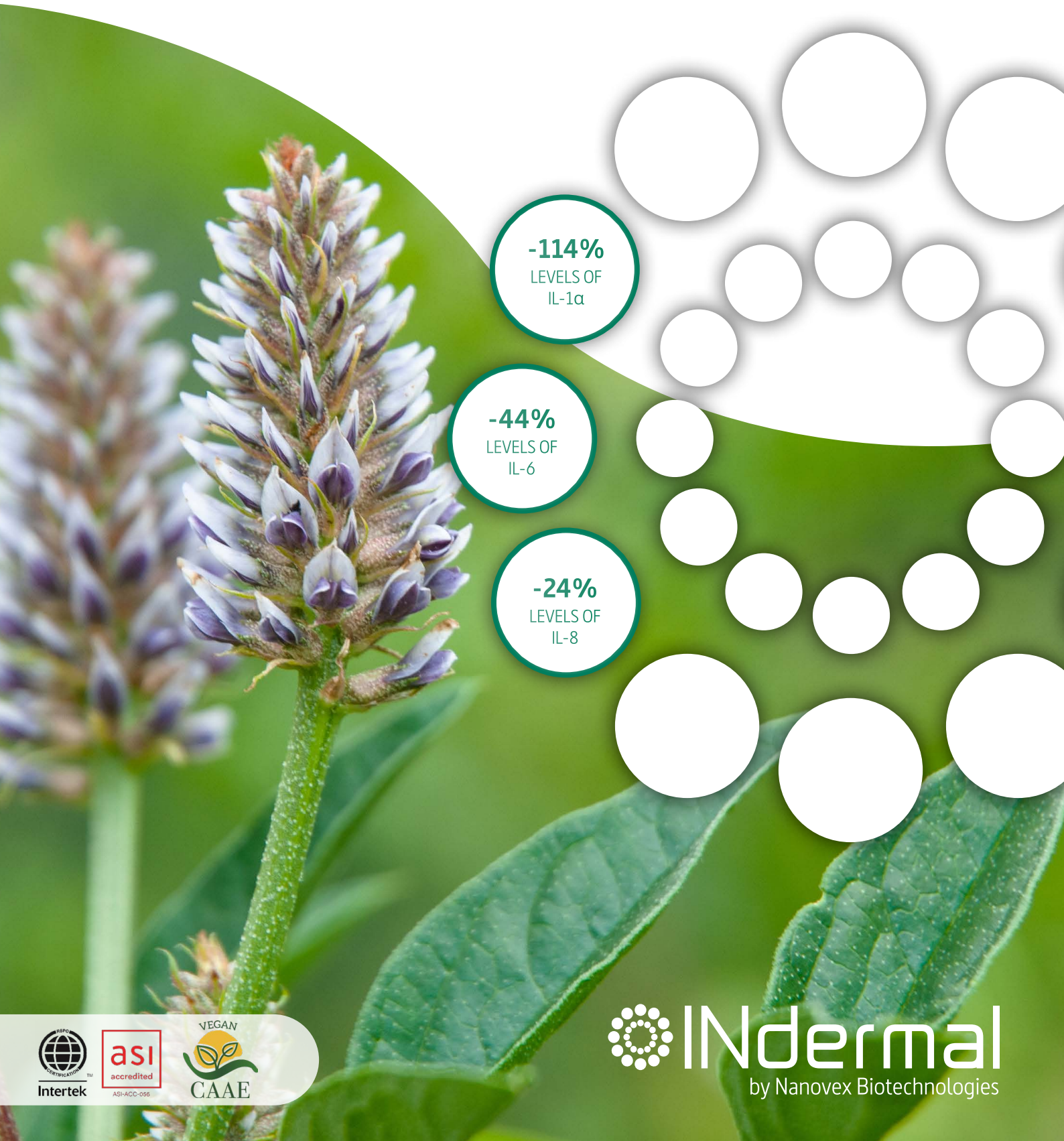
Vegan DDS Enoxolone

Deep Delivery Nanovesicles with 0.5% Glycyrrhetic Acid

Vegan DDS Enoxolone_01

DDS



Intertek

asi accredited
ASI-ACC-056

VEGAN
CAAE

INdermal
by Nanovex Biotechnologies

Vegan DDS Enoxolone

Code: 20347

Description:

GLYCYRRHETINIC ACID (0.5%) encapsulated in vegan deep delivery nanovesicles (DDS - Deep Delivery System) to add in cosmetic, cosmeceutical or dermo pharmaceutical formulations.

