

THE BEST FROM  
OLIVE

BIO - MIMETIC

Active  
Ingredient



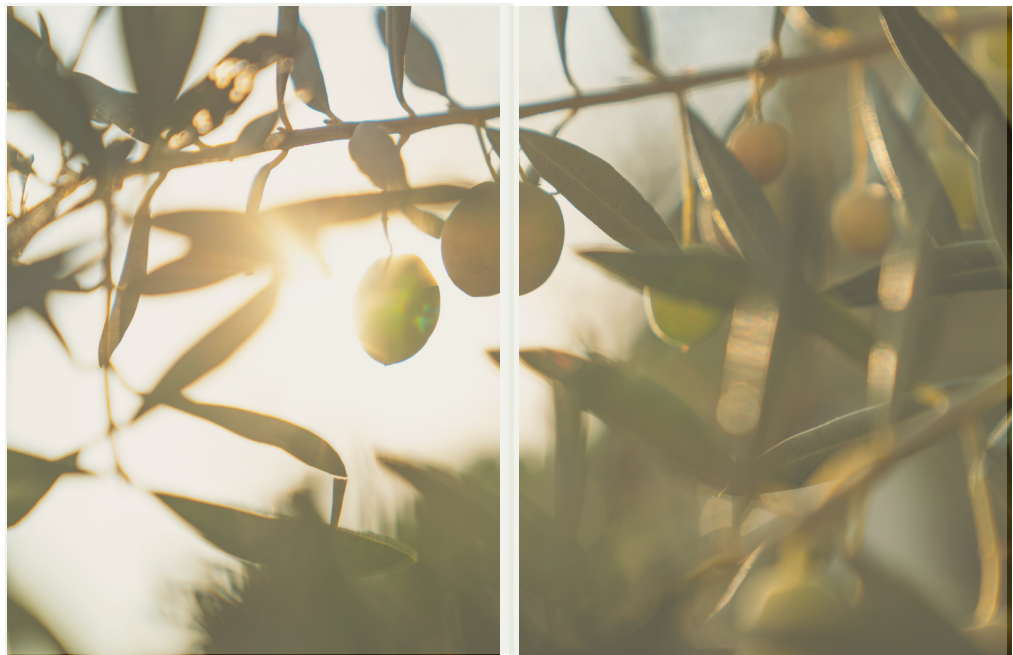
UPCYCLING +

Obtained from the  
BY - PRODUCT of  
the olive oil refinery



SKIN +

Cellular ageless  
Antioxidant  
Moisturizing  
Antiinflammatory



EFFICACY TEST

Anti irritation  
UV Protection  
Vaginal revitalizing  
Emollient

%

1,0 - 10,0



**Olivan DiuVitae<sup>®</sup>**



**COSMOS  
APPROVED**

**Olive Squalene 92%**

**HYDRATION** dual system that prevents **WATER LOSS** and provides the skin with **NEW SOURCES** of **HYDRATION**

**TRIPLE ANTIOXIDANT ACTIVITY** neutralizing free radicals, stimulating production of other antioxidants and protecting cell membranes of oxidative damage.

**2 ANTI-INFLAMMATORY PATHWAYS** reducing pro inflammatory cytokines and regulating the gene expression

100% mediterranean

ATANOR 118, S.L. Fontcoberta 31, 08034 Barcelona, CIF:B66642224, atanor118.es



This document is the property of ATANOR 118, S.L. The information in this publication is provided in good faith and is based on our current knowledge. No legally binding promise or guarantee regarding the suitability of our products for specific use is made. ATANOR 118 does not assume any express or implicit responsibility in connection with the presentation or any use of this information, nor should the information found here be construed as the granting of a license to any patent or a guarantee of use of this information or product, infringe the intellectual property rights of third parties.



**UNTIL NOW - NON SUSTAINABLE - NON ETHICAL**

Use of Squalene dates to 1950, but at beginning it was obtained primarily from shark liver. 2,7 millions of sharks annually to satisfy the needs of the cosmetic market.

