

85



Me



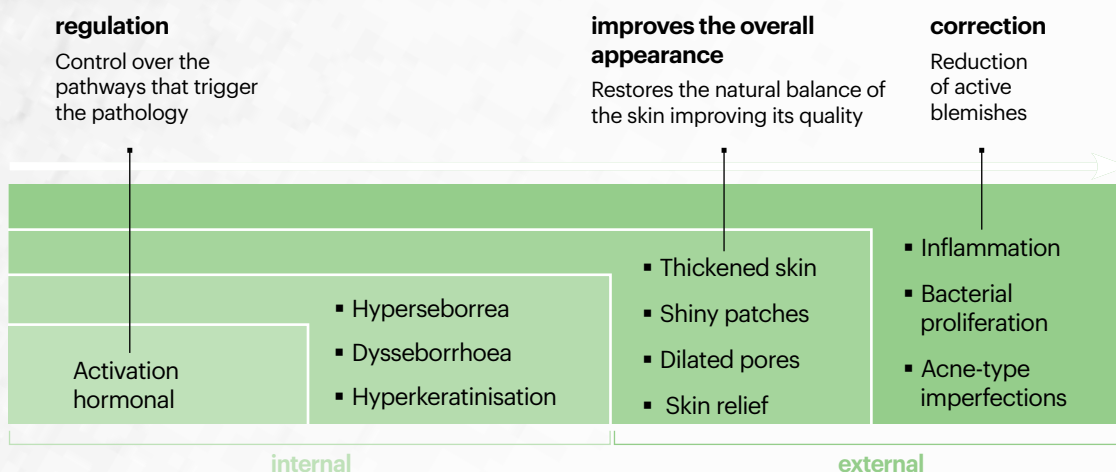
blemiderm®  
free the  
skin from  
blemishes

the element for skincare experts

## blemiderm®

Acne vulgaris is a chronic inflammatory disease that affects the pilosebaceous unit. It is common in both puberty and adulthood. **blemiderm®** is the method that has been developed to treat blemishes of different degrees of severity, using a comprehensive flexible approach based on the latest scientific evidence.

### Multi-dimensional approach



### Based on the latest scientific evidence

The **blemiderm®** method proposes an effective solution using innovative mechanisms of action resulting from scientific progress in the field of acne development research.



#### The influence of the environment

**blemiderm®** acts on the consequences of some of the external factors associated with acne activation, such as diet and stress.

**Regulation through FoxO1\*:** This is a key transcription factor that acts on the nucleus of sebum-producing cells, thus inhibiting its production.

\* Associated with isotretinoin mechanism of action.



#### Antibacterial selective action

**blemiderm®** specifically acts on the pathogenic phylotype of bacteria which are dominant on skin affected by acne, called *C. acnes*, while respecting the good skin microbiota.



**The combination of the professional method with a home treatment is essential for achieving the desired result.**

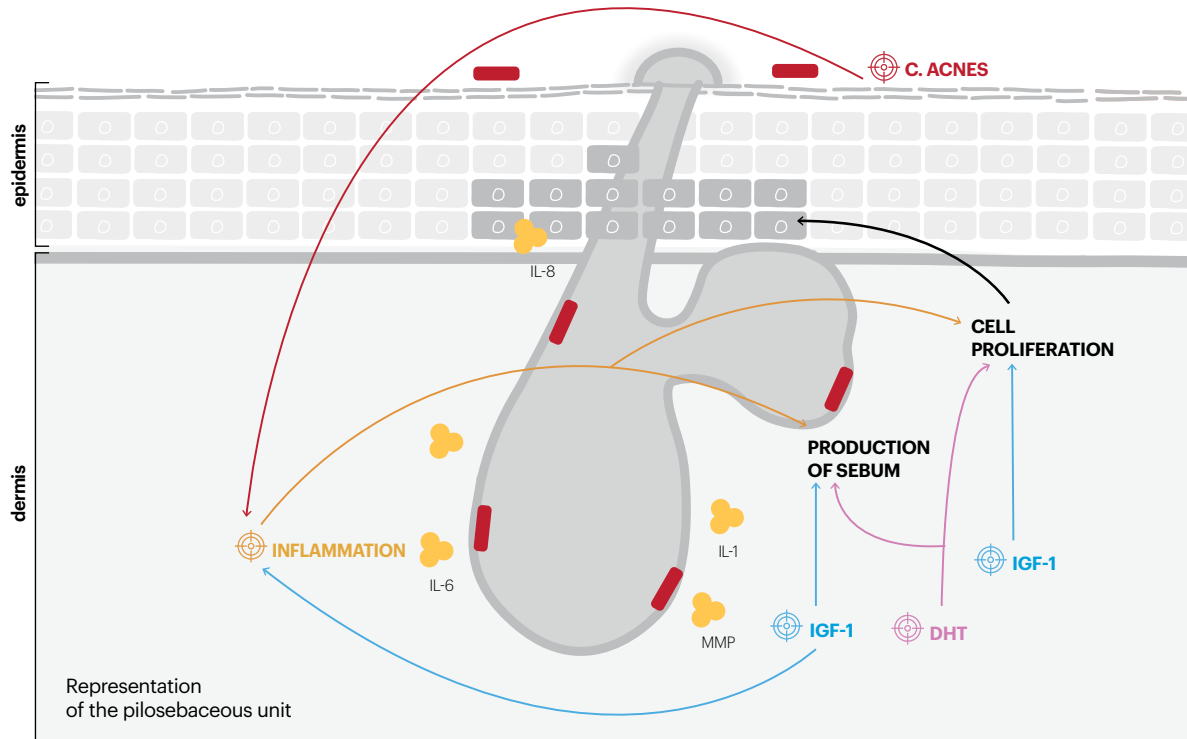
Daily application promotes regulation of the acne.