INCI:

AQUA, MANNITOL, PHOSPHATIDYLCHOLINE, GLYCERIN, POLYGLYCERYL-10 LAURATE, CETYL ALCOHOL, SODIUM BENZOATE, POTASSIUM SORBATE, GLYCYRRHETINIC ACID, XANTHAN GUM

Appearance: Light yellow. Liquid

Preservatives: SODIUM BENZOATE, POTASSIUM SORBATE

1-10%
RECOMMENDED DOSAGE

98.05%
NATURAL ORIGIN*

x15 LIPOSOME CONCENTRATION
Up to **15 times greater** concentration than other standard liposome products

NANO FREE
150-300 nm
AVERAGE SIZE

Readily Biodegradable**

DERMATOLOGICALLY TESTED
Very good skin compatibility***

APPLICATIONS

- **Skin care Anti-aging**
- **Skin care Balance**
- **Body care**

· Anti-oxidation · Brightness · Pigmentation · Acne · Irritation · Itching ·

CLAIMS

- **- 114,32 % levels of IL-1α**
  (according to efficacy study)
- **- 44.26% levels of IL-6**
  (according to efficacy study)
- **- 24.19% levels of IL-8**
  (according to efficacy study)

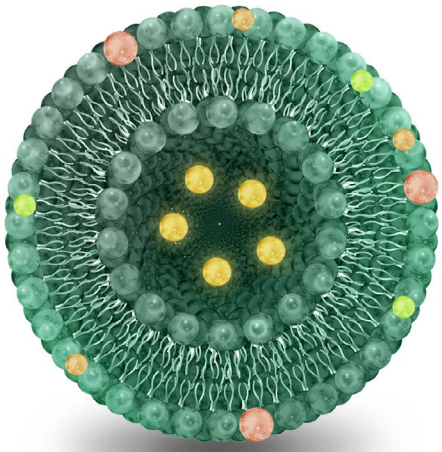
*
According to ISO 16128.

**
According to OECD criteria. The biodegradability of this product is calculated from the accumulated biodegradability data of the individual constituents used in the manufacture of this product.

***
According to patch test

Certifications

Intertek · asi accredited ASI-ACC-056 · VEGAN CAAE



Vegan DDS Delivery System

DDS or Deep delivery system is composed of mainly phospholipids and membrane stabilizers. It contains the right amount of penetration enhancers and edge activators that help the system reach the desired cells.

