

BICOWHITE MULTI-TARGET DELIVERY SYSTEM (BICOWHITE COMPLEX)



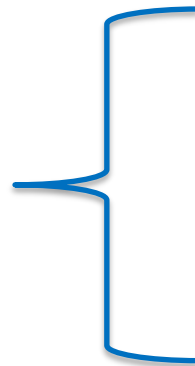
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HYPERPIGMENTATION DISORDERS

Increased melanin production gives rise to different hyperpigmentation disorders characterized by the appearance of dark spots in the skin.



The main strategies to decrease the **MELANIN** content



PREVENT its formation
DIMINISH its transport
ACCELERATE its elimination

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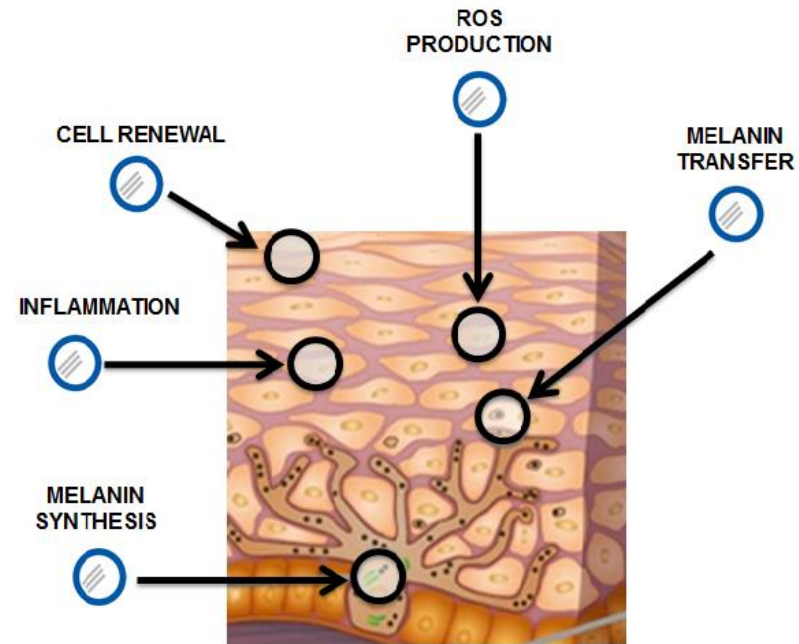
BICOWHITE[®] COMPLEX

BICOWHITE[®] COMPLEX is a brightening / lightening multistep delivery system based on Bicosome[®] Technology that works **BLOCKING** the different processes involved in the **DARK SPOTS** formation.

1. Cell renewal
2. Ros production
3. Inflammation
4. Melanin transfer
5. Melanin Synthesis



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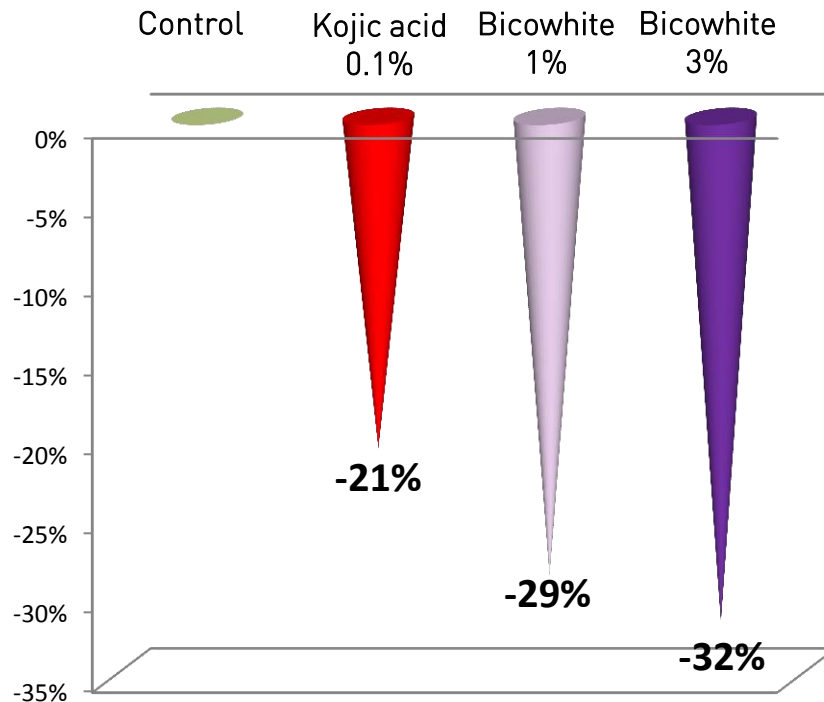


