

PERSONAL CARE MAGAZINE

The role of
inhibitor tripeptides
for mitigating
hair loss

Scientific skin
evaluation:
a data-driven
approach

PFAS: POWERFUL CHEMISTRY UNDER PRESSURE

PFAS have long enabled durable,
high-performance materials in everyday products.



PHOSPHOLIPON® 90 H IP – Biomimetic Barrier Boost

Consumers and formulators alike are increasingly drawn to formulations with thoughtfully curated ingredients. By focusing on fewer, high-quality components, these products reduce the risk of irritation while delivering maximum efficacy.

Phospholipids perfectly meet the requirements for modern skin care ingredients: they are sourced from renewable raw materials, provide biomimetic multifunctionality, and ensure excellent skin compatibility due to their endogenous nature. PHOSPHOLIPON® 90 H IP is based on hydrogenated phosphatidylcholine, a highly pure fraction of natural phospholipids derived from non-GMO soybeans. It offers a unique range of benefits in a single ingredient: it functions as a skin barrier-strengthening and replenishing agent, provides an exceptionally smooth skin feel, and can be used as a non-irritating emulsifier that ensures excellent formulation aesthetics.

The cosmetic benefits, multifunctionality, and excellent tolerability of PHOSPHOLIPON® 90 H IP make it an ideal ingredient for stressed and sensitive skin, as well as for skin-friendly products.

Hydrogenated phosphatidylcholine intercalates into the upper stratum corneum

The upper layers of the skin primarily consist of ceramides, cholesterol, and saturated long-chain free fatty acids. The composition and organization of these lipids determine the skin's barrier function. Hydrogenated phosphatidylcholine, a highly pure fraction of natural phospholipids,



mimics the lipids naturally present in the stratum corneum. An *in vivo* shotgun lipidomics study showed that hydrogenated phosphatidylcholine intercalates into the upper layers of the skin (data not shown). Its localization in the stratum corneum provides the basis for the skin barrier-strengthening properties.

In addition to long-lasting reinforcement of the barrier function, the retention of hydrogenated phosphatidylcholine in the upper skin layers

creates a smooth, silky surface. This results in a luxurious skin feel upon application, as confirmed in a consumer study (data not shown).

PHOSPHOLIPON® 90 H IP strengthens the skin and protects from external stress

PHOSPHOLIPON® 90 H IP intercalates into the stratum corneum, strengthens the skin barrier function, and thereby protects healthy skin while supporting the regeneration of damaged skin *in vivo*.

To evaluate its protective effects, test formulations containing different concentrations of PHOSPHOLIPON® 90 H IP were applied to the volar forearms 1 hour prior to washing with an SDS solution. This procedure was repeated for 7 consecutive days to induce skin irritation.

All test formulations containing PHOSPHOLIPON® 90 H IP significantly reduced transepidermal water loss (TEWL) and redness as a measure of skin irritation caused by SDS washing compared to untreated skin (Fig. 1). The formulation containing 3 % PHOSPHOLIPON® 90 H IP showed the most pronounced reduction in TEWL values. Despite the absence of an oil component, the hydrogel demonstrated an effect comparable to that of the corresponding formulation containing 10 % MCT (medium-chain triglyceride). Thus, the beneficial effect on skin protection can most likely be attributed to PHOSPHOLIPON® 90 H IP.

In conclusion, PHOSPHOLIPON® 90 H IP effectively protects the skin and significantly reduces damage caused by subsequent exposure to external stress.

Conclusion

PHOSPHOLIPON® 90 H IP is a COSMOS- and NATRUE-approved, highly pure fraction of hydrogenated phosphatidylcholine that supports the skin barrier while imparting a luxurious feel and enhancing emulsification and overall aesthetics in skin care formulations. It provides multiple functions in a single ingredient and ensures excellent tolerability due to its biomimetic character, making it an ideal choice for natural and sustainable skin care. **PCM**

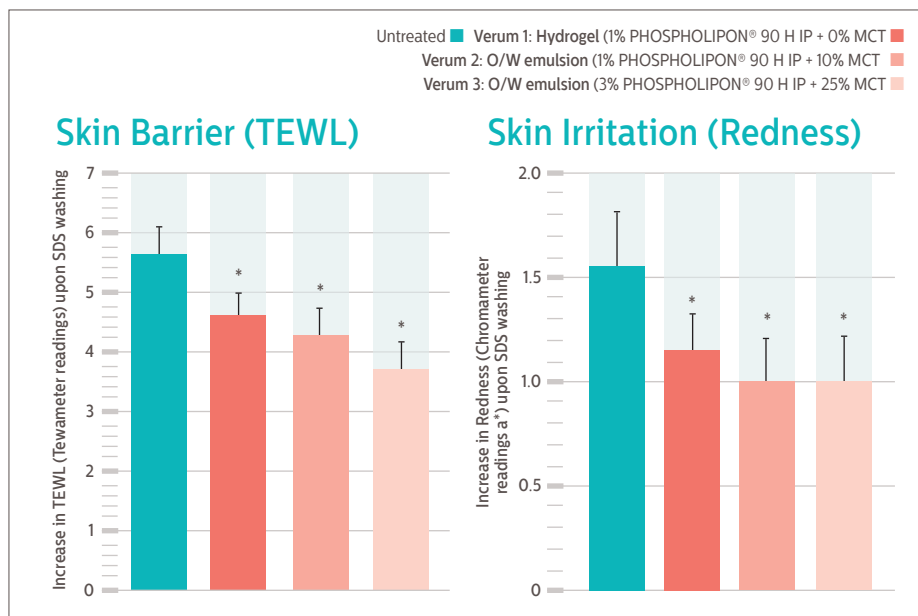


Figure 1: PHOSPHOLIPON® 90 H IP protects skin by reducing TEWL-increase and redness caused by external stress.

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