

Promecens Non-Darkening Encapsulated Melanin Platform

Making Melanin Usable in Modern Skincare Without Darkening the Formula

Promecens has developed a proprietary Non-Darkening Encapsulated Melanin Platform that allows melanin to be used in skincare, sunscreen, and topical formulations without imparting the typical black or dark brown colour associated with raw melanin.

Melanin is a naturally powerful bioactive pigment known for its ability to interact with UV radiation, visible light, blue light, oxidative stress, and environmental aggressors. These properties make melanin highly valuable for next-generation skincare, particularly in products focused on photoprotection, antioxidant defence, anti-pollution care, barrier support, and skin resilience.

However, raw melanin is difficult to use in elegant cosmetic products because of its intense natural colour. When added directly into creams, serums, gels, or sunscreens, free melanin can darken the entire formulation, create black specks, cause visible streaking, affect texture, and raise concerns around staining or colour transfer. This limits its use in premium products where appearance, feel, stability, and consumer experience are essential.

Promecens solves this problem by transforming melanin from a loose dark pigment into a protected, pale, formulation-compatible cosmetic active.

Instead of adding free melanin directly into a product, Promecens confines melanin inside a proprietary biopolymer-based protective membrane system. This encapsulation approach physically separates melanin from the surrounding formulation, helping prevent pigment migration, blackening, streaking, and visible speckling.

Promecens locks melanin inside a protective cosmetic membrane so the ingredient retains its functional potential without turning the product black.

The result is a pale, elegant, non-darkening melanin active that can be incorporated into a wide range of topical formats, including:

- Serums
- Creams

- Sunscreens
- Gels
- Lotions
- Barrier creams
- Post-sun products
- Anti-pollution skincare
- Blue-light protection products
- Premium dermocosmetics

This enables cosmetic brands to use melanin's natural protective intelligence while maintaining the appearance and sensory quality expected from modern skincare.

Why This Technology Matters

Melanin has strong commercial potential, but its colour has historically restricted its use in high-end formulations. Promecens' encapsulation platform removes this barrier by controlling how melanin behaves inside a cosmetic product.

The technology helps address key formulation challenges:

Challenge with raw melanin	Promecens encapsulated solution
Black or brown product colour	Pale, elegant product appearance
Pigment speckling	More uniform dispersion
Visible streaking on skin	Smooth application profile
Staining or transfer concern	Reduced pigment migration
Poor premium aesthetic	Luxury-compatible formulation
Limited formulation use	Suitable for serums, creams, gels, and sunscreens

By converting melanin into a structured delivery active rather than a free pigment, Promecens opens a new category of invisible melanin skincare.

How the Platform Works

Promecens' encapsulated melanin platform is based on a proprietary core-shell delivery architecture.

At the centre of the system is melanin. Around it is a protective chitosan-based membrane (Chitosan derived from *Agaricus Bisporus*) designed to reduce direct interaction between the dark pigment and the external product base. This membrane helps stabilise melanin, control dispersion, and prevent visible colour bleeding into the formulation.

The external surface of the encapsulated active is designed to be cosmetically elegant, allowing the ingredient to appear pale, ivory, beige, pearl-like, or translucent depending on the final product format.

The technology does **not** remove melanin's value. Instead, it changes how melanin is presented inside the formulation.

Raw melanin behaves like a loose black pigment. Promecens' encapsulated melanin behaves like a **controlled cosmetic active**.

Benefits for Formulators

Promecens' non-darkening melanin platform gives formulators a practical way to use melanin in products where raw melanin would normally be unsuitable.

Key benefits include:

- Improved colour control
- Reduced blackening of the final formulation
- Better compatibility with creams, serums, gels, and sunscreens
- Reduced pigment migration
- Lower risk of visible specks or streaking
- Improved dispersion and product uniformity
- Better consumer acceptance
- Premium skin feel and product appearance

This is particularly valuable for brands developing high-performance, science-led skincare where the product must look clean, elegant, and luxurious.

Benefits for Brands and Consumers

For skincare brands, Promecens' technology enables a differentiated product story:

Melanin-powered protection without the dark colour limitation.

The platform can support product positioning around:

- Invisible melanin protection
- Environmental defence
- Blue-light protection support
- Anti-pollution skincare
- Antioxidant protection
- Skin resilience
- Barrier recovery
- Premium dermocosmetic care

For consumers, the benefit is simple: they can use melanin-powered skincare without a black, grey, or staining product. The final formulation can remain pale, elegant, lightweight, and suitable for daily use.

Promecens Non-Darkening Encapsulated Melanin Platform is a proprietary delivery technology that transforms naturally dark melanin into a pale, elegant, formulation-compatible skincare active. By confining melanin within a protective biopolymer membrane, the platform helps prevent pigment migration, blackening, streaking, and staining while preserving melanin's functional relevance in light-stress and environmental protection. This enables the creation of melanin-powered serums, creams, sunscreens, gels, and dermocosmetic products that remain visually elegant, stable, and consumer-friendly.

Promecens makes melanin usable in modern skincare by encapsulating it inside a protective natural membrane, allowing products to benefit from melanin without turning black.