

SYMBIOCAPS

LA

BIO-BOOSTER
FOR BEST AGING

Active ingredient:

Lactobacillus
Acidophilus (LA)

Benefits

- Reduction of oily skin;
- Reduction of pores;
- Invigorating skin hydration;
- Prevents skin aging;
- Regulation of skin microbiota and pH;
- Active protection against external aggressions.

Usage

Primers, creams, serums, emulsions, gels.



DESCRIPTION

Symbiocaps LA is an active ingredient encapsulated in biopolymer particles with a micrometric particle diameter. Encapsulation through the technology developed by **Nanovetores** allows the stabilization of sensitive components, therefore, complex of being formulated, providing the product high effectiveness in restoring skin hydration and immunity, combating aging and protecting against external aggressions, in addition to contributing to the treatment of acne and pore reduction.

The human body is inhabited by a microscopic world living harmoniously, contributing to the proper functioning of our organism. Skin, for example, is inhabited by about a thousand different species of bacteria, keeping this ecosystem stable by controlling its pH and temperature. Changes in skin pH, for example, are associated with dermatological conditions such as dermatitis, *Acne vulgaris* and infections caused by *Candida albicans*¹.

Probiotics are living microorganisms that, when administered in enough quantity, provide a health benefit, according to the World Health Organization. These microorganisms have the smart ability to reconstruct and strengthen the skin barrier, protecting it from pathogenic (disease-causing) organisms through courses of action:

- By antagonism; competing for nutrients or space (setting area) and producing antimicrobial substances such as lactic acid, for example.
- Inhibiting pathogenic action; reducing damage resulting from the action of bacterial toxins. Here, the probiotic *Lactobacillus Acidophilus* stands out².

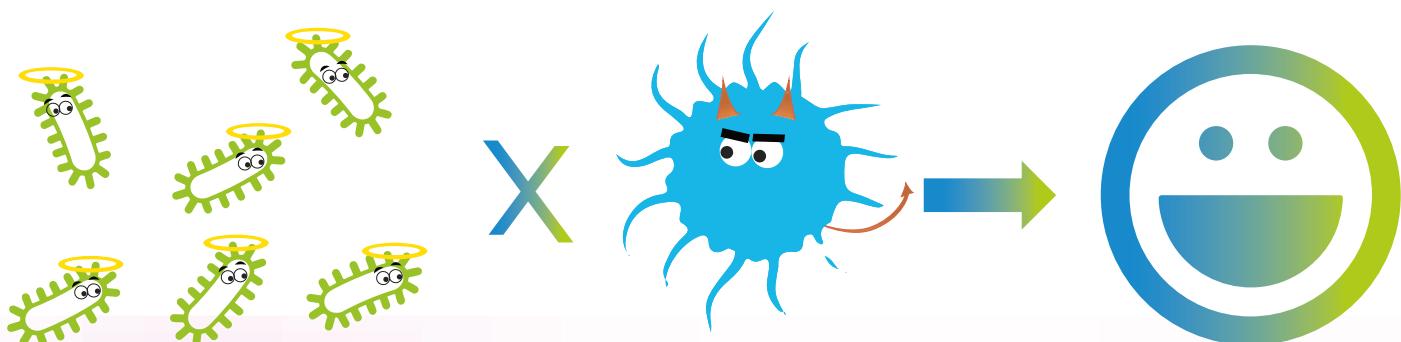


Figure 1: Schematic drawing representing the microbiota.



DESCRIPTION

Bacteria belonging to the Lactobacillus genus have characteristics similar to lactic acid bacteria: Gram (+) bacilli or cocci. Lactobacilli are found in the mucosa of humans and animals, plants and in rich substrates containing available carbohydrates and in fermented foods³.