BENEFITS OF THE ENCAPSULATION VEGAN DDS

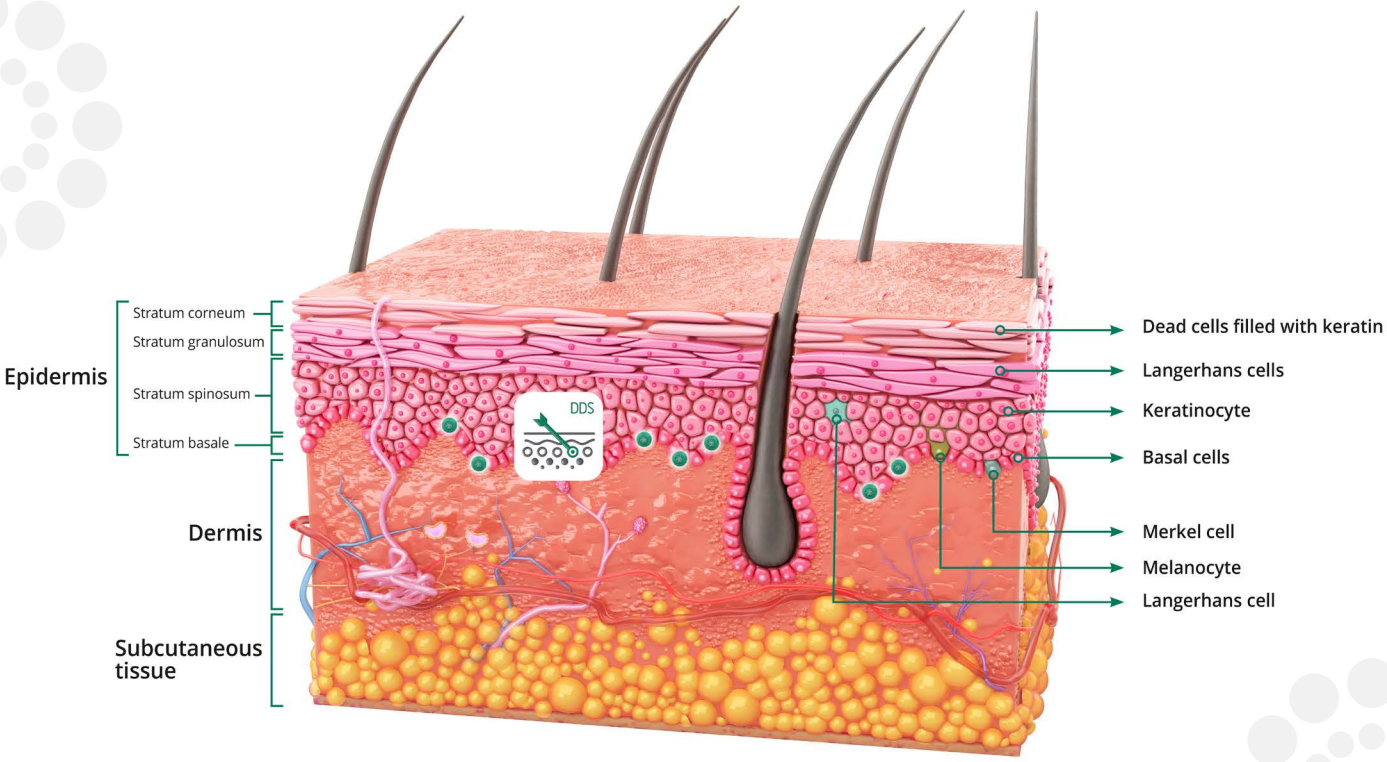
- Protects active against degradation
- Maximum delivery of the active ingredient into the deep skin levels
- Gradual delivery for longer lasting effect
- Increases the bioavailability of the active ingredient
- Avoids colour changes in the cosmetic product
- Biomimetic nanovesicle with high moisturising and restorative action

Active encapsulated

Enoxolone, derived from licorice root, is extensively used in Chinese natural medicine for its anti-inflammatory, antioxidant, and antimicrobial properties. It inhibits the enzyme 11-hydroxysteroid dehydrogenase, reducing inflammation and offering benefits like preventing DNA fragmentation, itchiness in dermatitis, and promoting skin tone evenness. Enoxolone proves to be a superior alternative to hydrocortisone in treating conditions such as eczema, dermatitis, psoriasis, acne, sunburn, and hyperpigmentation.