It allows you to increase your adherence to an adapted home routine.

Avoid using unsuitable products.

# Mechanism of action

**blemiderm®** acts comprehensively on the different pathways that cause blemishes and offers a multilateral approach at the cellular origin.



## Hormonal

Through  
**5α-reductase  
(DHT)**

**Hyperseborrhea  
and dysseborrhoea**

hyperactivation of  
the sebaceous gland

**Hyperkeratinization**

Proliferation of  
keratinocytes

Through **IGF-1 in  
association with  
the environment**

**Hyperseborrhea**

Inhibition of the  
regulating action  
of FoxO1.

## Bacterial proliferation

**Pathogenic  
phylogroup  
IA1 of C. acnes**

**Infection**

Increase in  
pathogenic  
C. acnes  
strains and the  
production of  
inflammatory  
cytokines

## Inflammation

**The IGF-1 pathway  
the environment  
and C. acne**

**Inflammation**

Production of  
inflammatory  
cytokines IL-1, IL-6,  
IL-8, MMPs.

**Hyperseborrhea**

**Hyperkeratinisation**

**Inhibits the  
5α-reductase  
hormone pathway**

- ✓ hyperseborrhea and dysseborrhoea
- ✓ hyperkeratinisation

**Avoids the negative  
influences of the  
environment**

- ✓ hyperseborrhea

**Rebalances  
the microbiota**

- ✓ beneficial microbiota
- ✓ IA1 phylotype of C. acnes

**Inhibits  
inflammation**

- ✓ erythema
- ✓ hyperseborrhea and hyperkeratinisation

**blemiderm®**

## ↑ anti-blemish solutions

A combination of solutions that allow the treatment to be adapted to different degrees of acne, working on blemishes from their origin and offering an intensive corrective action.

### ANTI-BLEMISH PROFESSIONAL SOLUTIONS



**blemiderm® pack**  
3x pre-peel · 3x mask · 1x post-peel neutralizing spray



**blemiderm® treatment**

regulates sebum and corrects active blemishes

### Oily skin with active acne

#### Professional approach to grades II-III acne.

The pack contains a professional method to be applied in the clinic, together with an at-home continuation treatment. blemiderm® home pack\* includes a suitable cleanser for oily skin and an intensive action cream to be applied daily.

\*purifying mousse and blemiderm® treatment.

#### Intensive daily treatment of active acne lesions.

Corrects acne blemishes by reducing the severity of the outbreak and regulating the cell mechanisms that trigger it.

Cutting-edge formulas developed to thoroughly improve skin-quality. Reduces the roughness of the face, reduces pores, and regulates the production of sebum, removing shiny patches and blemishes from the skin.

## ANTI-BLEMISH SOLUTIONS



blemiderm®  
local control

unblocks  
and purifies

**Local  
blemishes**

### Focussed correction

Corrects local  
blemishes



blemiderm®  
resurfacing gel

re-texturises  
and renews

**Oily or acne-prone skin**

### Prevent and control the appearance of blemishes caused by acne.

Control of the main causes of the appearance  
of blemishes, improving the overall quality  
of oily-skin.



pure renewing  
mask

mattifies  
and exfoliates



blemiderm®  
caps

nutritional  
supplement

### Rebalancing and controlling against blemishes

It reduces the  
negative effects of  
diet and stress on  
the appearance of  
blemishes, improving  
the quality of the  
microbiota.