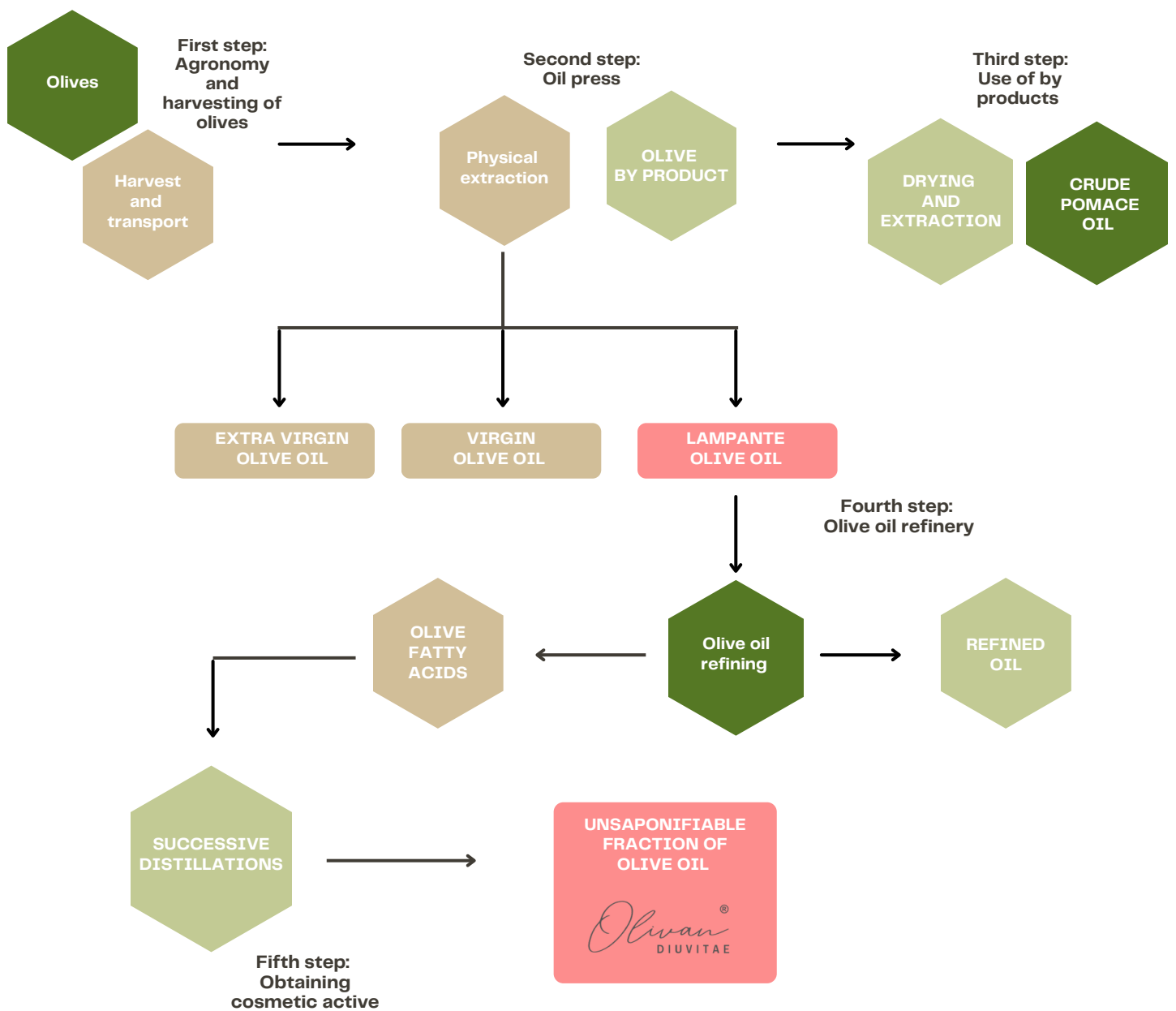
Even vegetal originated Squalene exhausts the resources. 2,5 acres of land + people hand work + time consuming for just 50 kg of the vegetal Squalene.

**'We make the production of Squalene 100 % SUSTAINABLE'**



is the OLIVE SQUALENE obtained from olive oil refining.

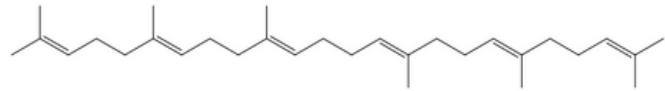
**From olive oil by-product there is enough supply for the whole cosmetic industry.**



Squalene is structurally unique triterpene compound well known like ANTIINFLAMMATORY, ANTIMICROBIAL y IMMUNOMODULATOR compound.