The intelligent structures of Bicowhite were designed to reach target skin layers and to block each process involved in the dark spot formation.

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BICOWHITE COMPLEX WHITENING ACTIVITY

MELANIN REDUCTION AFTER 4 APPLICATIONS



The whitening activity of Bicowhite was evaluated *in vitro* on reconstructed tissues of pigmented skin (prototype VI).

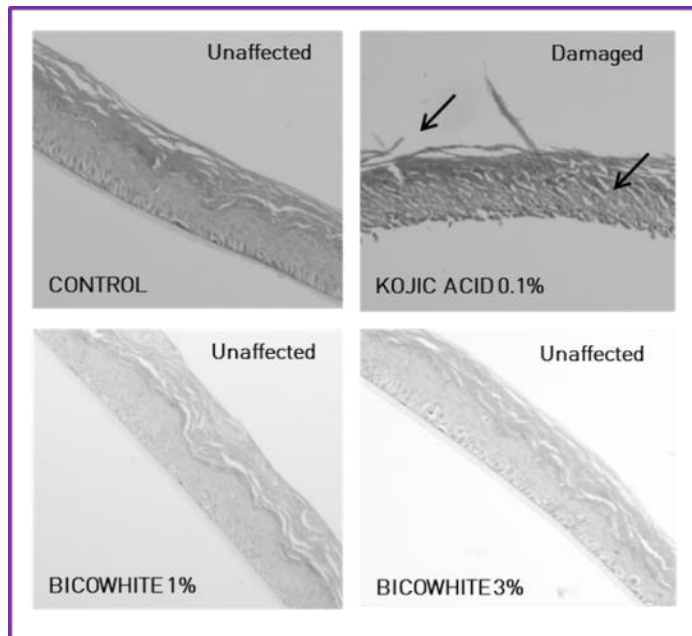
Bicowhite was tested at two concentrations, 1 and 3%, and compared with Kojic acid at 0.1% and a control sample not treated.

Bicowhite demonstrated higher capacity to decrease melanin content.

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BICOWHITE COMPLEX HYSTOLOGICAL ANALYSIS

Images of the tissues untreated (control) and treated with the test substances Kojic acid 0.1%, Bicowhite 1% and Bicowhite 3%.



