

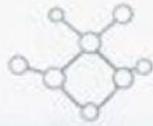
# THE SCIENCE THAT REDEFINED SKINCARE

## A Study of Multi-Layered Liposomes



Purity of Ingredients

+



Physiological Ingredients

+

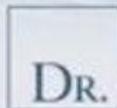
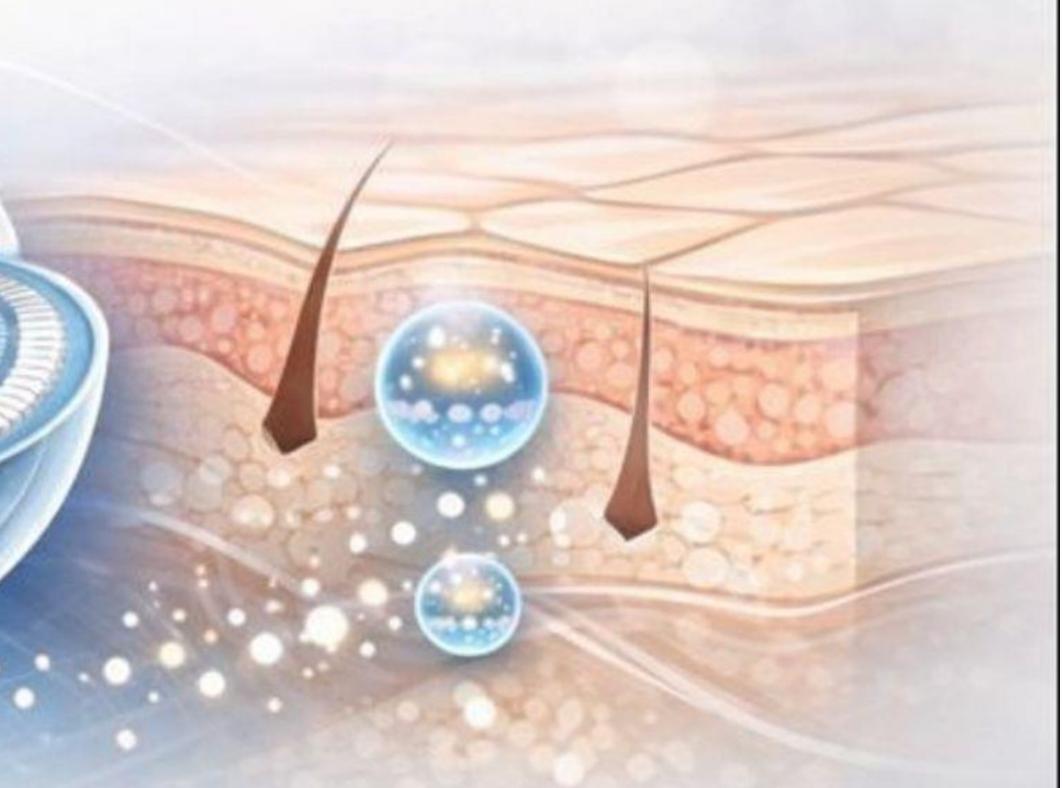


Intelligent Encapsulation

+



Skin Identical Repair



DR. BAUMANN®

*Respect for the Biology and Physiology of Human Skin*

# LIPOSOMES: A CLEAR DEFINITION OF MODERN SKIN DELIVERY TECHNOLOGIES

## What Are Liposomes? (Foundation)

Liposomes are microscopic, spherical delivery systems composed of phospholipid bilayers that closely resemble the skin's own cell membranes.

They encapsulate active ingredients, protecting them from degradation and enable controlled, targeted delivery into the skin while maintaining high skin compatibility.

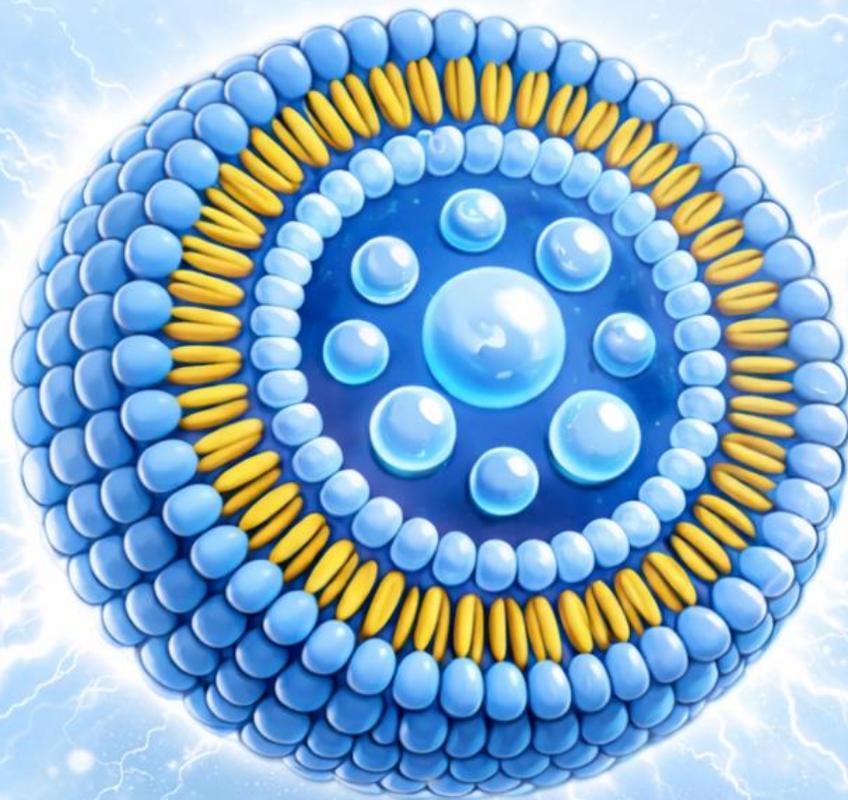
## Why Liposomes Work (Mechanism of Action)