## ↑ anti-blemish professional solutions

### blemiderm® pack: products



#### blemiderm® pre-peel

Exfoliating solution.

Its formula, which is based on AHA and BHA, unclogs and purifies the pores, preparing the skin for later stages of the blemiderm® method. It includes retinal and bakuchiol, which stimulate intense skin rejuvenation.

4 ml flask



#### blemiderm® mask

Facial anti-blemish mask.

Combines the corrective action of AHA and BHA with the regulating action of **blemisome complex**, reducing hyperkeratosis, excess sebum and removing blemishes. Contains kaolin and sulphur that have smoothing and antibacterial effects.

7 ml jar

### blemisome complex

New delivery systems through the transthesome, formulated with neem oil, retinol and enoxolone.

Directs the action of the active ingredients to the pilosebaceous follicle leading to a sustained release in the target cell.

### Ex-vivo Study

#### Biodistribution in cutaneous explant <sup>1</sup>

Microscopy using  
Leica Thunder (10x magnification)

■ Fluorophore: lissamine rhodamine B  
■ Fluorophore: fluorescein sodium



fluorophores without delivery



fluorophores in transthesomes



## purifying mousse

### Oily or acne-prone skin

Balanced and anti-pollution facial cleansing mousse.

Formulated with chlorhexidine, salicylic acid and lactic acid. Resulting in a rejuvenating and purifying action that prevents blemishes.

*Every morning and night, apply a small amount of the product to damp skin and massage it using circular motions. Rinse thoroughly with water.*

150 ml bottle



## blemiderm® treatment

### Oily skin with active acne

Anti-blemish gel-cream. Its formula, containing 10% azelaic acid and liposomal retinol, stimulates skin rejuvenation and regulates sebum production. It includes the **blemiclear complex**, designed to regulate the mechanisms that cause blemishes.

*Apply every night on a clean and dry face.*

50 ml airless

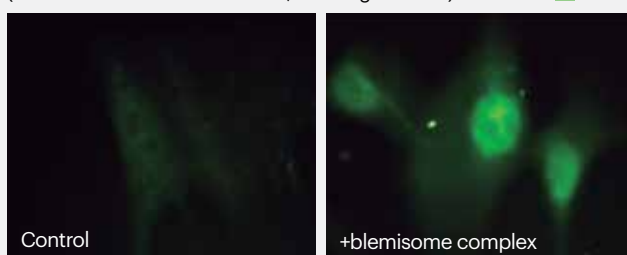
## In vitro studies

### Inhibition of sebum production through FoxO1<sup>2</sup> (through IGF-1)

#### ▲ Nuclear FoxO1 levels (adipogenesis inhibition)

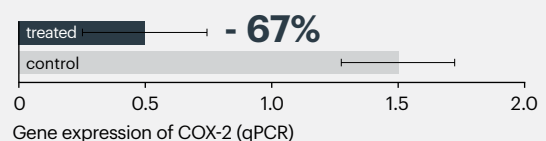
FoxO1 protein marked with fluorescence in sebocytes (FoxO1-FITC immunofluorescence, 60x magnification)

■ FoxO1

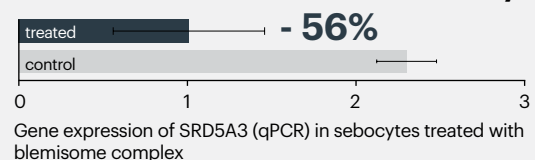


### Anti-inflammatory action<sup>3</sup>

Reduction in inflammatory markers in sebocytes.



### Inhibition of the 5α-reductase enzyme<sup>4</sup>



## ↑ anti-blemish professional solutions

### blemiderm® pack: protocol



blemiderm®  
pre-peel



blemiderm®  
mask



#### TREATMENT IN THE CLINIC

intensive  
correction

##### Phase 1/Preparation

With the help of a gauze, apply the entire contents of the **blemiderm® pre-peel** on the patient's face.

 5 min

Rebalancing the skin's pH with a gauze that has been moistened in water.

To ensure the smooth distribution of blemiderm® pre-peel, it is recommended to first apply a normal alcoholic solution with the help of a gauze.

##### Phase 2/Intensive

Apply the entire contents of the **blemiderm® mask** evenly, with the help of a spatula or a depressor.