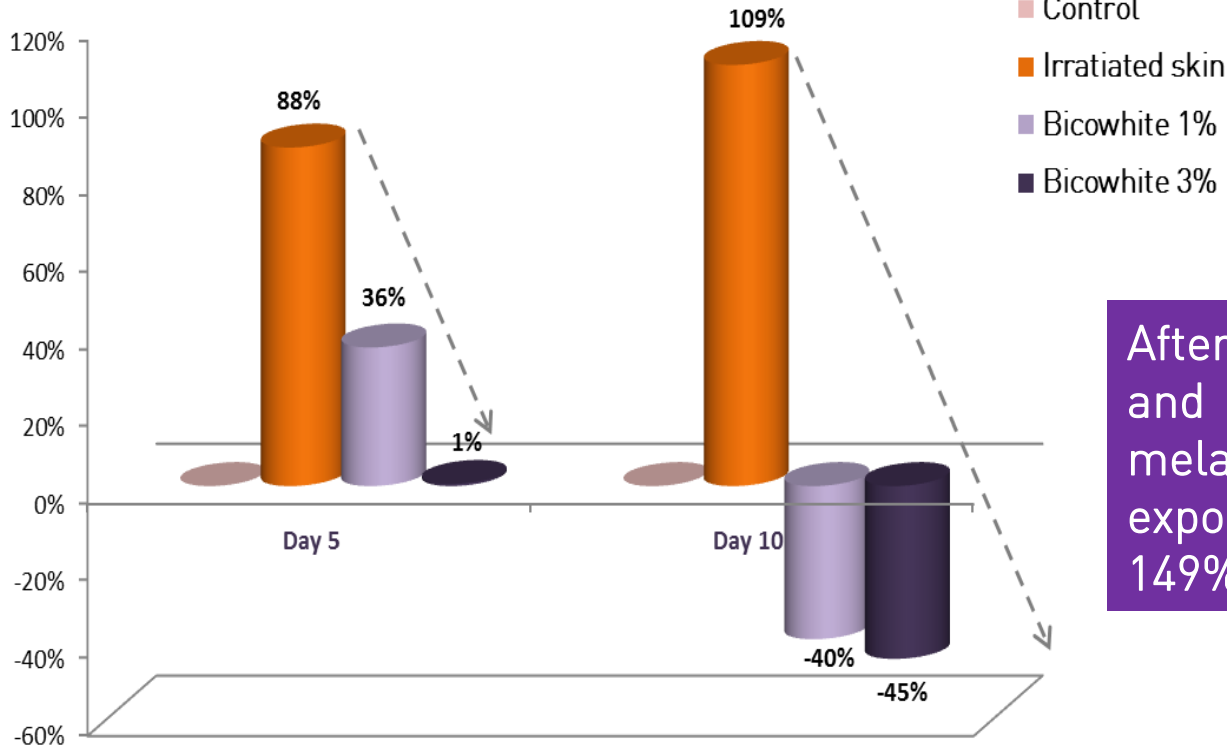
SAMPLE	HYSTOLOGICAL ANALYSIS	RESULTS
Control	Neither vascularization or necrosis in stratum corneum and granular layer	Unaffected tissue
Kojic Acid 0,1%	Vacuolization in granular layer and partial loss of stratum corneum	Medium damage of tissue
Bicowhite 1%	Neither vascularization or necrosis in stratum corneum and granular layer	Unaffected tissue
Bicowhite 3%	Neither vascularization or necrosis in stratum corneum and granular layer	Unaffected tissue

The treatment with Bicowhite does not affect the structure of the skin, as classical whitening treatments do.

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WHITENING ACTIVITY IN SKIN EXPOSED TO UV RADIATION

VARIATION OF MELANIN CONTENT IN
SKIN EXPOSED TO UV AND TREATD WITH
BICOWHITE 1% AND 3%DURING 10 DAYS



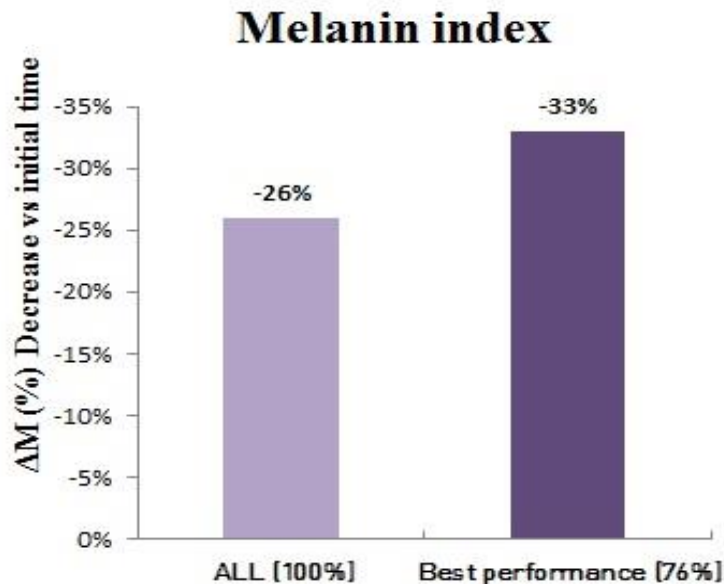
After 10 days, Bicowhite 1% and 3% REDUCED the melanin content of skin exposed to UV radiation in 149% and 154% respectively.