Liposomes function effectively because their structure mimics the skin's natural lipid architecture:

- Integrate easily with the sebum layer, stratum corneum, epidermis and basal layer
- Improve penetration and retention of active ingredients
- Release actives gradually rather than all at once

**This makes liposomes superior to conventional creams, serums or gels, for targeted epidermal delivery.**

# POWERFUL NUTRIENT DELIVERY



**Liposomes supercharge nutrient  
absorption** for maximum skincare benefits

# ADVANCED LIPOSOME SCIENCE FOR MEASURABLE SKIN OUTCOMES

## Key Scientific Benefits of Liposomes

### Enhanced Delivery & Retention

- Increase transport of actives through the skin barrier
- Improve local retention within the epidermis for prolonged activity

### Protection of Sensitive Actives

- Shield unstable ingredients (vitamins, antioxidants, peptides) from oxidation, light, and pH degradation

### Improved Biological Outcomes

- Demonstrated greater efficacy than free actives: anti-inflammatory, antioxidant, and anti-aging effects

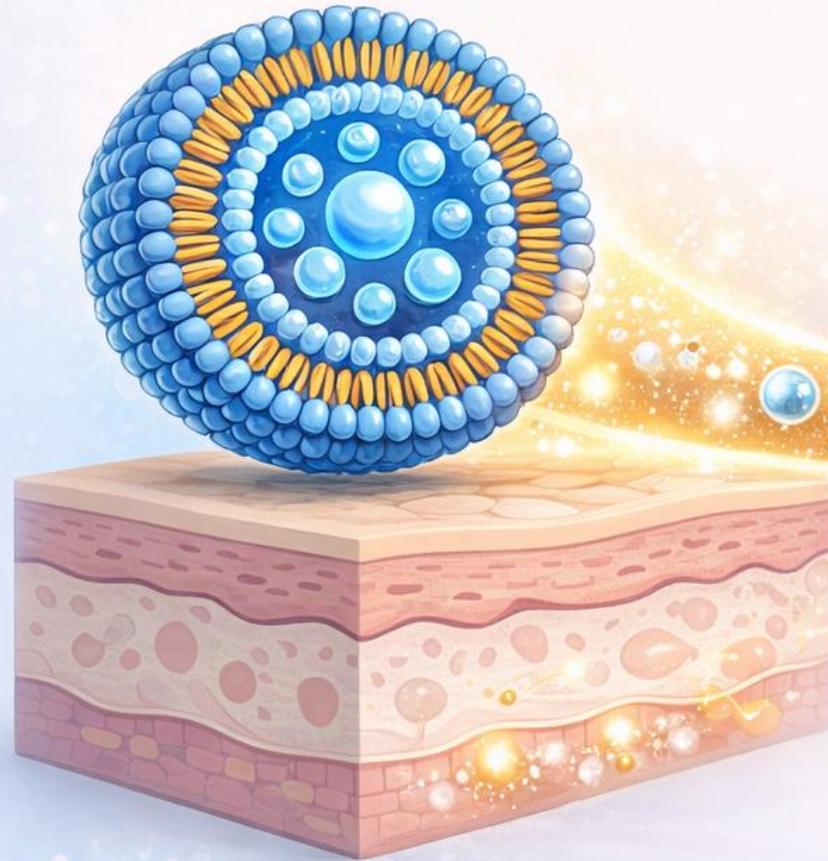
### Biocompatibility & Safety

- Phospholipids (Liposomes) are skin-identical, biodegradable, and low in irritation risk
- **NOTE: Dr Baumann SkinIdent Liposomes cannot be used in combination with other skincare products because if the ingredients are not compatible they will cause irritation and influence the effectiveness of the liposomes negatively.**

# Targeted Skin Delivery with Multilayer Liposomes

5

*Multilayer liposomes deliver nutrients directly to the skin for hydration, repair & anti-aging*



- Bypasses systemic nutrient competition
- Controlled release of actives
- Supports firmness, barrier, & elasticity



# DIFFERENCES BETWEEN MULTI-LAYERED AND UNI-LAYERED LIPOSOMES

## Multilayer vs Unilayer Liposomes

### Structural Difference

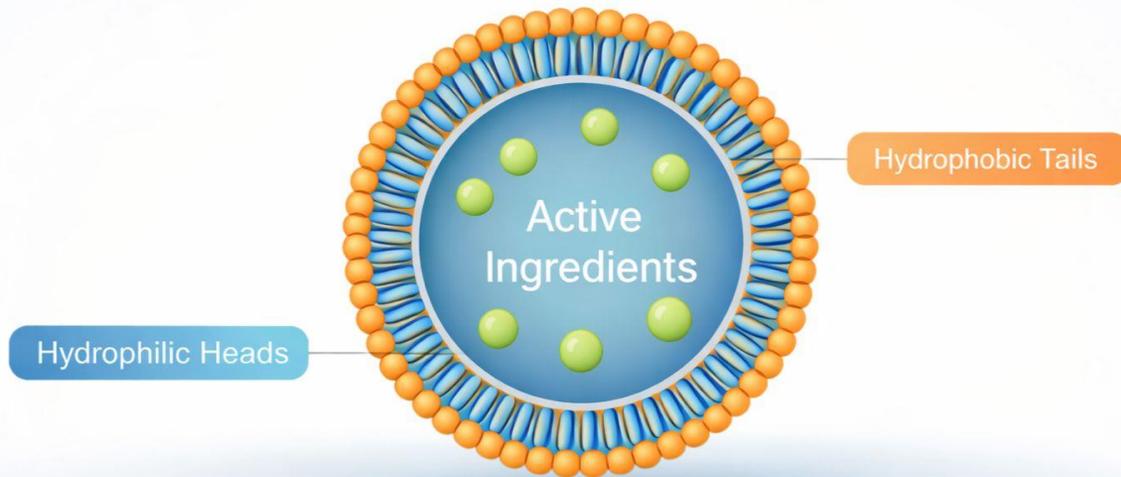
- Unilayer: Single phospholipid bilayer
- Multilayer: Multiple concentric bilayers (“onion-like”)