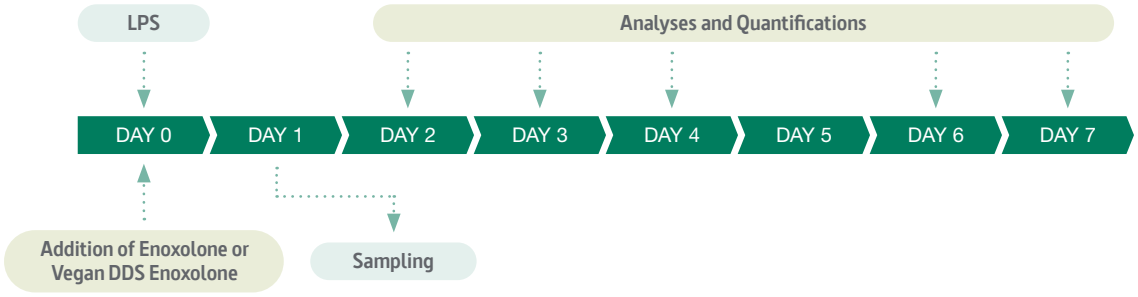
ACTIVE INGREDIENTS PROPERTIES

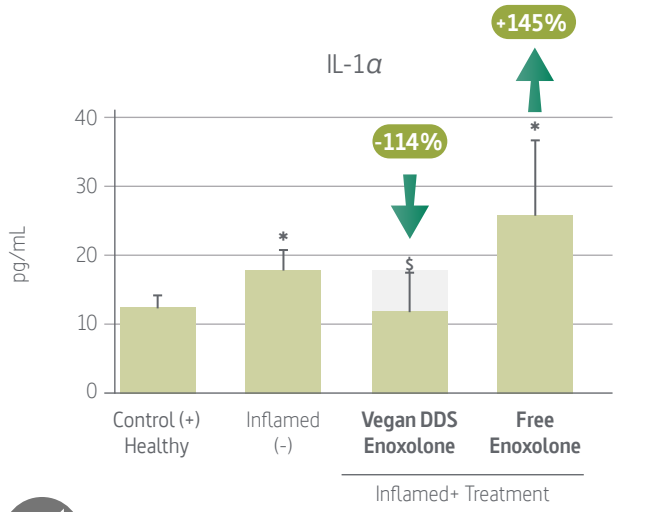
- Anti-inflamatory properties that can help to soothe and calm irritated skin
- Skin brightening, helping to reduce the appearance of age spots
- Anti-aging, helping to protect the skin from free radical damage
- Moisturizing the skin making it softer and smoother



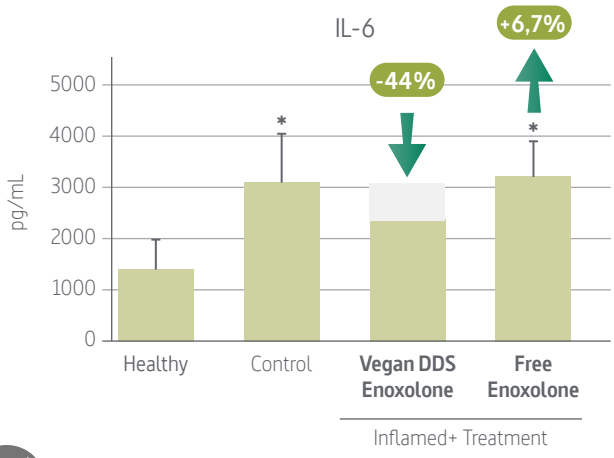
Proven efficacy ex vivo

- Gel with 5% Vegan DDS Enoxolone vs gel with same concentration of free Enoxolone
- Human organotypic skin explant cultures (hOSECs)
- Lipopolysaccharide (LPS) of E. coli was applied to produce an inflammatory reaction

