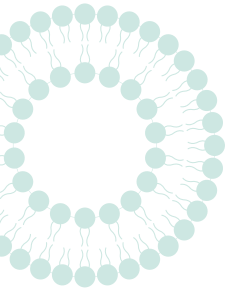




NOT
ALL LIPOSOMES
ARE THE SAME



INdermal



FROM MEDICINE TO COSMETICS

INdermal is the cosmetic brand of **Nanovex Biotechnologies**, a biotechnology company focused on **drug delivery systems for medical applications**.

At INdermal, we have **adapted our technology from medicine to cosmetics**, creating a range of delivery systems that can **boost the efficacy of cosmetic actives up to 20 times**.



2015 • CEEI AWARDS

BEST TECHNOLOGY BASED BUSINESS PROJECT



2018 • NORTHWEST INVESTOR'S DAY

BEST COMPANY



2019 • CHOISEUL 100 ESPAÑA

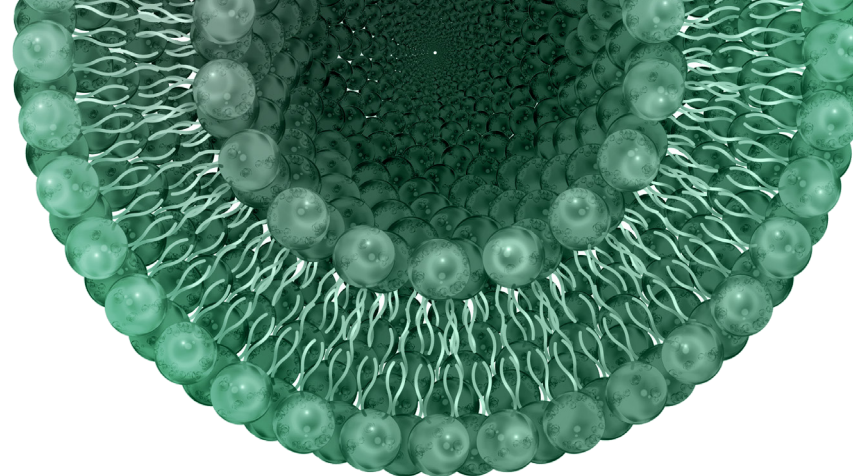
ECONOMIC LEADERS OF TOMORROW



We have a **HIGHLY QUALIFIED** and experienced team of **SCIENTISTS** and **TECHNOLOGISTS** alongside facilities fully equipped with the most **ADVANCED TECHNOLOGY**.



WHAT MAKES US UNIQUE?



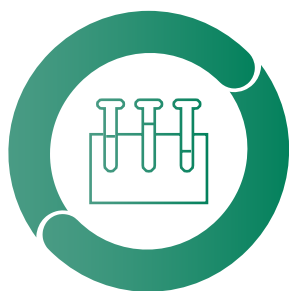
FORMULATION



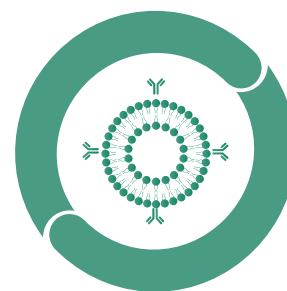
CHARACTERIZATION



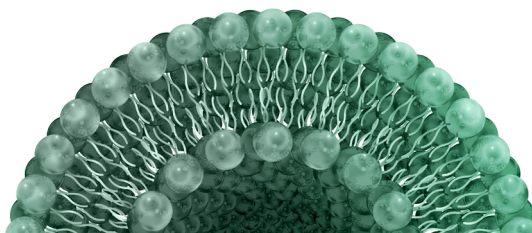
PARTNERSHIP



MANUFACTURING



TECHNOLOGY



01. FORMULATION

Our formulation is easily distinguishable from others since we use:



— FORMULATION —



Pure phospholipids

+ PURPOSE

Quality and control

+ REASON OF USE

The use of pure phospholipids instead of lecithin allows the full control of liposome key parameters increasing the quality, stability and also the efficiency by selecting the most suitable depending on the active to encapsulate and the target to be delivered.