### Why Multilayer Liposomes Are Superior

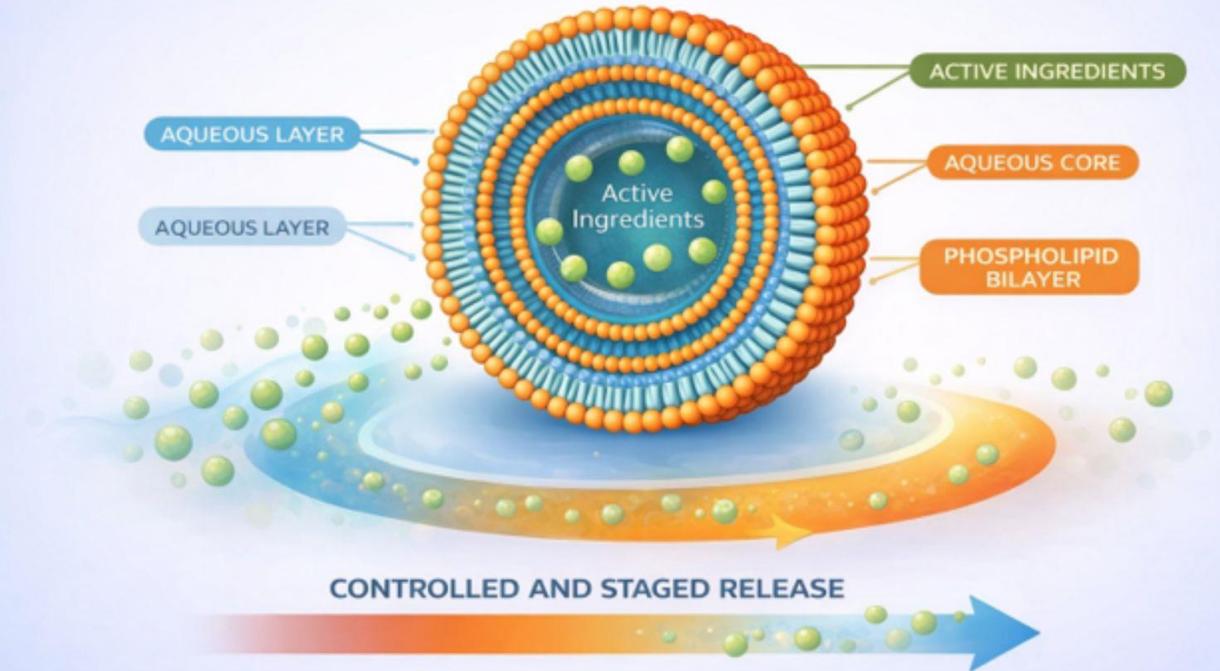
- Higher active ingredient capacity (water- and fat-soluble)
- Better protection of sensitive ingredients
- Controlled, sustained release over time
- Reduced risk of irritation or over-penetration
- Perfect mimicry of the skin’s multilayered barrier (phospholipids)

**Unilayer liposomes are simpler and release ingredients faster, making them less suitable for advanced, skin-identical formulations.**

## SINGLE-LAYERED LIPOSOME



## MULTI-LAYERED LIPOSOME



# SUPPORT & FIRMNESS

## Structural Skin Support & Firmness

Phospholipids in multilayer liposomes do more than transport essential raw materials for building, repairing and protecting the skin:

- Barrier Integration: Strengthen the intercellular lipid matrix (“mortar” between cells)
- Skin Architecture Support: Improve firmness, elasticity, and resilience
- Hydration & Anti-Aging: Reinforces skin structure while delivering water and actives, reducing fine lines and improving texture

**By combining barrier support and hydration, multilayer liposomes maintain both skin health and visible firmness.**

# INTERCELLULAR LIPID MATRIX IN THE SKIN



## MADE OF PHOSPHOLIPIDS:



**Water-loving heads:**  
Vitamin C,  
Hyaluronic Acid,  
Minerals



**Water Head**  
(Hydrophilic)

**Fatty Tails**  
(Hydrophobic)



**Fatty tails:**  
Fatty acids, cholesterol,  
ceramides

## MADE OF PHOSPHOLIPIDS:



**Water-loving heads:**  
Vitamin C, Hyaluronic Acid, Minerals



**Fatty tails:**  
Fatty acids, cholesterol, ceramides

## FUNCTION:

- Creates a waterproof barrier
- Retains moisture in the skin
- Prevents entry of bacteria