 10 min\*

##### REMOVAL OF THE MASK

Place damp gauzes on the face for each zone, in the recommended order.

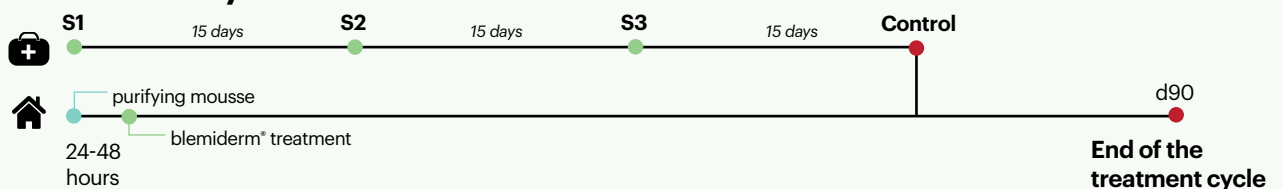
 Wait between 1 and 2 minutes

Remove with the help of a damp gauze, rinsing, through circular movements.

\*Maximum application time. Remove the mask before 10 minutes have elapsed in case of: moderate erythema or the appearance of "frosting", which is a localised white layer that cannot be removed with a damp gauze.



#### Treatment cycle







post-peel  
neutralizing spray



purifying  
mousse



blemiderm®  
treatment



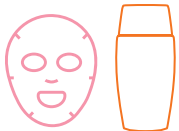
## HOME TREATMENT

daily correction  
and regulation

### Phase 3/Neutralize and sooth

It is recommended that the application is performed with a **post-peel neutralizing spray**, in order to end the reaction and remove any residues that may remain.

To end the session, it is recommended that you apply a soothing mask such as **crystal fiber mask** and then apply an SPF 50+ sunscreen suitable for oily skin.



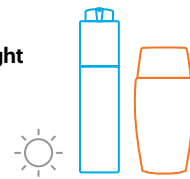
### Hygiene

Start the application during the first facial cleansing after the first professional session.

### Treatment

Apply at night once the skin has returned to its normal condition.

For daytime applications, it is recommended to use a non-comedogenic moisturising cream such as **hydra-vital light** and SPF 50+ sunscreen that is suitable for oily skin.



## A complete treatment cycle lasts 3 months



Professional  
treatment containing  
**3 sessions** every  
15 days



Continuous  
home  
treatment lasts  
**3 Months**



Compatible with other  
medicinal prescription  
pharmacological  
treatments.

## ↑ anti-blemish solutions

### 🏠 Products to be used at home



#### blemiderm® treatment

##### Oily skins with active acne

Anti-blemish gel-cream.

Its formula, containing 10% azelaic acid and liposomal retinol, stimulates skin rejuvenation and regulates sebum production. It includes the **blemiclear complex**, designed to regulate the mechanisms that cause blemishes.

*Apply every night on a clean and dry face.*

50 ml airless



#### blemiderm® resurfacing gel

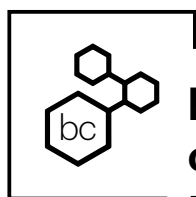
##### Oily or acne-prone skin

Rejuvenating gel.

Its exclusive combination of AHA, BHA and PHA stimulates intense cellular rejuvenation, preventing pore clogging and improving the texture of the skin. Formulated with **blemiclear complex**, regulates and prevents the appearance of acne outbreaks.

*Apply every night on a clean and dry face.*

50 ml airless



#### blemiclear complex

Exclusive complex formulated with Australian Maclura and EGCG\*, proven to be efficient against the main triggers of acne.

*\*Epigallocatechin gallate, a catechin extracted from green tea.*



## blemiderm® local control

### Local blemishes

Concentrated topical action gel.

Concentrated AHA and BHA formula that unclogs and purifies pores. Its combination of enoxolone and niacinamide helps to reduce swelling and redness, and prevents the appearance of post-inflammatory hyperpigmentation.

*Apply a small amount of the product to the specific blemish at night.*

10 ml tube



## Blemiderm® caps

### Food supplement

Containing 3 types of probiotics, one prebiotic, biotin and zinc.

Reduces the negative effects of the environment, restoring the skin's natural balance by maintaining a healthy microbiota.