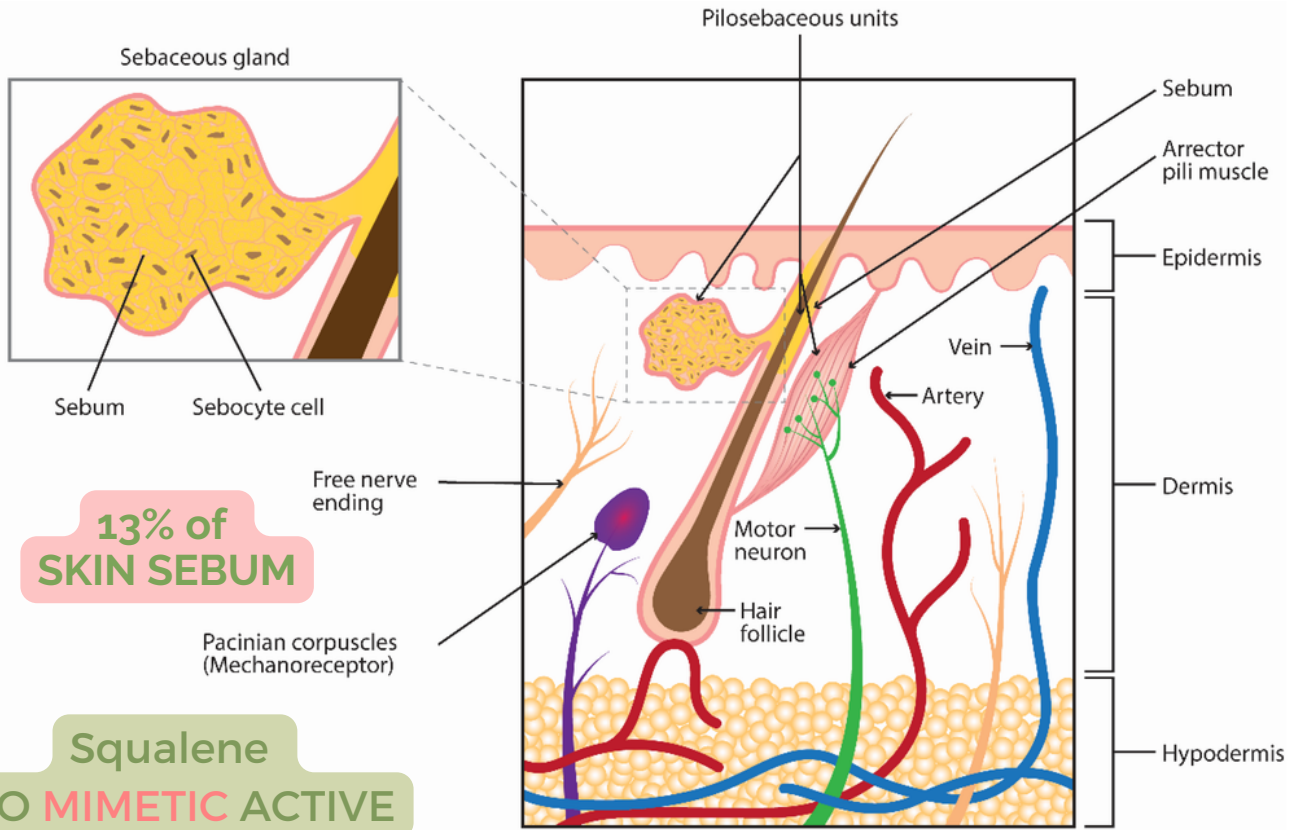


BIOMIMETIC & MULTIFUNCTIONAL



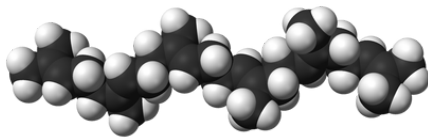
MULTIFUNCTIONAL MOLECULE

THE SEBUM & SQUALENE - MAINTAINING THE HEALTHY AND BALANCED SKIN



13% of SKIN SEBUM

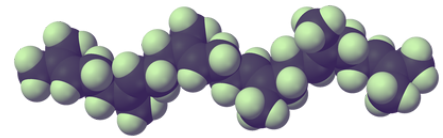
Squalene BIO MIMETIC ACTIVE



Squalene from the SEBUM

BIO INSPIRED

MIMICKING



Squalene obtained from the OLIVE

The OLIVE SQUALENE imitates biological FUNCTION and improves the PROCESSES of the Squalene from the skin sebum.

