

- Excellent water solubility
- Non-irritant to the skin
- Safe and stable
- Good compatibility with other cosmetic ingredients
- China approved (listed on IECIC 2015 version)



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