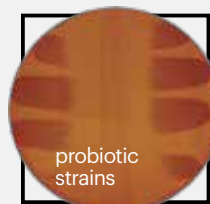
*Take a capsule one day with a glass of water.*

60 capsules



### Intestine-skin, axis<sup>5</sup>

Recent studies have shown that the intestinal microbiota is linked to the appearance of acne through the regulation of the immune system. Probiotics modulate this intestinal microbiota, generating an anti-inflammatory response and regulating the IGF-1 pathway.



Bacterial culture plate  
(*C. acnes*)

### *in vitro* study: high antimicrobial activity<sup>6</sup>

The halo formed in the pathogen culture indicates that probiotic strains produce bacteriocins. These are substances with very powerful antimicrobial activity when compared to other nearby strains.

## ↑ anti-blemish solutions

### 🏠 Products to be used at home



#### Pure renewing mask

##### Mixed oily skin

Intensive purifying mask.

Its formula based on white clay, AHA, BHA and biodegradable cellulose particles, allows for soft skin exfoliation, smoothing and purification of the pores, in order to prevent and reduce blemishes.

*Apply a generous layer of the product to clean skin and allow it to dry in over 10-15 min. Once dry, remove with plenty of water, massaging the exfoliating particles.*

100 ml tube



### Other professional medical/cosmetic solutions



50 ml

#### mesopeel® MD blemiskin

##### Oily skin or skin with acne.

Peeling with a keratolytic, comedolytic, anti-inflammatory and antibacterial effect for exclusive medical use.

*20% salicylic acid, retinal, shikimic acid, xanthophyll, zinc.*



50 ml

#### mesopeel® blemiskin

##### Oily or acne-prone skin

Peeling with a keratolytic effect and a sebum regulator for exclusive professional use.

*Glyceric acid, succinic acid, salicylic acid, caffeic acid, lactic acid, glycyrrhetic acid, Chlorella vulgaris extract, Senopeptide.*



500 ml

#### pure renewing mask

##### Mixed oily skins

Intensive purifying mask for professional use.

*White clay, AHA, BHA, cellulose particles.*

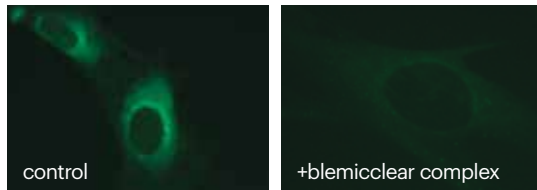
## ↑ anti-blemish solutions

### In vitro studies

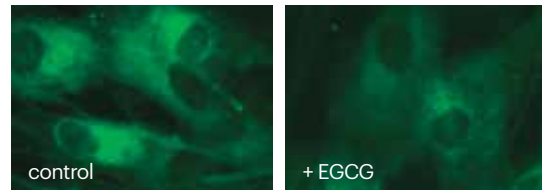
#### bc blemiclear complex

##### Inhibition of sebum production

Other professional medical/cosmetic solutions and testosterone (simulating the actions of DHT/through 5 $\alpha$ -reductasa<sup>7</sup>).



IGF-1 stimulated sebocytes  
(Simulation of environmental effects<sup>8</sup>)



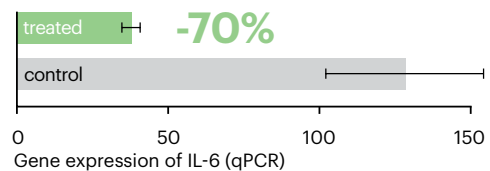
Images obtained with fluorescence microscope with Bodipy staining for lipids (60-fold magnification).

■ sebum

##### Reduction in inflammatory markers<sup>9</sup>

Reduction in the expression of proinflammatory markers in sebum treated with blemiclear complex.

Other relevant results: - 57% in gene expression of IL-8 and -56% of COX-2.



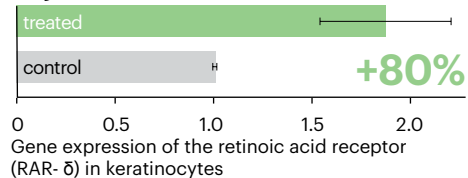
#### ↑ blemiderm<sup>®</sup>

##### Autophagy Stimulation<sup>10</sup>

Activation of the endogenous sebum degradation mechanism through the expression of gene markers of autophagy.

Other relevant results: Gene expression increased by a factor of 4 for LC3, and by 2.6 for p62. These are autophagy gene markers.