Although the use of probiotics is already widespread in foods such as yogurts and food supplements, a new era of interest transforming the use of appropriate and beneficial probiotics in cosmetic products has emerged in the world of beauty and skin health⁴. The benefits of using probiotics in the cosmetics industry are many and mainly focus on the well-being and appearance of the skin. There are many benefits of the continuous use of probiotics in cosmetics, such as intensive treatment of enlarged pores, invigorating skin hydration and high restoration of its immunity, which provides active protection against external aggressions. Other benefits of probiotics in cosmetic products include regulating the skin's pH, reducing the level

of skin inflammation, regenerating cell metabolism and fighting the aging process; focused on softening and leaving the skin looking healthy and soft⁴.

Current research on the complex interaction between the microbiota, barrier function and the innate immune system of the skin indicates that the skin microbiota plays a beneficial role, much like the intestinal microflora. Preservation of microflora, maintaining and/or restoring healthy skin microbiota has become the goal of modern therapies. Pre and probiotics have been suggested as important applications of such therapies and, in recent years, they have reached scientific popularity as safe and effective agents for regulating skin health and microenvironment⁵.

The encapsulation of probiotics aims to promote greater protection of these microorganisms and their viability, ensuring their better performance in the skin.

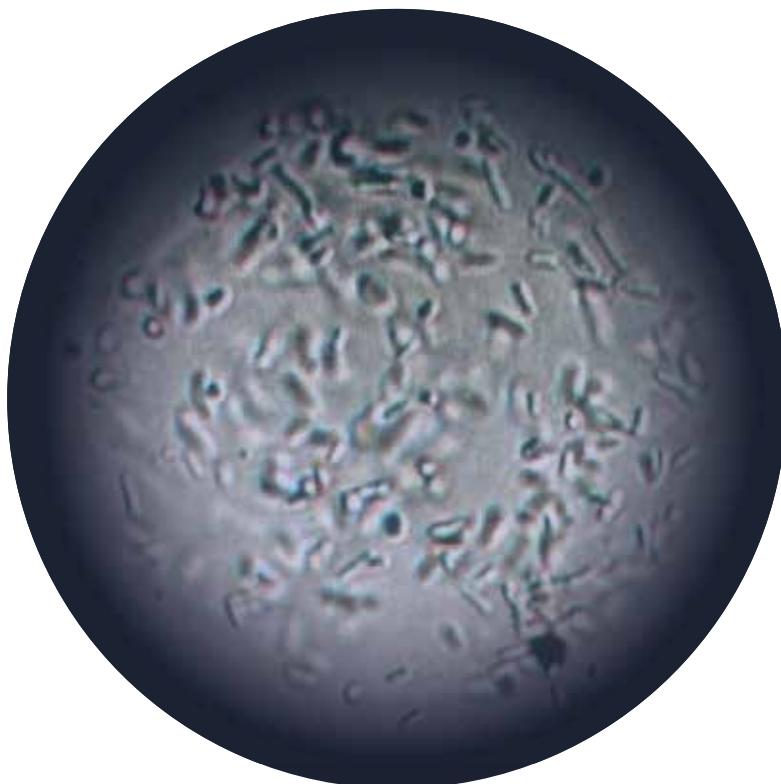


Figure 2: Image of encapsulates LAs. **Source:** Nanovetores.

EFFECTIVENESS TEST

Product tested: Serum with Symbiocaps LA.

Objective: To determine the activity of the products in terms of hydration, anti-aging, acne, rosacea and enlarged pores reduction potential.

Source: Nanovetores.

Study conducted on 13 volunteers, aged between 18 and 48 years, for 30 days using the Serum with Symbiocaps LA, 2 times a day.

Anti-aging potential

Before application



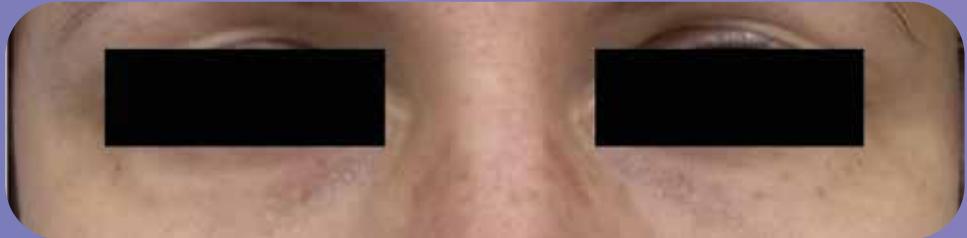
After 2nd day of use



After 8th day of use



After 30th day of use



EFFECTIVENESS TEST

Product tested: Serum with Symbiocaps LA.