## CONSISTS OF:

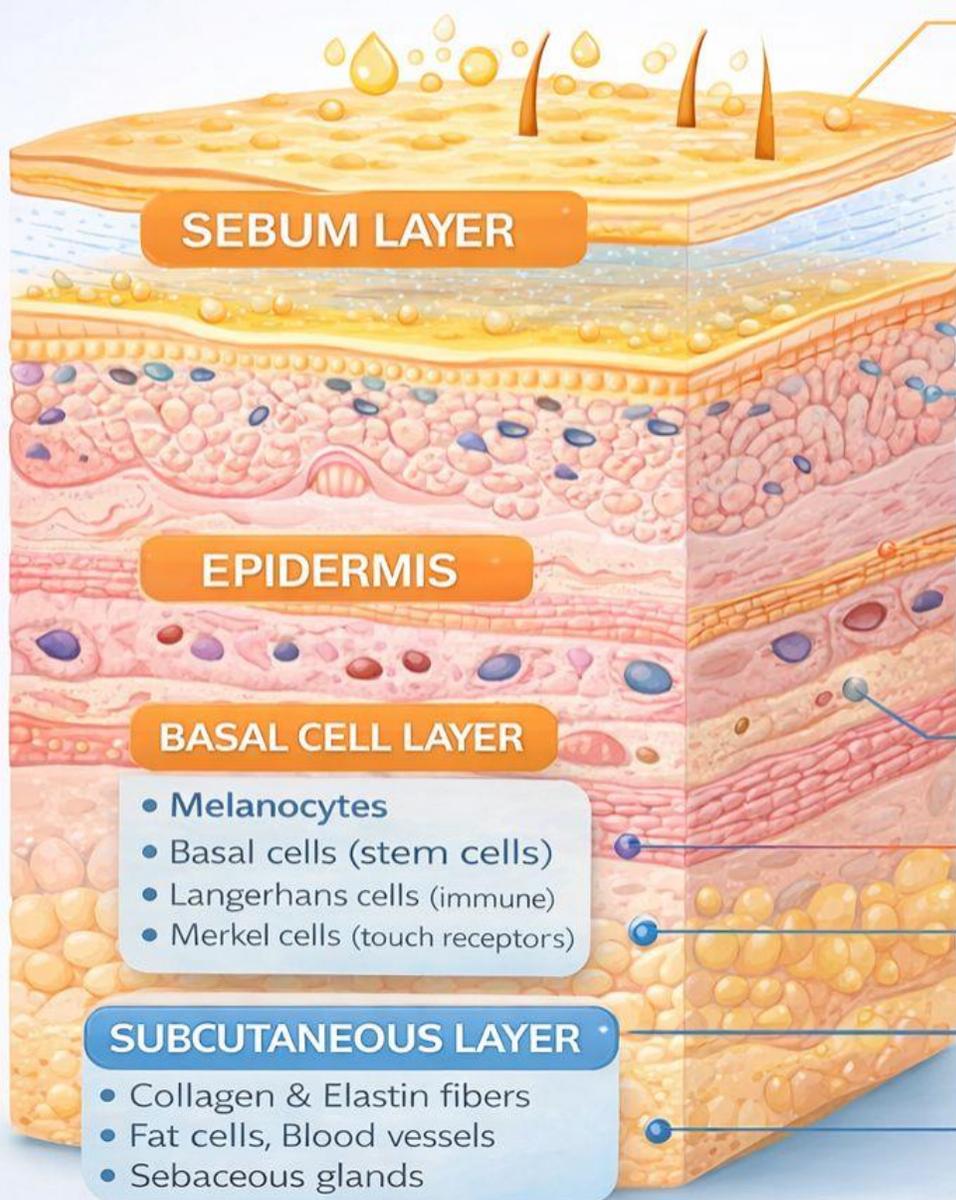
- 3 interlocking double layers
- Forms the barrier, protecting against water loss and pathogens

## FUNCTION:

- Creates a waterproof barrier
- Retains moisture in the skin
- Prevents entry of bacteria



# LAYERS OF THE SKIN & THEIR COMPOSITION



## SEBUM LAYER

- Oily Aspect:**
- Glycerin
  - Stearic acid
  - Gamma-linoleic acid
  - Palmitoleic acid
  - Wax Esters,
  - Squalene, cholesterol Esters, Ceramides

- Water Aspect:**
- Hyaluronic Acid
  - Proline
  - Serine
  - Urea

## EPIDERMIS

- STRATUM CORNEUM** 50% of skin composition
- Keratin, lipids, ceramides
  - Lipids, ceramides,
  - Cholesterol, fatty acids, Proteins
  - Precursor phytosphingosines
  - Barrier-forming Ceramides
- 15-20% water
- Lipids, ceramides,
  - Cholesterol, fatty acids, proteins

## BASAL CELL LAYER

- **Melanocytes**
- Basal cells (stem cells)
- Langerhans cells (immune)
- Merkel cells (touch receptors)

- EPIDERMIS**
- Fatty acids & Cholesterol, Linoleic Acid & essential fatty acids
  - Triglyceride Phenylalanine, Arachidonic acid

## SUBCUTANEOUS LAYER

- Collagen & Elastin fibers
- Fat cells, Blood vessels
- Sebaceous glands

- DERMIS** Collagen fibers
- Elastin and reticular fibers
  - Matrix

## SUBCUTANEOUS LAYER

# **BUILDING SKIN WITH ITS OWN ESSENTIAL ELEMENTS – SKIN RECOGNISES WHAT IS IDENTICAL TO ITSELF**

Healthy skin can only build, repair and renew itself when it is supplied with ingredients that are skin-compatible and skin-identical. Just as the body recognises and utilises natural raw materials, the skin can effectively absorb and integrate essential components such as fatty acids, vitamins, hyaluronic acid, niacin, ceramides when they mirror its own structure. These elements act as the fundamental building blocks for cell renewal, barrier protection and metabolic function. By delivering precisely what the skin physiologically needs — and nothing foreign or irritating — Dr Baumann SkinIdent skincare supports optimal skin health in the most natural and effective way.