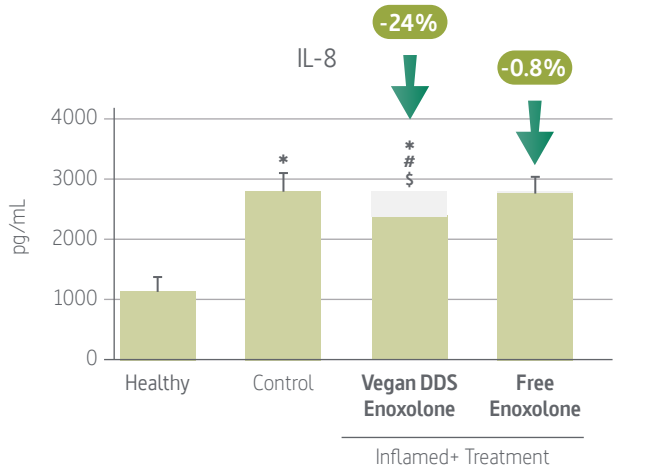




-114 % reduction
of inflammation regarding IL-1α



-44 % reduction
of inflammation regarding IL-6

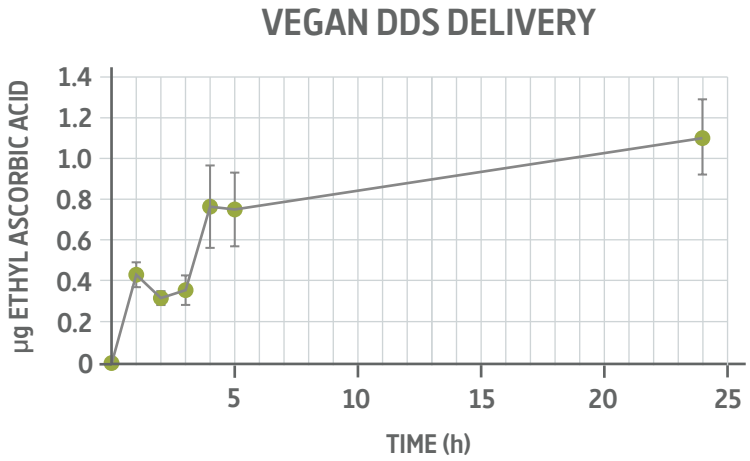


x30 more effective
than FREE ACTIVE in IL-8 reduction

DOWNLOAD EFFICACY STUDY

Sustained penetration

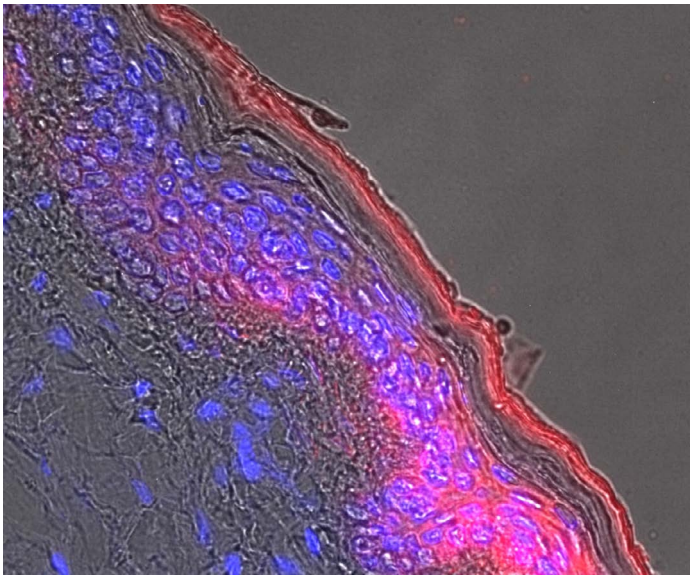
- The sustainable and progressive delivery study over 24 h of the Vegan DDS system
- Using a model analyte (ethyl ascorbic acid)
- Human skin explants
- Application of the sample containing ethyl ascorbic acid encapsulated into Vegan DDS liposomes
- Epidermal concentration of the active at different times
- Determined using HPLC-RC after extraction from the human epidermis



DOWNLOAD DELIVERY STUDY

DDS by INdermal nanovesicles are ideal for the cosmetic application of active ingredients which require a progressive and sustained delivery over time in the epidermal layer

Targeted delivery



- Fluorescent Vegan DDS liposomes with rhodamine-labelled phospholipids (18:1 PE CF) in the membrane of the liposomes can be seen in red.
- The skin was dyed with DAPI, that stains cellular nuclei with an emission maximum at 461 nm in blue.

Specific release of the active ingredient into the epidermal layer of the skin

DOWNLOAD DELIVERY STUDY

Notes for formulators: how to use

- Shake before using.
- If the product is stored under 12ºC, let the product get room temperature before shaking. At low temperatures reversible changes in viscosity can occur.
- Add to bulk during the final phase of the production process, ensuring that the temperature does not exceed 40°C to avoid degradation of the encapsulated molecules. If you need to add it to higher temperatures, please consult our technical service.
- **Maximum homogenization:** 20.000 rpm
- **Formulation pH:** 3 – 11
- Ethanol concentrations higher than 15% may damage liposomes (contact our technical service for advice) Too high concentration of detergents may break liposomes.
- If you use them in a o/w formula, add them in aquaseus phase.