Objective: To determine the activity of the products in terms of hydration, anti-aging, acne, rosacea and enlarged pores reduction potential.

Source: Nanovetores.

Study conducted on 13 volunteers, aged between 18 and 48 years, for 30 days using the Serum with Symbiocaps LA, 2 times a day.

Acne reduction

Before application



After 2nd day of use



After 8th day of use



After 30th day of use



EFFECTIVENESS TEST

Product tested: Serum with Symbiocaps LA.

Objective: To determine the activity of the products in terms of hydration, anti-aging, acne, rosacea and enlarged pores reduction potential.

Source: Nanovetores.

Study conducted on 13 volunteers, aged between 18 and 48 years, for 30 days using the Serum with Symbiocaps LA, 2 times a day.

Rosacea reduction

Before application



After 2nd day of use



After 8th day of use



EFFECTIVENESS TEST

Product tested: Serum with Symbiocaps LA.

Objective: To determine the activity of the products in terms of hydration, anti-aging, acne, rosacea and enlarged pores reduction potential.

Source: Nanovetores.

Study conducted on 13 volunteers, aged between 18 and 48 years, for 30 days using the Serum with Symbiocaps LA, 2 times a day.

Reduction of pore dilatation

Before application



After 30th day of use



Conclusion: Through the sensory evaluation of perceived efficacy, it was possible to conclude that there was an improvement significant effect on hydration (average increase of 42.60%) and on

the appearance of the skin, potential reduction fine lines, as well as acne, rosacea and enlarged pores.

EFFECTIVENESS TEST

Product tested: Serum with Symbiocaps LA.

Objective: Assess the effectiveness of the product by cosmetic appreciability (participants' feedback), under normal usage conditions.

After 15 days of use

among the 31 participants who completed the study:

81% liked the product;

81% would buy the product;

71% thought the product had reduced oiliness;

77% thought the product helped reduce pores;

8% thought the product reduced rosacea;

58% thought the product reduced or improved the presence of acne;

65% thought the product filled in expression lines;

65% thought the product reduced sagging;

77% thought the product improved hydration.

Methodology: The Cosmetic Appreciability Assessment (participants' feedback) was conducted on 31 female and male volunteers, aged between 19 and 35 years old, for 30 ± 2 days using the product Serum with Symbiocaps LA, twice a day.

After 30 days of use

among the 31 participants who completed the study:

94% liked the product;

90% would buy the product;

74% thought the product had reduced oiliness;

84% thought the product helped reduce pores;

8% thought the product reduced rosacea;

68% thought the product reduced or improved the presence of acne;

68% thought the product filled in expression lines;

71% thought the product reduced sagging;

84% thought the product improved hydration.

SAFETY ASSESSMENT

Objective: Investigate product safety regarding the potential for Primary Dermal Irritability, Cumulative Skin Irritation, and Dermal Sensitization.

Results: The Serum with Symbiocaps LA did not induce detectable irritative phenomena during the study period and is considered safe for topical use, thus supporting the term dermatologically tested.

SYMBIOCAPS LA

Regulatory Information

| INCI Name | CAS Number | EINECS Number |
|-------------------|------------|---------------|
| AQUA | 7732-18-5 | 231-791-2 |
| LACTOBACILLUS | - | - |
| ALGIN | 9005-38-3 | - |
| SODIUM BENZOATE | 532-32-1 | 208-534-8 |
| POTASSIUM SORBATE | 24634-61-5 | 246-376-1 |
| CALCIUM CHLORIDE | 10043-52-4 | 233-140-8 |

| | |
|------------------|---|
| PHYSICAL STATE | MILKY LIQUID |
| COLOR | BEIGE TO BROWN |
| ODOR | CHARACTERISTIC |
| pH | 3.5 to 6.5 |
| DISPERSIBILITY | DISPERSION OF ENCAPSULATED LACTOBACILLUS IN WATER |
| RELATIVE DENSITY | 0.9 to 1.1 g/ML |



HOW TO USE

Shake before use and add to formulation below 40°C.