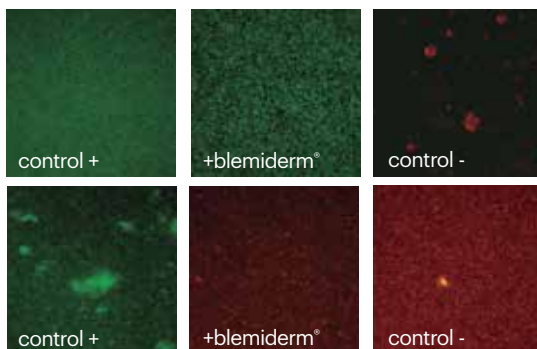
##### Stimulation of skin rejuvenation<sup>11</sup>



##### Selective anti-bacterial action<sup>12</sup>

"Live/Dead" bacterial viability test:

Using the same concentration of active substances, fluorescence microscopy shows the resistance of *S. epidermidis* and the bactericidal effect on the IA1 phylotype of *C. acnes*.



■ Lysated bacteria ■ Viable bacteria

→ *S. epidermidis*  
beneficial commensal bacteria of the skin microbiome

→ *C. acnes* IA1 pathogenic *C. acnes* phylotype that causes acne



## ↑ anti-blemish solutions

### Clinical studies<sup>13</sup>

Study performed using the **blemiderm® method**, following the full recommended protocol of 3 clinic visits, together with an at-home continuation treatment.

D0



D90



D0



D90





D0



D90



D0



D90





## ANTI-BLEMISH SOLUTIONS

Solutions based on the **latest scientific innovations** on acne development.

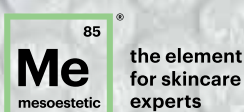
Formulas developed to **address the different degrees of blemishes** caused by acne.

Complexes containing **exclusive active substances** and **vehiculation systems** with proven effectiveness.

Formulas designed to **correct, regulate and prevent** the appearance of blemishes caused by acne, restoring the quality of the skin.



1. INF487. BU. Informe de estudio de biodistribución de transetosomas para acné en explante cutáneo [Report on the study of the biodistribution of transethosomes for acne using skin explants.] Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 2. INF460. BU. Informe aumento FOXO1 en sebocitos tratados con retinol-neem-enoxolona [Report on the increase in FOXO1 in sebocytes treated with retinol-neem-enoxolone]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 3. INF430. BU. Informe efecto antiinflamatorio en sebocitos tratados con retinol-neem-enoxolona [Report on the anti-inflammatory effect on sebocytes treated with retinol-neem-enoxolone]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 4. INF462. BU. Informe de la vía hormonal en sebocitos tratados con retinol-neem-enoxolona [Report on the hormonal pathway in sebocytes treated with retinol-neem-enoxolone]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 5. Goodarzi A, Mostafarpoor S, Bonaghabadi M, Mohaadi M. The potential of probiotics for treating acne vulgaris: A review of literature on acne and microbiota. Dermatol Ther. 2020 May; 33 (3): e13279. doi: 10.1111/Dth.13279. Epub 2020 Apr 7. 6. Informe del estudio in vitro de la actividad antimicrobiana de blemiderm® caps [Report on the In vitro study on the antimicrobial activity of blemiderm® caps]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 7. INF468. BU. Report on the inhibition of sebum production with EGCG and Australian Maclura. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 8. INF463. BU. Informe de la inhibición de la producción de sebo inducida con IGF-1 y tratados con EGCG [Report on the inhibition of sebum production induced with IGF-1 and treated with EGCG]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 9. INF466. BU. Informe efecto antiinflamatorio en sebocitos tratados con EGCG y Maclura Australiana [Report on the anti-inflammatory effect on sebocytes treated with EGCG and Maclura cochinchinensis]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 10. INF470. BU. Informe de la activación de autofagia en sebocitos tratados con retinol y Maclura Australiana [Report on the activation of autophagy in sebocytes treated with retinol and Maclura cochinchinensis]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 11. INF469. BU. Informe de la renovación epidérmica en queratinocitos tratados con retinol y Maclura Australiana [Report on epidermal rejuvenation in keratinocytes treated with retinol and Maclura cochinchinensis]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 12. INF487. BU. Informe de la eficacia antimicrobiana sobre *S. epidermidis* y *C. acnes* filotipo IA1 con retinol y Maclura Australiana [Report on the antimicrobial efficacy of retinol and Maclura cochinchinensis on *S. epidermidis* and *C. acnes* phylotype I]. Biotechnology Unit. mesoestetic Pharma Group S.L. 2022. 13. Study of safety and efficacy of blemiderm treatment for the treatment of acne lesions. Medical Affairs Unit. mesoestetic® Pharma Group, S.L. 2023.



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