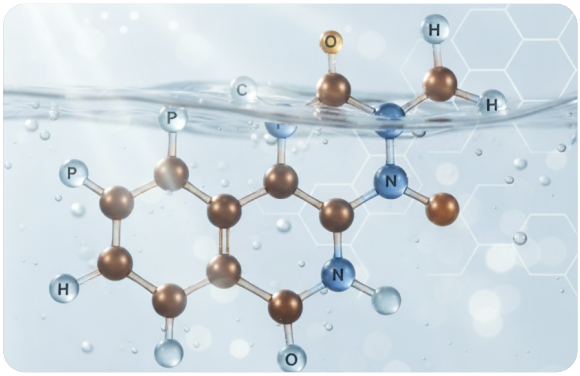
Phosphatidyl choline (PC)

Meteoric Cosmeceutiicals
Beauty Meets Brilliance in Biotech

Biotech Edge

Rooted in biomimetic science, Phosphatidylcholine brings biotechnology's precision to skin restoration. As a naturally occurring phospholipid, it replicates the architecture of healthy skin by replenishing essential lipids and reinforcing the barrier from within. Through its self-organizing vesicles, it delivers and stabilizes actives with intelligent precision, enhancing hydration, texture, and resilience. The result is skin that feels balanced, supple, and naturally fortified by biotech innovation.



Phosphatidylcholine (PC) is a naturally occurring phospholipid and a key structural component of healthy skin. Recognized as a biomimetic skin lipid, it helps restore and protect the barrier while improving the delivery and stability of active ingredients. In biocosmetic formulations, PC represents functional biotechnology at work, forming fine, skin-compatible vesicles that enhance the penetration of actives without disrupting skin's natural balance. It replenishes essential lipids, strengthens barrier function, and improves overall skin hydration and texture, making the skin feel supple and resilient.

PRODUCT DETAILS

INCI name:	Recommended Dosage:	Appearance:
Phosphatidylcholine	**0.5–5% (up to 10% in advanced delivery systems)**	**Pale yellow to amber viscous liquid**

Enhances Penetration

Promotes Visible Softness

Improves Moisture Retention

Skin Elasticity

Applications:

- Anti-ageing and hydration serums
- Barrier-repair and sensitive-skin formulations
- Liposomal or nano-delivery systems
- After-procedure and recovery skincare
- Anti-pollution and urban-defence products
- Clean and biotech beauty emulsions

Key Features:

- Biomimetic lipid replicates the structure of natural skin phospholipids
- Acts as both a barrier-repairing ingredient and a delivery enhancer
- Improves formulation stability and sensorial feel
- Derived from sustainable plant or biotechnological sources
- Derived from vegan source "Sunflower" and contains higher choline content.
- Allergen free suitable for sensitive skin

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What it Brings to Your Formulation

- **Enables creation of liposomal and lamellar systems for next-generation skincare.**
- **Provides enhanced active performance through enhanced penetration.**
- **Adds a light, elegant sensorial finish while maintaining long-lasting hydration.**
- **Strengthens claims around biotech-driven barrier repair and skin wellness.**

Efficacy Studies

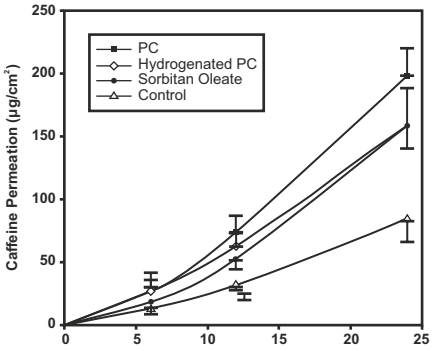

Fig 1: Phosphatidylcholine (PC) vesicles displays enhanced penetration of bioactive (caffein) compared to control, Hydrogenated PC and Sorbitan Oleate over within 24 hours [1]

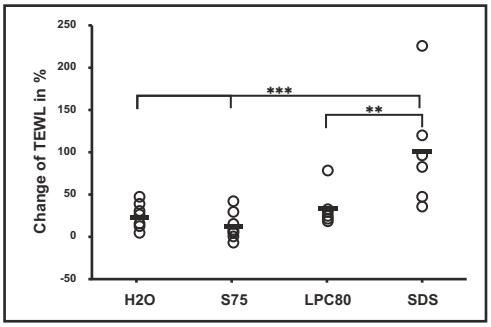

Fig 2: Phosphatidyl choline (S75 & LPC80) protects the skin from TEWL with continued application for 4 days. These effects are at par with water (positive control) and significantly different from SDS (negative control) treated skin[2]

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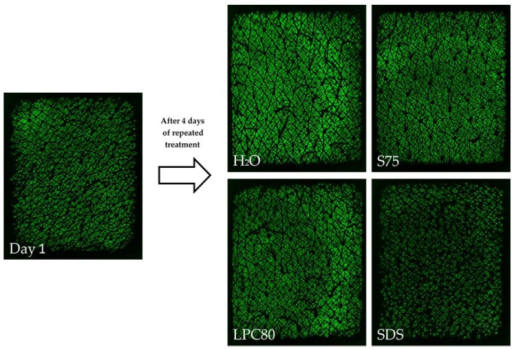

Fig 3: Continuous application of Phosphatidyl choline (S75 & LPC80) over four days improves stratum corneum hydration which is comparable to water and visibly better compared to SDS treated skin[2]

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Clinically Proven Benefits

- Studies show that PC significantly enhances skin absorption of actives by improving interaction with the outer skin layer, making delivery both faster and more efficient.
- Maintains skin comfort and compatibility, showing far less irritation potential compared to conventional surfactants or emulsifiers.
- Supports barrier recovery by replenishing phospholipids essential for healthy skin structure and moisture retention.
- Reduces TEWL and improving skin hydration.

References:
[1] Kim, Chinhan, et al. "The skin-permeation-enhancing effect of phosphatidylcholine: caffeine as a model active ingredient." Journal of cosmetic science 53.6 (2002): 363-374.
[2] Vater, Claudia, et al. "Changes in skin barrier function after repeated exposition to phospholipidbased surfactants and sodium dodecyl sulfate in vivo and corneocyte surface analysis by atomic force microscopy." Pharmaceutics 13.4 (2021): 436.