SQUALENE is the main compound of the skin SEBUM, liberated in sebaceous gland.

SQUALENE is the CHOLESTEROL precursor, the fat that maintains the skin STRUCTURE and FUNCTION.

At age of 30 production drastically slows down.

4 roles of skin sebum:

1. MOISTURIZING THE SKIN by creating a barrier that locks in moisture.
2. PREVENTING SKIN DRYNESS
3. PROTECTING THE SKIN from bacteria, pollutants and UV-rays.
4. REGULATING OIL PRODUCTION, the amount of sebum is regulated by hormones - lack cause skin problems



## ANTI IRRITATION TEST

### ANTI IRRITATION TEST

**SQUALENE** decreases erythema by reducing the levels of generated  $O_2^-$  (superoxide anion).

Erythema was induced by the ointment of Lauroylsarcosine 1%. Generation of superoxide anion was a mediator responsible for the skin irritation.

**SQUALENE** ointment 10% **SIGNIFICANTLY REDUCED** the superoxide anion.



Figure 1. Photo of erythema

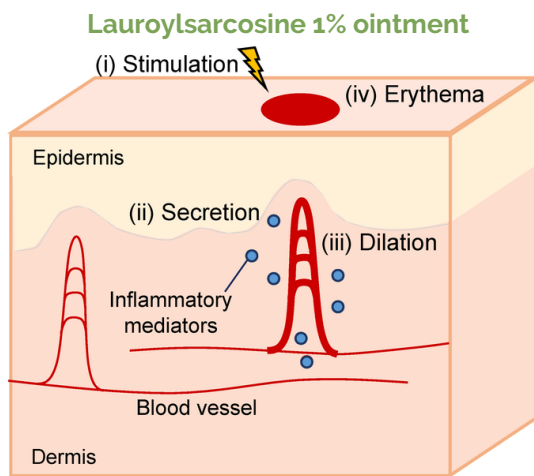
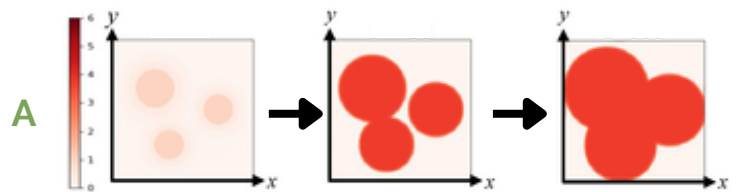
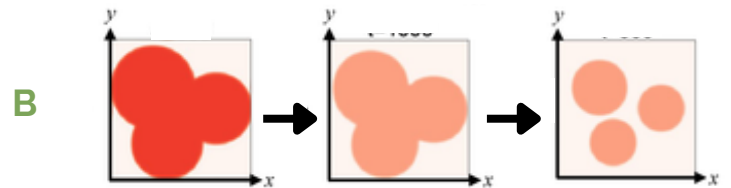


Figure 2. Graphic visualization of the skin reaction when the erythema is induced

Akihiro Aioi, Tatsuo Shimizu, Kiyoshi Kuriyama, Effect of squalene on superoxide anion generation induced by a skin irritant, lauroylsarcosine, International Journal of Pharmaceutics, Volume 113, Issue 2, 1995.



A. Erythema increment induced by 400 mg/ml of Lauroylsarcosine ointment 1%.



B. Erythema decrease achieved by 100 mg/ml of Squalene ointment 10%



## ANTI INFLAMMATORY ACTIVITY OF SQUALENE

**SQUALENE** has 2 different pathways of **ANTI INFLAMMATORY** activity

### 1st ANTI INFLAMMATORY pathway

**SQUALENE** acts by reducing the production of **PRO-INFLAMMATORY CYTOKINES**, the small proteins released by cells that play a key role in the inflammatory response.

### 2nd ANTI INFLAMMATORY pathway

**SQUALENE** acts by inhibiting the activation of nuclear factor kappa B (**NF-kB**), a transcription factor that regulates the expression of genes involved in inflammation.

## UV PROTECTION TEST

**SQUALENE** has the role of **FUNCTIONAL FILTER** in the UV PROTECTION.

**SQUALENE** is peroxidized by UV RADIATION. Peroxidation is regulated by pH, temperature and other factors.

Suggested damage of the cutaneous tissue by production of **SQUALENE PEROXIDE** is **NOT OBSERVED**.