# CRUCIAL INGREDIENTS TRANSPORTED BY LIPOSOMES

## Why the Ingredients Inside Liposomes Are Crucial

Liposomes are carriers — their effectiveness depends on the actives they deliver.

### Direct Delivery

- Encapsulated ingredients are what reach skin cells. Potent, well-formulated actives deliver results; weak ingredients do not.

### Stability & Compatibility

- Liposomes preserve ingredient activity, but incorrect formulations can cause irritation or reduced efficacy.

### Synergy Matters

- Multilayer liposomes allow layered delivery, preventing ingredient overload and improving tolerance when multiple actives are used together.

# WHERE DR BAUMANN PRODUCTS AND INGREDIENTS FIT IN THE SKIN'S STRUCTURE

## 1. SEBUM LAYER

EVERY DR BAUMANN/BEAU CAIRE /SKINIDENT cream contains the essential ingredients that match your **Sebum Layer**. As a result they can repair, support and supplement a compromised sebum layer.

## 2. STRATUM CORNEUM

Your most important defensive layer against environmental damage, moisture loss, bacteria and toxins. Made mostly of **Ceramides**. Liposome Ceramide and the Ceramide ampoule supports a defective damaged Stratum Corneum.

## 3. EPIDERMIS

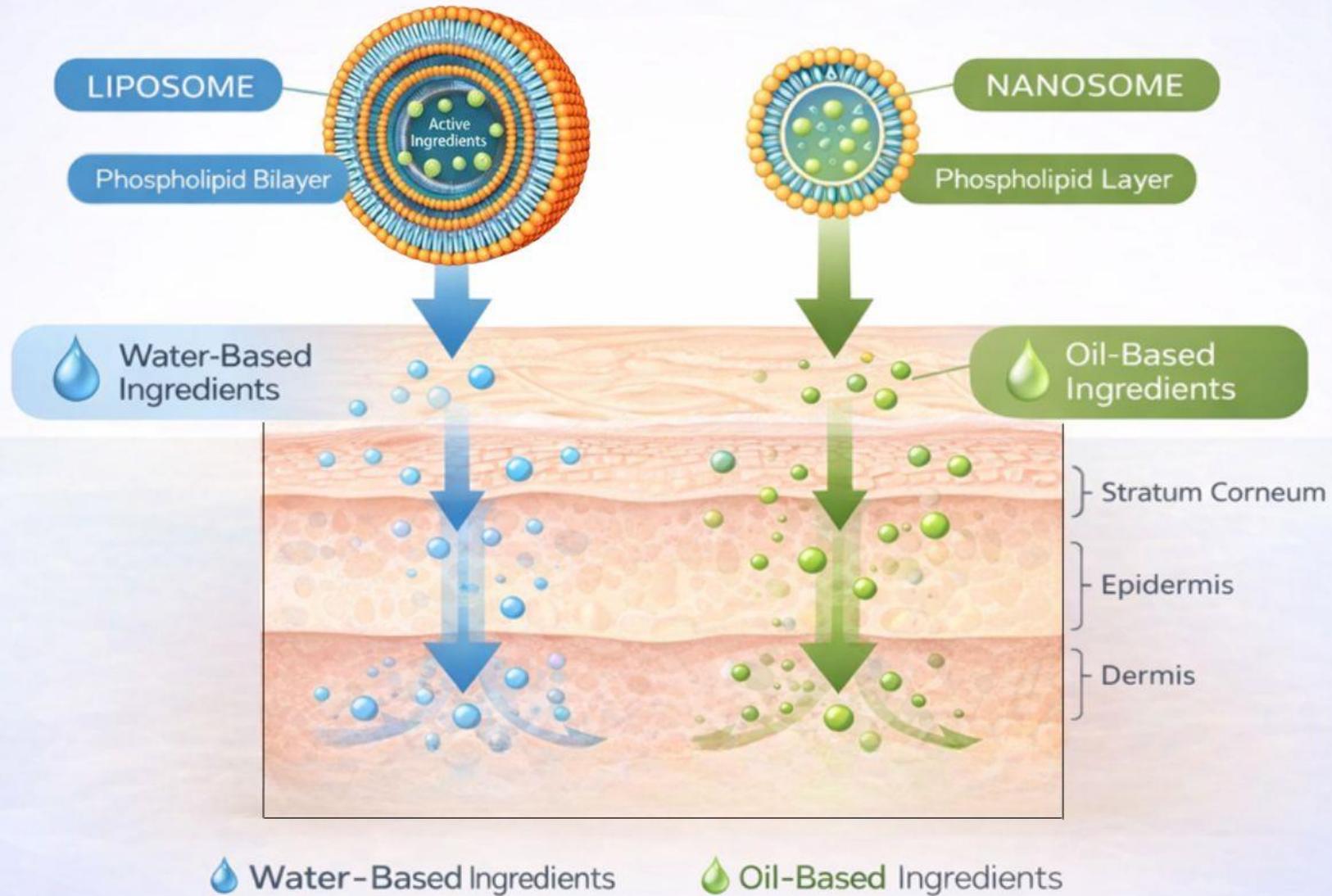
Made up of **Phospholipids** and nutrients stored in the Phospholipides. Multi Layer liposomes are identical to the Phospholipides in the Epidermis. They contain all the nutrients to protect build and repair cell membranes, **cell content** and intercellular substance. They also provide a support structure within the epidermis