USAGE CONCENTRATION

2 to 15%.

COMPATIBILITIES

Bases with anionic, cationic and non-ionic surfactants.

INCOMPATIBILITIES

Ethanol and other organic solvents. Among the tested bases.

The product showed incompatibility only with the cream gel base, containing acrylates/c10-30 alkyl acrylate crosspolymer.

pH STABILITY

3.0 to 7.0

STORAGE

Keep in a cool place, protected from light and heat. Shake before use.

NOTE

As it contains natural active ingredients, the product may change in color and odor.



Our production process is based on Green Chemistry, being water-based and free of organic solvents, totally sustainable. We do not generate waste that could be harmful to users or the environment



We do not test on animals. All tests are conducted in trustworthy laboratories with human volunteers.



Essential oils, Vitamins, Acids and Natural Extracts are highly oxidative substances that degrade quickly and react constantly with the medium and other cosmetic compounds (light, oxygen, packaging, preservatives, fragrances, surfactants, etc.). By encapsulating it, we guarantee the stability of the active ingredients and protect them from potential reactions with the formulation or the environment.

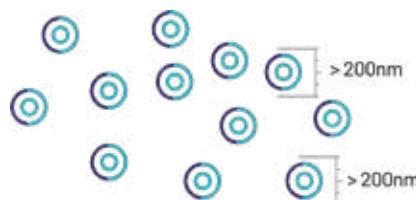
References

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2. COPPOLA, M.M; TURNES, C.G. **Probióticos e resposta imune.** Ciéncia Rural, v. 34, n.4, 2004.
3. HAMMES, W.P.; VOGEL, R.F. The genus Lactobacillus. In: WOOD, B.J.B.; HOLZZAPFEL, W.H. **The genera of lactic acid bacteria.** London: Blackie, 1995. v.2, p. 19-34.
4. M-CJ and Tang J. **Probiotics in personal care products.** Microbiol Discov. 2015; 3:5. Disponível em: <http://dx.doi.org/10.7243/2052-6180-3-5>. Acesso em: 16 abr. 2018
5. PREEDY, V.R.; et al. **Pre - and probiotics for human skin.** In: PREEDY, V.R. Handbook of diet, nutrition and the skin. Springer, 2012. v.2, p.318-331

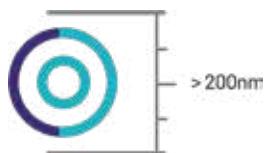
Nanovetores Encapsulation Technology



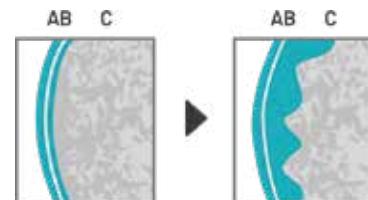
Active Ingredient Protection against oxidation resulted from interaction with external environment and other components of the cosmetic formulation.



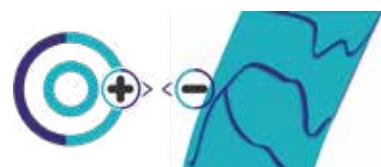
Monodispersity, that ensures control of the particle size, providing adequate permeation to its proposed action.



Secure particles larger than 200nm, biocompatible and biodegradable.



Greater Permeation on the contact surface due to the small size of the capsule.



Surface Charge Control of the particle, promoting greater affinity with the contact surface.



Water Base. Active ingredients are manufactured without the use of organic solvents, ensuring safety for users and the environment.

Use Encapsulated Active Ingredients and Ensure:

- Stability Improvement
- Increased compatibility in the formulation
- Occlusion of odors
- Increased skin permeation
- Reduced dose
- Use of sensitive active ingredients (without refrigeration)
- Increased Solubility
- Prolonged release
- Increased effectiveness



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