Add at room temperature:

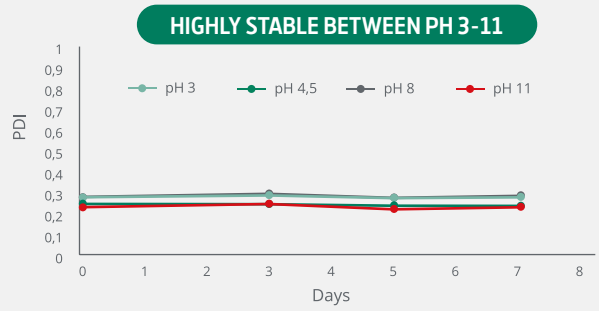
The liposome does not protect heat-sensitive actives from heat

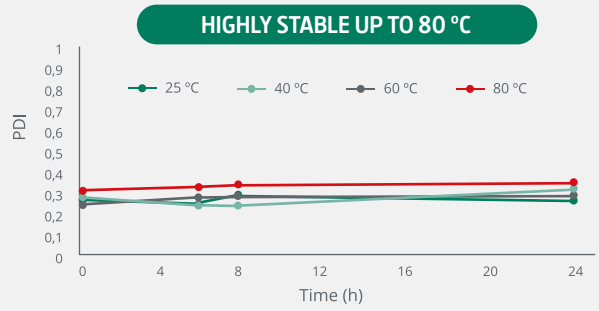
Liposomes can be added without any problem to any cosmetic mixture

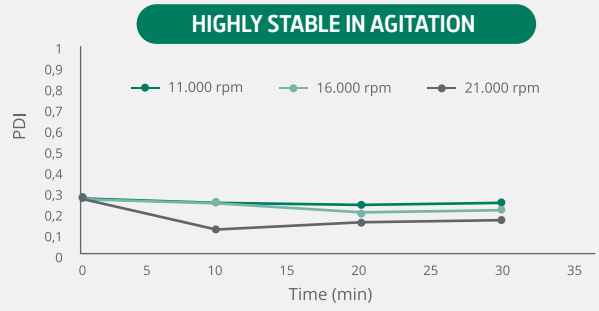
- Water-based formulas
- Oil-in-water emulsions
- Water-in-oil emulsions
- Gels
- Serums

Important:

Add the liposomes in the **aqueous** phase of the emmulsion or in the last stage of the manufacture process







Stability of the empty Delivery System nanovesicles in different conditions

OTHER DELIVERY SYSTEMS AVAILABLE

CORNEUM DELIVERY SYSTEM

The use of these superficial delivery systems substantially increases the concentration of the active ingredient in the stratum corneum, minimalizing penetration at deeper levels. This is particularly useful in avoiding unwanted effects that can be caused at this level, for example when using active ingredients with a high irritant capability, like AHA.

FOLLICULAR DELIVERY SYSTEM

The "Follicular Delivery" nanovesicles vectorise the active ingredients to the deepest areas of the hair follicle in order to have the most powerful and selective effect on the germ cells, hair bulb, dermal papilla and sebaceous gland. They are ideal for hair loss and sebum regulating products.

HAIR DELIVERY SYSTEM

The "Hair Delivery" nanovesicles are formulated with cationic phospholipids and ceramides which give them high capillary adhesion and a considerable resistance to washing and rinsing. They progressively deliver the active ingredients to the hair stem cuticle, penetrating up to the cortex of the hair medulla, particularly when treating damaged hair.

CUSTOMISED PROJECTS

At INdermal, we are happy to place our processes, knowledge and collaboration at your entire disposal in order to provide you with an accessible and speedy nanobiotechnological service, as if it were an extension of your own R+D department. We also offer you any nanoencapsulation system that you may require for your formulations. We would be delighted to receive your ideas or proposals as well as carry out a preliminary analysis free of charge and in complete confidence.

INdermal
by Nanovex Biotechnologies

Incorporate encapsulated active ingredients in your formulations and take your products to the next level of efficiency to surprise your customers and stand out from the competition.

CONTACT FORM

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