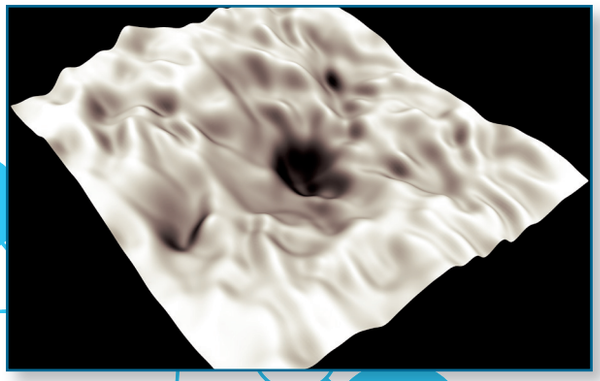
p-REFINYL®

A LONG-LASTING BIOLOGICAL TREATMENT FOR FINER PORES



Oligosaccharides from *Lens esculenta*

- Reduces sebum secretion
- Restores the normal keratinization process
- Limits pore wall slackening

→ Reduces pore area

→ **TIGHTENED PORES & REFINED SKIN GRAIN**
(on Caucasian and Asian skins)

A concern of men and women of any age and any ethnic origin, the problem of dilated pores is often associated with an excess of sebum and the relaxation of skin tissues that occurs with age. Recent studies identify a third cause of this phenomenon: an abnormal accelerated keratinization process leading to accumulation of nucleated cells around the pores.

SILAB research offers p-REFINYL®, a multi-action active ingredient which attenuates the unsightly appearance of dilated pores.

Rich in oligosaccharides, p-REFINYL®:

➢ **reduces sebum production;**

➢ **stimulates the process of keratinocyte maturation, thus eliminating from the pore the nucleated cells which stiffen its walls;**

➢ **limits pore distortion and slackening, by reinforcing the collagen structure of the dermis.**

By tightening the pores, p-REFINYL® smoothes the skin grain and limits shininess. The complexion is more uniform and more radiant.

A basic treatment for dilated pores, p-REFINYL® is an essential complement to astringent active ingredient for long-lasting effect.

ANTI-OILY SKIN

Silab

Cosmetic Efficacy

in vivo studies were conducted during 28 days of twice daily treatment with p-REFINYL® formulated at 3% in emulsion *vs.* placebo, on the face assigned randomly on two panels:
1/ Caucasian skin: 20 healthy male and female volunteers, mean age 41 ± 12 years, selected as having dilated pores;
2/ Asian skin: 34 healthy male and female volunteers, mean age 24 ± 2 years, with oily skin and dilated pores. This assessment on Asian subjects was conducted by the skin engineering and biology laboratory of West China Hospital (Chengdu, China), under the management of Professor Li Li.

A triple action

Effect of p-REFINYL® on sebum production

Study realized with a sebumeter® on the forehead and/or the cheeks of both Caucasian and Asian skin panels.

Tested at 3%, p-REFINYL® significantly limits sebum secretion after 28 days of twice daily treatment by reducing:
- the **Caucasian skin** sebum level on the forehead by 9.5% (P = 0.0004) and on the cheeks by 11.9% (P = 0.0237), effect observed in 90% of volunteers;
- the **Asian skin** sebum production on the forehead by 29.0% (P = 0.0001), effect observed in 80% of volunteers.

Effect of p-REFINYL® on the keratinization process

p-REFINYL® restores the normal keratinization process, by boosting keratinocyte differentiation and thereby favoring the renewal of the nucleated cells around the dilated pores.

Keratinocyte differentiation

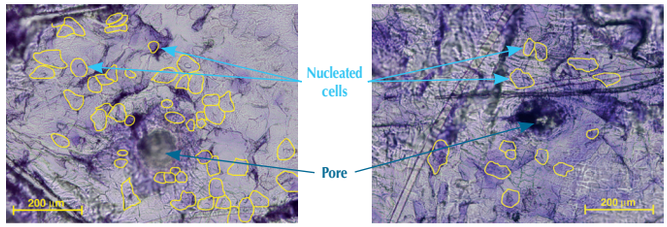
Study realized by quantitative PCR on normal human keratinocytes.

1% p-REFINYL® significantly increases the expression of differentiation proteins: transglutaminase 1 by 34% and involucrin by 27%.

Renewal of nucleated cells

Staining and assessment by 5 trained evaluators scoring each photograph blind on a scale.

Tested at 3% on the Caucasian skin volunteers, p-REFINYL® significantly reduces the number of nucleated cells recovered around pores on the cheeks after 28 days of treatment by 20.8% (P = 0.0407).



D0
Presence of nucleated cells +++

D28
Presence of nucleated cells +

Effect of p-REFINYL® on the structure of the dermis

Study realized by quantitative PCR on normal human fibroblasts.

Tested at 0.5%, p-REFINYL® significantly stimulates the expression of collagen I by 100%, limiting pore wall slackening and thereby reinforcing the dermal support structures.

A tighter and finer skin grain

Effect of p-REFINYL® on the pore area

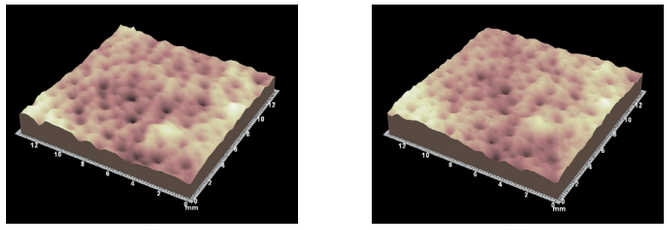
Quantification of pore area

Test on Caucasian skin

Study conducted by fringe projection on the cheeks.

In the conditions of the study, p-REFINYL® formulated at 3% improves the appearance and refines the skin grain by significantly reducing the area of the pores by 10.2% (P = 0.0582).

The subjective assessment quantifying the sensations felt by this panel of Caucasian subjects after 28 days of treatment showed that 100% of the volunteers observed that p-REFINYL® significantly tightens the pores compared with only 74% for the placebo (P = 0.0046).



D0 D28

Clinical assessment

Test on Asian skin

Based on a clinical examination of half-faces conducted on D0 and D28.

p-REFINYL® formulated at 3% significantly tightens and smoothes the skin grain allowing:
- a reduction of the pore size by 62% (P = 0.0001);
- a decrease in the skin roughness by 23% (P = 0.0010).

After 28 days of use, p-REFINYL® limits the aesthetic consequences related to problems of dilated pores.

D0 D28

Technical Sheet

- **Patented**
- **Latin name:** *Lens esculenta*
- **I.N.C.I. name:** consult us
- **Cas N°:** consult us
- **Proven safety**

Form:
- Aqueous solution
- Aspect: limpid liquid
- Odor: weak
- Color: light yellow

Use:
- Recommended amount: 1 to 3%

Analytical features:
- Dry matter: 42 - 62 g/L
- Total sugars (Dubois method): 13 - 20 g/L
- pH: 4.5 - 5.5
- Stabilizer: 0.20% ethylhexylglycerin
- Preservative: 0.50% phenoxyethanol

For any other preservative system, contact us.

- **Studies on cosmetic compatibilities available**

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