**SQUALENE** appears in the skin surface like a film with esters, triglycerides and ions  $\text{Na}^+$ ,  $\text{Cl}^-$ . It's suspended in water from sweat and epidermal cell in sebum.

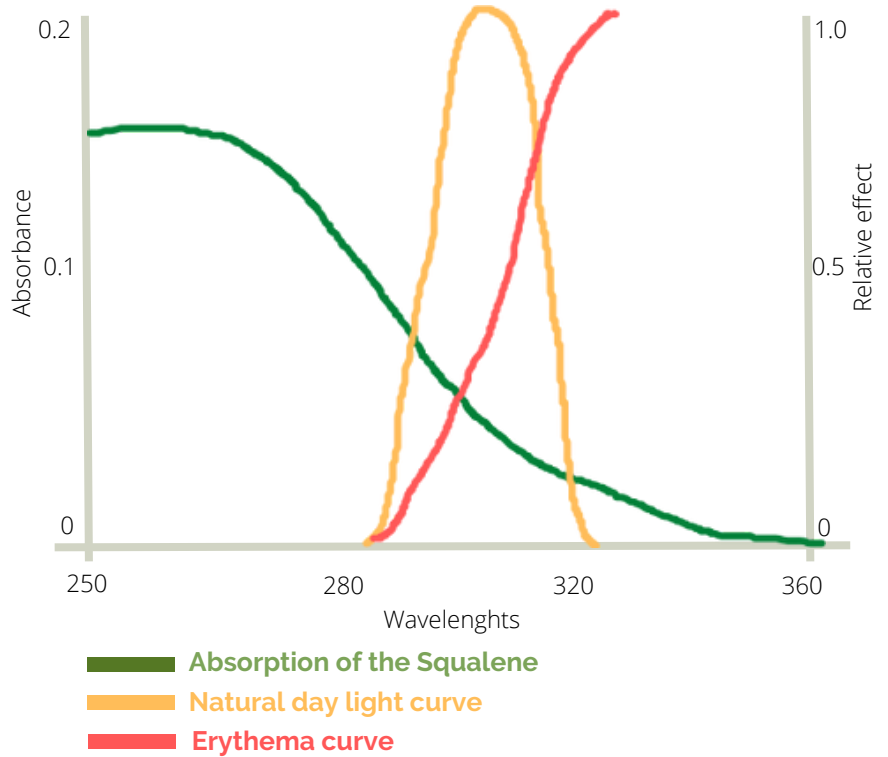
UV ENERGY when arrives to the skin is trapped by **SQUALENE** as the form of **PEROXIDATION**.

Figure 1. Coincidence among erythema curve, natural daylight and UVB absorption of Squalene.



## UV PROTECTION

Figure 1.



Ohsawa K, Watanabe T, Matsukawa R, Yoshimura Y, Imaeda K. The possible role of squalene and its peroxide of the sebum in the occurrence of sunburn and protection from the damage caused by U.V. irradiation. J Toxicol Sci. 1984 May;9(2):151-9. doi: 10.2131/jts.9.151. PMID: 6481825.



## EMOLIENT EFFICACY - Squalene's super power

**SQUALENE** can be used like a material of topically applied vehicles like lipid emulsions.

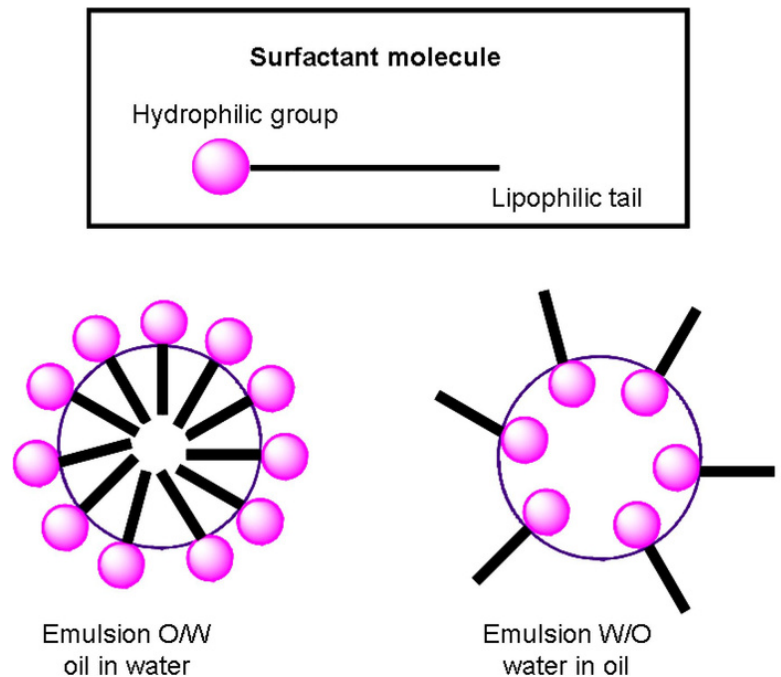
**SQUALENE** has the ability to incorporate actives with poor solubility within the dispersal phase. See Figure 2.