Membrane stabilizers

+ PURPOSE

Resistance and stability

+ REASON OF USE

Like a cell membrane, the lipid bilayer must be stabilized to increase the stability and resistance of the liposome.



Target Lipids

+ PURPOSE

Specificity

+ REASON OF USE

The use of certain lipids allows the delivery of the encapsulated actives on a specific cosmetic target with high precision.



Edge activators

+ PURPOSE

Elasticity and fluidity

+ REASON OF USE

The edge activators increase the liposomes elasticity and fluidity by lowering its interfacial tension.



Penetration enhancers

+ PURPOSE

Penetration capacity

+ REASON OF USE

These compounds improve the penetration of liposomes in the deeper layers by reversibly decreasing the skin barrier resistance.



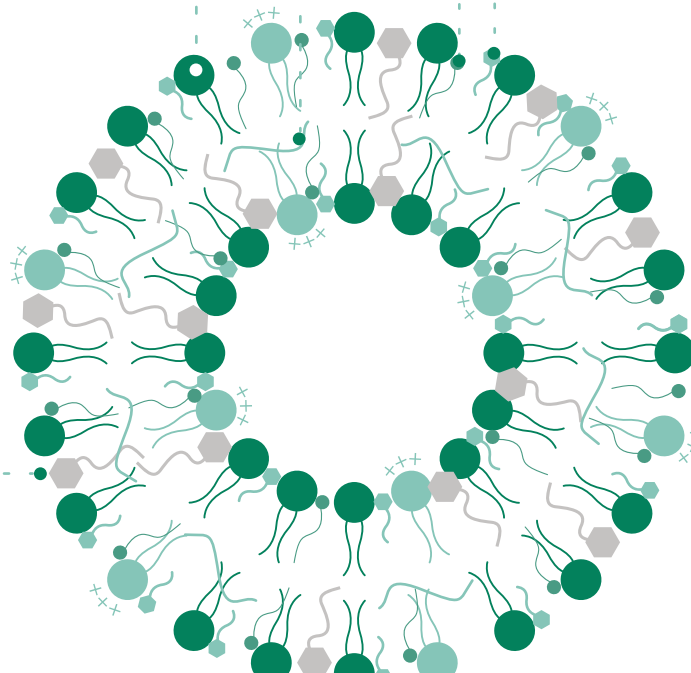
Charge modulators

+ PURPOSE

Surface properties

+ REASON OF USE

Charge modulators increase the efficiency of target delivery by altering the electrical charge on the surface of the liposome (ζ -Potential) increasing liposome-target interaction.



02. MANUFACTURING



Medical based process

Our manufacturing method for cosmetics is based on our method for medical applications to obtain high quality liposomes.



Quality and effectiveness



3 stage method

Resistance and stability



Great manufacturing capacity

Our facilities can manufacture up to 350 kg/day.



Fast and guaranteed manufacturing



On demand manufacturing

We manufacture on demand to offer a product that is always fresh.



Always fresh



Adaptation to the customers' needs

We adapt to the needs of the customer offering custom-made solutions.



Changes are part of the process



—MANUFACTURING—

WHAT MAKES OUR METHOD SPECIAL?

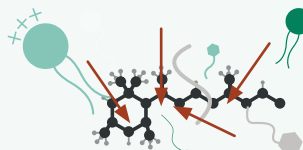
The 3-stage method, using the correct formulation and adequate control of parameters, allows us to obtain liposomes with high efficiency and resistance, unlike the classic methods with only one stage using lecithins.

1. Solubilization



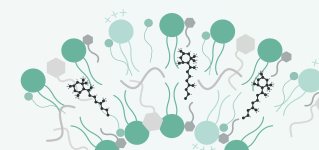
Key lipids, actives and other molecules are solved.

2. Evaporation



After drying, strong chemical interactions between hydrophobic parts take place.

3. Hydration



A self-assembly of compounds is facilitated, obtaining liposomes with high resistance and encapsulation efficiency.