## 4. BASAL LAYER

The liposomes transport all the **vitamins, fatty acids, hyaluronic acid** and urea to the **Basal Layer** where new cells are created. These nutrients stimulate the production of new cells. We also take **niacin** vitamin B3 to suppress the excessive production of **Melanin** for the treatment of Hyperpigmentation. We don't treat past

# HOW WATER & OIL BASED INGREDIENTS PENETRATE THE SKIN



# WHAT PROFESSIONALS TAKEAWAY ON LIPOSOMES

## Professional Takeaway

Multilayer liposomes are not merely delivery vehicles. Their skin-identical phospholipid structure allows them to:

- Protect and control active ingredient delivery
- Strengthen the skin barrier
- Support firmness, elasticity, and long-term skin health

**This makes them a cornerstone of advanced, skin-identical skincare technologies.**

# THE DIFFERENCES BETWEEN MULTI- LAYERD LIPOSOMES AND NANOSOMES

## Multilayer Liposomes vs Nanosomes

### Multilayer Liposomes

- Surface repair, barrier support, structural reinforcement
- Support firmness and skin integrity
- Ideal for sensitive, compromised, or anti-aging skin

### Nanosomes

- Nano-sized particles for deeper penetration
- Deliver actives to deeper epidermal or dermal layers
- Excellent for targeted treatments, but do not reinforce skin structure as much

# THE DIFFERENCES BETWEEN MULTI- LAYERD LIPOSOMES AND ECTOSOMES

## Multilayer Liposomes vs Ectosomes

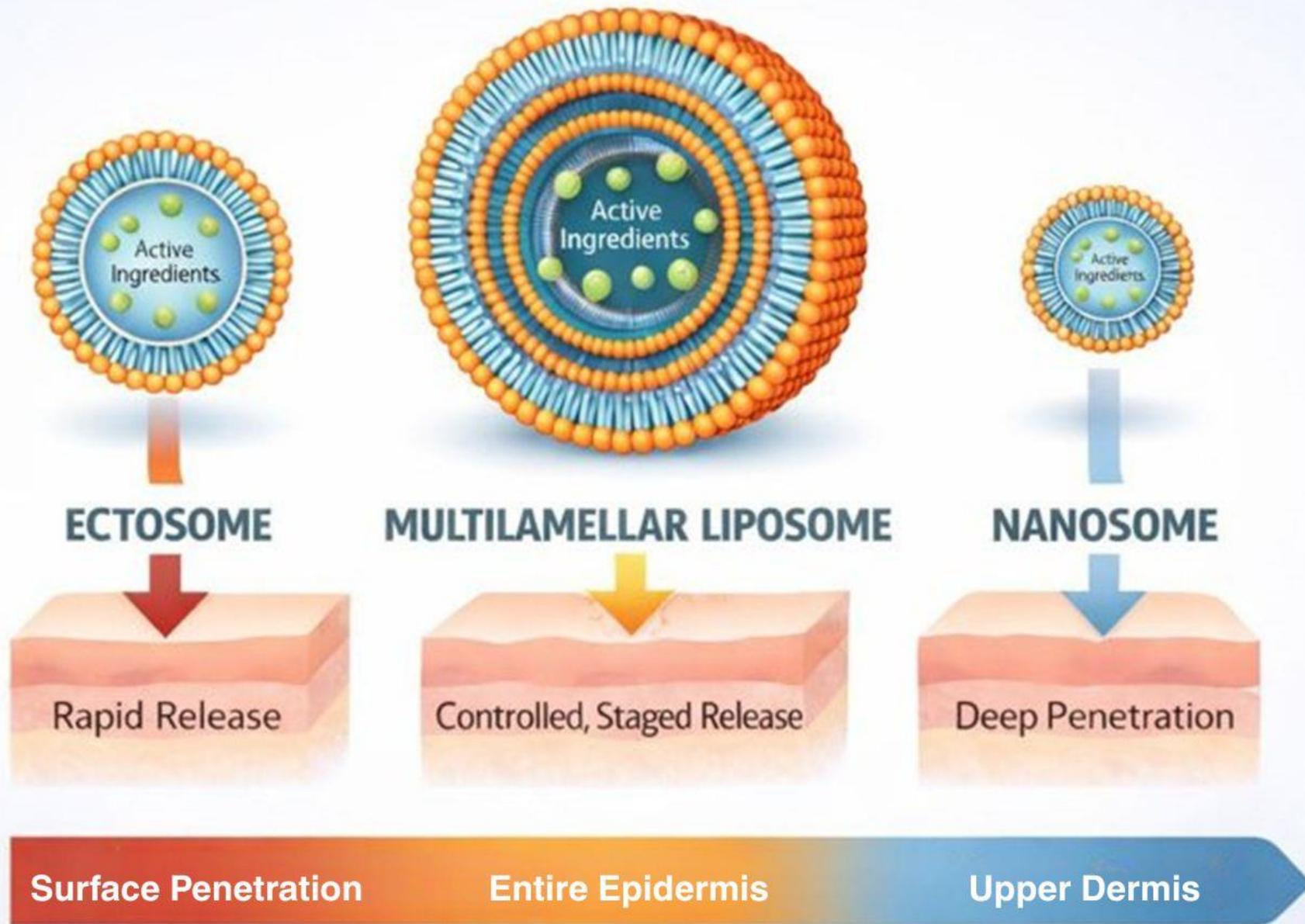
Ectosomes are single-layered vesicles often used in skincare, but multilayer liposomes outperform them in several ways:

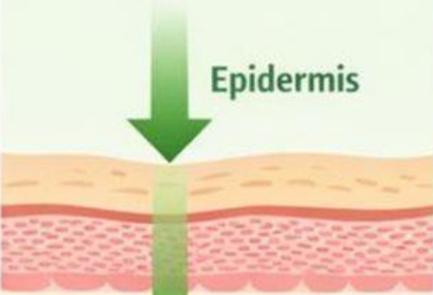
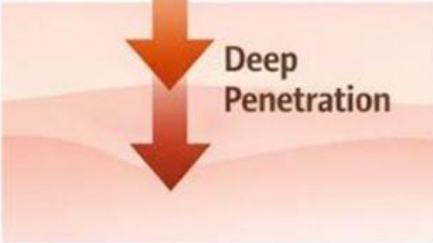
- Structure: Multilayer liposomes have multiple bilayers; ectosomes are single-layered and smaller
- Active Loading: Multilayer liposomes carry more and diverse actives
- Release Profile: Multilayer liposomes provide controlled, sustained release; ectosomes release faster
- Barrier Mimicry: Multilayer liposomes resemble the skin's natural multilayer structure, improving compatibility and reducing irritation
- Skin Support: Only multilayer liposomes reinforce the skin's lipid matrix and structural integrity

Summary: Multilayer liposomes are superior in stability, loading, controlled release, and structural support — ideal for advanced, barrier-focused skincare.

## A Clear Comparison of Modern Skin Delivery Technologies

Feature	Ectosome	Multi-lamellar Liposome	Nanosomes
Structure	Single bilayer	Multiple bilayers	Nano-size vesicle
Release	Rapid	Controlled / staged/deep potent	Deep & potent
Barrier Repair	Low	High	Moderate
Irritation Risk	High	Rare occurrences / rare negligible	Moderate
Best Use	Resilient skin (For Surface Treatment)	Sensitive/reactive, barrier repair/ epidermal builder, anti ageing. Basal Cellular Repair	Deep delivery, anti-aging