Double-chain monoglycerides of **SQUALENE** act as a surfactant in O/W type emulsions.

**SQUALENE** gives the stability to the O/W emulsions.

Thanks to Squalene's great power of **PENETRATION** through the skin, it is a great **CARRIER** for cosmetic active ingredients into the skin.

Figure 2.



The Active Ingredients Mixture of Olives Provides Skin Whitening and Age Spot Reduction; Author: Maria Lueder, Genax AG, Switzerland

ATANOR 118, S.L. Fontcoberta 31, 08034 Barcelona, CIF:B66642224, atanor118.es



This document is the property of ATANOR 118, S.L. The information in this publication is provided in good faith and is based on our current knowledge. No legally binding promise or guarantee regarding the suitability of our products for specific use is made. ATANOR 118 does not assume any express or implicit responsibility in connection with the presentation or any use of this information, nor should the information found here be construed as the granting of a license to any patent or a guarantee of use of this information or product. Infringe the intellectual property rights of third parties.



## SQUALENE'S ANTIOXIDANT TRIPLE ACTION

**Scavenging FREE RADICALS and NEUTRALIZING them before they can cause damage to cells.**

**Having a high affinity for lipid membranes, it PROTECTS cell membranes from oxidative damage - LIPID PEROXIDATION PROTECTION**

**Stimulating the PRODUCTION of other antioxidants; SUPEROXIDE DISMUTASE and GLUTATHIONE.**



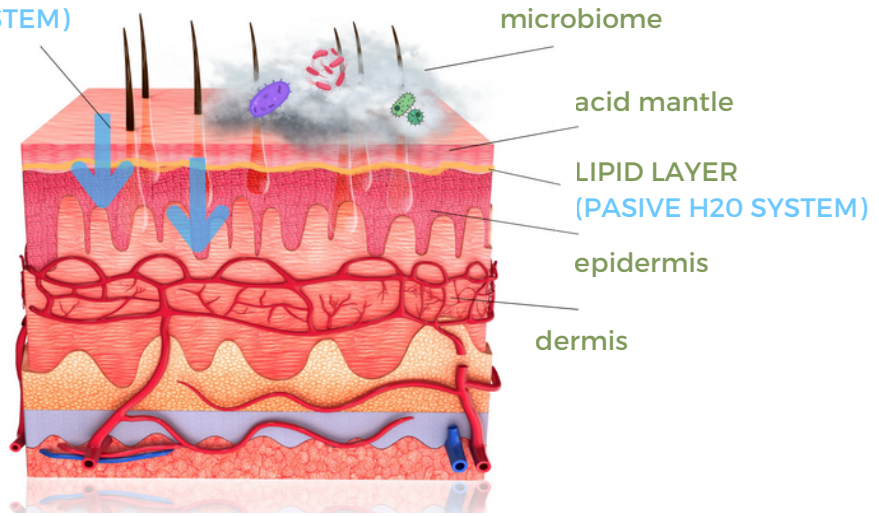
## MORE THEN 25 YEARS OF STUDIES ON ANTIOXIDANT CAPACITY OF SQUALENE

Study	Results
Aioi A. et al., 1995	<b>Inhibition of O<sub>2</sub>- production by addition of 100 mg/ml of Squalene</b>
Buddhan S. et al., 2006	<b>Inhibition of lipid peroxidation, increased levels of reduced glutathione, superoxide dismutase by 2% of Squalene supplement</b>
Motawi T. M. K. et al., 2010	<b>Improvement of Glutathione peroxidase and Glutathione levels after 7 days of applying 0,4 ml of Squalene</b>
Gabás-Rivera C. et al., 2014	<b>Decreased ROS in lipoproteins after taking 1g / kg of Squalene for 11 weeks</b>
Ravi Kumar S. et al., 2016	<b>Elevated mRNA expression of Superoxide dismutase and Glutathione peroxidase when supplemented with 2% Squalene for 4 weeks</b>