03. CHARACTERIZATION

At INdermal we have the most innovative equipment and techniques for measuring liposomes.
We offer:



Full characterization

We are able to perform a complete characterization of liposomes by measuring all key parameters.



Stability in final formula

Our equipment allows us to measure liposomes in the final cosmetic product to evaluate their stability.



Penetration test

The penetration tests performed in our facilities, allow us to evaluate the deeper penetration and target release of encapsulated actives compared to free actives.



“Ex vivo” and “In vivo” tests

We also carry out *ex vivo* and *in vivo* tests to monitor the improvement in efficacy of the encapsulated actives, as a result of our delivery systems.



Fluorescent test

These tests are based on a fluorescent labeling on our liposomes, using a covalent bond, to track them through the skin, hair or other areas.



WE CAN DETERMINE:

- + Mean size
- + Size distribution
- + Liposome concentration
- + Z-Potential (surface charge)
- + Entrapment efficiency
- + Loading
- + Morphology analysis (TEM or HR-TEM)
- + Lamellarity
- + Penetration test using Franz cells
- + Penetration test using fluorescent microscopy
- + Follicular or hair test using fluorescent microscopy
- + Surface modification efficiency



— CHARACTERIZATION —

04. TECHNOLOGY

Our technology comes from the field of medicine, where we have been working for 7 years developing new liposome-based treatments with the same technology as INdermal.

WHAT MAKES OUR TECHNOLOGY UNIQUE?

Our technology is:

Specific

A delivery system for each active and target

- ✓ Our experience in drug delivery systems allows us to develop liposomes specifically designed to deliver actives in their cosmetic targets.

High Quality

From medicine to cosmetics

- ✓ We have adapted our technology from medicine to cosmetics, maintaining the highest quality standards in our products and processes.

Effective

Scientifically proven

- ✓ Our technology is able to boost the effectiveness of the encapsulated cosmetic active up to 20 times.

Customizable

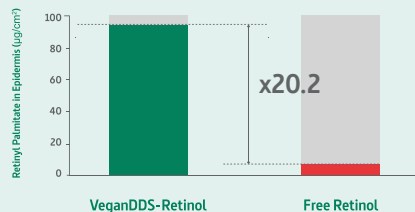
Tailor-made liposome developments

- ✓ We develop and manufacture customized liposomes for our customers, fully adapted to their needs.

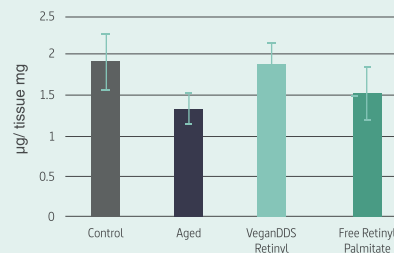
Vegan Friendly

100% Vegan-friendly products

- ✓ All our products are available in 100% vegan-friendly versions.



Test on delivery to epidermis basal layer
x20.2 Retinyl palmitate delivered in Epidermis



COLLAGEN
98% Collagen recovery in 7 days

TECHNOLOGY

05. PARTNERSHIP



PREVIOUS

We want to understand your needs to offer you the best solutions.

- **Advice and consultancy:** Scientific, regulatory, strategy, formulation, marketing and other topics related to liposomes and drug delivery systems in cosmetics.
- **Partnership meetings:** Meetings proposed by the customer where we will work as a team to resolve any doubts or to add any desired information.



DURING

Establish a relationship based on commitment and transparency.

- **Process information:** Access to all the information related to the status of developments, manufacturing and other procedures.
- **Adaptation to customer needs:** We strive to meet the needs of our customers during the manufacturing process.



AFTERSALES

Our credibility is a result of the quality of our service and products.

- **Aftersales services:** Resolution of all kinds of incidents related to our products.
- **Stability studies & Scientific tests:** Tests to verify the stability of the liposomes in the final product, as well as their effectiveness.



PARTNERSHIP

NOT ALL LIPOSOMES ARE THE SAME

“Liposomes that make a difference”



INdermal - Nanovex Biotechnologies

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