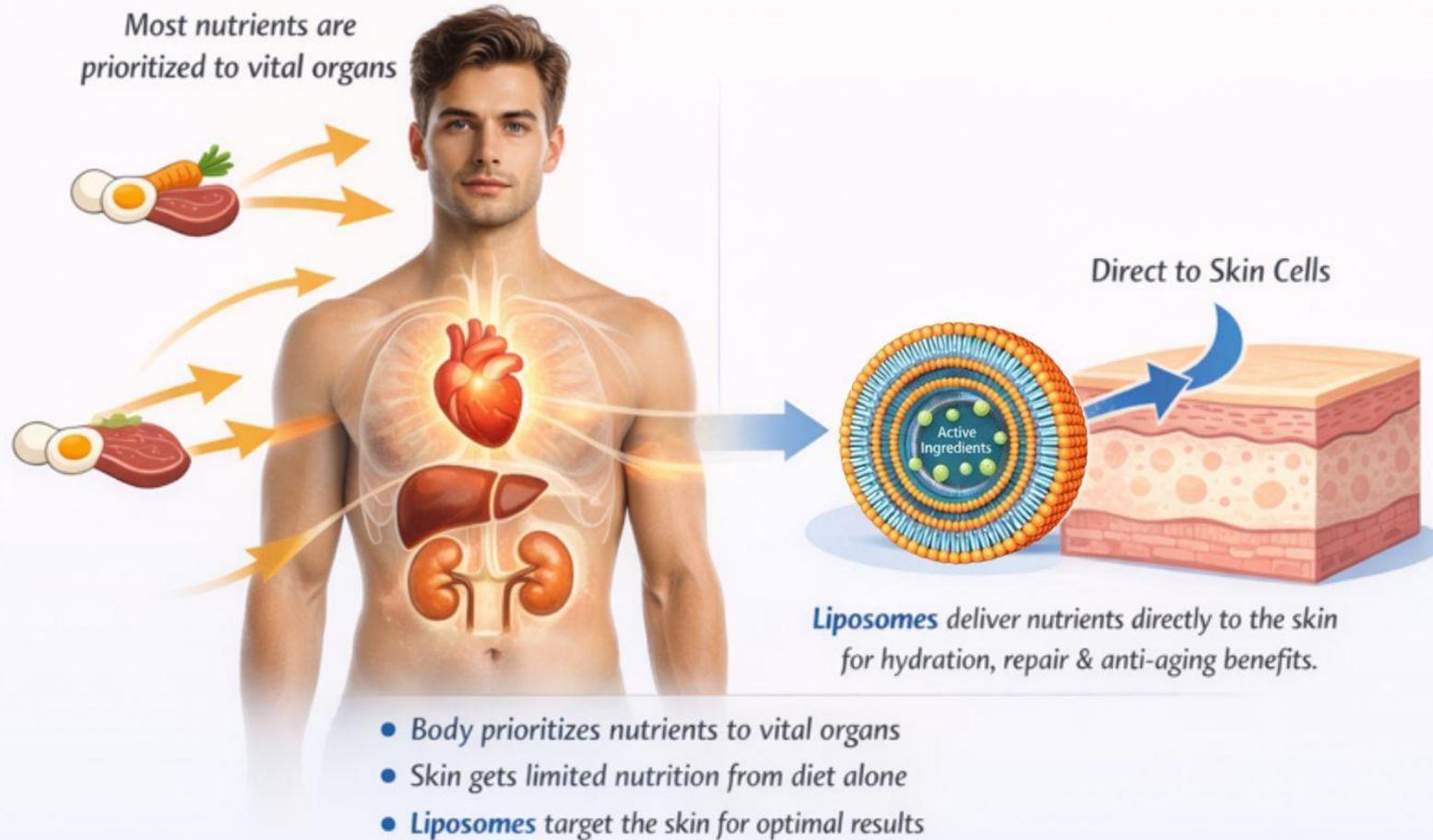


Vesicle Structure	Delivery Path	Skin Effect	Firmness & Support
 <p data-bbox="461 386 759 454"><b>Multilayer Liposome</b> "Onion-like"</p>	 <p data-bbox="1054 262 1207 301">Epidermis</p>	 <p data-bbox="1488 248 1666 319"><b>Hydration &amp; Slow Release</b></p>	 <p data-bbox="1844 177 2099 234">Strengthens Entire Skin Structure</p> 
 <p data-bbox="479 682 749 719"><b>Unilayer Liposome</b></p>	 <p data-bbox="1065 548 1192 619">Surface Delivery</p>	 <p data-bbox="1447 548 1666 591">Quick Absorption</p>	 <p data-bbox="1972 562 2084 619">Minimal Support</p>
 <p data-bbox="545 891 682 919"><b>Ectosome</b></p>	 <p data-bbox="1065 733 1217 805">Superficial Action</p>	 <p data-bbox="1447 748 1640 776">Limited Impact</p>	 <p data-bbox="1972 748 2084 805">Minimal Support</p>
 <p data-bbox="537 1062 690 1090"><b>Nanosome</b></p>	 <p data-bbox="1065 919 1233 991">Deep Penetration</p>	 <p data-bbox="1447 948 1640 976">Deep Targeting</p>	 <p data-bbox="1972 948 2084 1005">Minimal Support</p>
 <p data-bbox="443 1319 749 1348"><b>Multilayer Liposome</b></p>	 <p data-bbox="901 1319 1182 1348"><b>Unilayer Liposome</b></p>	 <p data-bbox="1360 1319 1513 1348"><b>Ectosome</b></p>	 <p data-bbox="1778 1319 1936 1348"><b>Nanosome</b></p>

**REBUILD AND  
REGENERATE YOUR SKIN  
FROM WITHIN -  
STIMULATE YOUR  
METABOLIC FUNCTIONS**

Because of the exceptional carrier capacity of multilayer liposomes, essential nutrients can be delivered directly into the skin to support healthy cell formation, stimulate collagen and elastin synthesis, and maintain optimal metabolic activity. As natural metabolic functions and the production of key skin components decline from early adulthood, multilayer liposomes provide a direct source of these critical raw materials to all layers of the epidermis, helping the skin remain stronger, more resilient and youthful for longer.

## Why Skin Needs Targeted Nutrient Delivery



## LIPOSOMES THE MOST CONSEQUENTIAL ELEMENT IN PROFESSIONAL SKINCARE

- Nutrients taken internally are prioritized for vital organs and reach the skin in a more limited way.
- For immediate skin support, essential raw materials must be delivered directly from the surface to the basal layer, where new cells are produced.
- Multilayer liposomes provide a uniquely compatible structure that transports these specific nutrients into the skin, helping to build, repair and protect, strong, healthy cells, avoiding unnecessary ingredients.

# A HOLISTIC APPROACH TO SKIN CARE – TREATING THE CAUSE AT THE BASAL LAYER AND THE RESULT

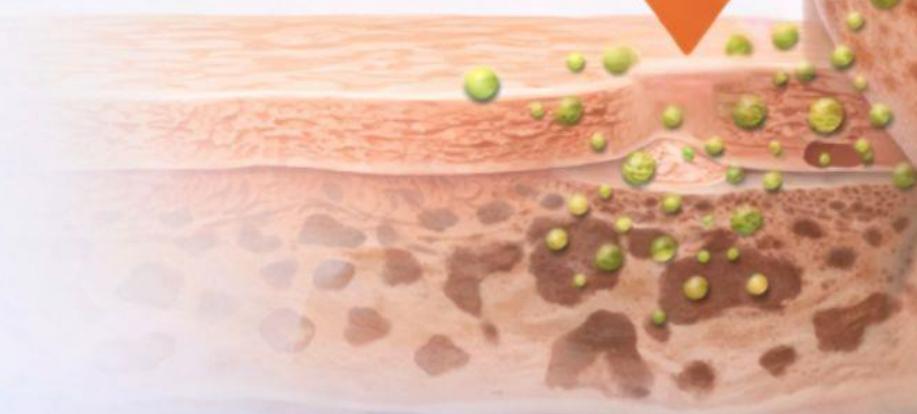
Many skincare treatments focus only on visible symptoms at the surface rather than addressing the underlying cause. Multilayer liposomes enable treatment at every level of the epidermis — from the basal layer, where new cells are formed, to the skin's surface.

For example, hyperpigmentation is often treated aggressively at the surface, yet the root cause is excessive melanin production in the basal layer.

By delivering niacin, vitamin E & C and other essential components via multilayer liposomes directly to this source, melanin production can be significantly reduced (up to 60%). Combined with surface treatment, this dual approach helps control hyperpigmentation more effectively. The same principle can be applied to concerns such as acne, ageing and other skin conditions.

**LIPOSOME**

**TARGETS  
EXCESS  
MELANIN**



**Treating Hyperpigmentation**

- Free from parabens and all other preservatives
- Vegan
- With skin-identical and skin-related ingredients
- Environmentally friendly
- Bio-technical
- Animal-friendly
- Free from mineral oils
- Bionome

**DR. BAUMANN**<sup>®</sup>  
MADE IN GERMANY

german  
swiss  
quality