# SQUALENE'S HYDRATION DUAL SYSTEM

PENETRATION of Squalene (ACTIVE H<sub>2</sub>O SYSTEM)

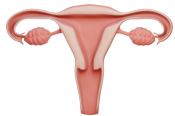


## ACTIVE H<sub>2</sub>O SYSTEM

SQUALENE with its GREAT ability of PENETRATION to a deeper levels of the skin, provides the skin with new sources of hydration, REPLENISHING the skin's natural lipids.

## PASIVE H<sub>2</sub>O SYSTEM

SQUALENE helps maintain the skin barrier FUNCTION. Being the main compound of the LIPID LAYER, SQUALENE is crucial for preventing WATERLOSS from the skin.



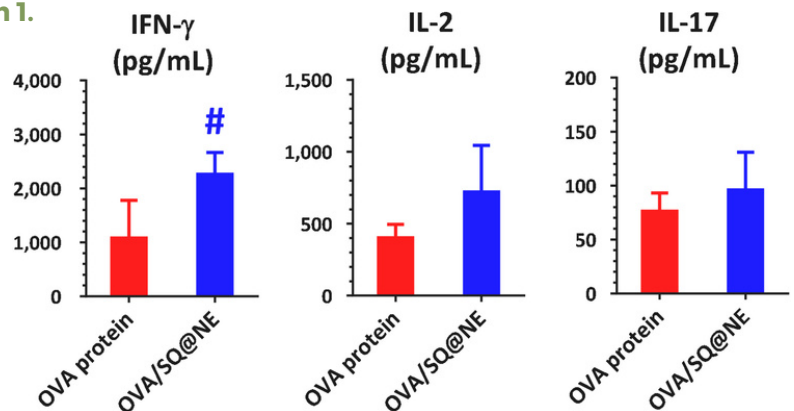
## VAGINAL IMMUNITY BOOSTER AND LUBRICANT

SQUALENE is a VAGINAL ADJUVANT for the induction of mucosal and systemic IMMUNE RESPONSE

3 SQUALENE'S BENEFITS FOR VAGINAL HEALTH:

- Provides HYDRATION levels
- Drains LYMPH nodes
- Prevents VIRAL and BACTERIAL infections

Graph 1.



Graph 1. The graph shows results of intravaginal immunization once a week for 3 weeks. OVA is the model protein antigen formulated with Squalene. SQUALENE is expanding and activating gene expressions responsible for the immune response.

Hui-Min Ho, Chiung-Yi Huang, Yu-Jhen Cheng, I-Hua Chen, Shih-Jen Liu, Chung-Hsiung Huang, Ming-Hsi Huang, Squalene nanoemulsion reinforces mucosal and immunological fingerprints following intravaginal delivery, Biomedicine & Pharmacotherapy, Volume 141, 2021.



**PRODUCT DESCRIPTION**



**PRODUCT CODE:**

**OLDV2023**

**INCI NAME:**

**Olea Europaea Oil  
Unsaponifiables**

**SOLUBILITY:**

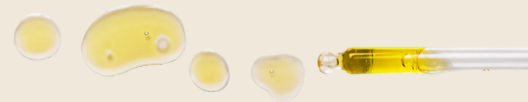
**Liposoluble  
Great integration and carrier  
role of the non-soluble actives**

**FORMULATION:**

**Squalene is incorporated in oil  
phase on a temp. 70-80 C.**

**RECOMMENDED DOSAGE: 1 - 10%**

**FORMULATION EXAMPLES**



**Body oil - 2-8%**

**Mosturizing cream - 1-4%**

**Serum - 5-10%**

**Balms - 1-5%**



ATANOR 118, S.L. Fontcoberta 31, 08034 Barcelona, CIF:B66642224, atanor118.es



This document is the property of ATANOR 118, S.L. The information in this publication is provided in good faith and is based on our current knowledge. No legally binding promise or guarantee regarding the suitability of our products for specific use is made. ATANOR 118 does not assume any express or implicit responsibility in connection with the presentation or any use of this information, nor should the information found here be construed as the granting of a license to any patent or a guarantee of use of this information or product, infringe the intellectual property rights of third parties.