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IN VIVO EFFICACY STUDIES

DEPIGMENTING EFFECT

Melanin Index gives direct information on the capacity of the product to **DECREASE** the **MELANIN CONTENT** in the spots.



EXPERIMENT CONDITIONS:

20 volunteers

Female

Age 35-65

3% Bicowhite Gel Formulation
twice a day/56 days.

Treatment with Bicowhite **REDUCED** **ΔM** by **26%** after 56 days.

76% of the volunteers presented $\Delta M \geq -10\%$. In this group, the decrease of **ΔM** reached **-33%**.

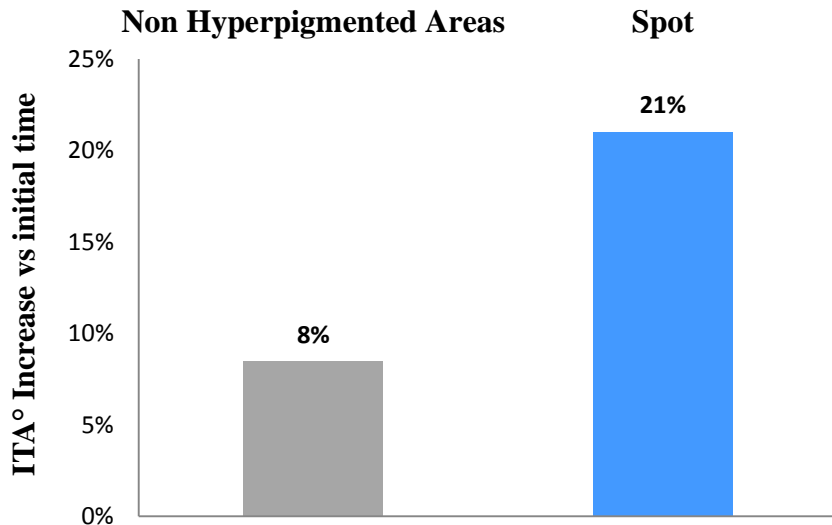
Treatment with Bicowhite **REDUCED** **ΔM** of the **SPOTS** up to **33%** after 56 days, with practically no variation on **ΔM** of the non hyperpigmented area, which indicates high specific depigmenting effect.

* ΔM (%) = Melanin Index Spot area - Melanin index Adjacent area at day 0 and at day 56.

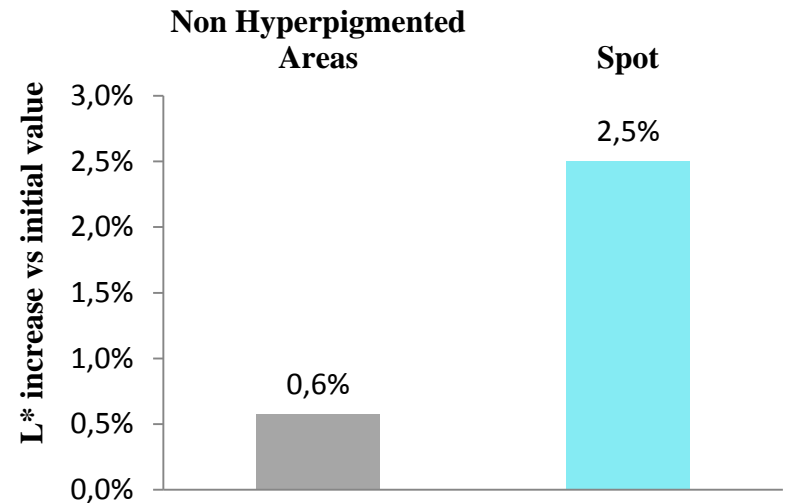
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WHITENING & LUMINOSITY EFFECT

I.T.A.^o = whiteness of the skin.



L* = brightness of the skin.



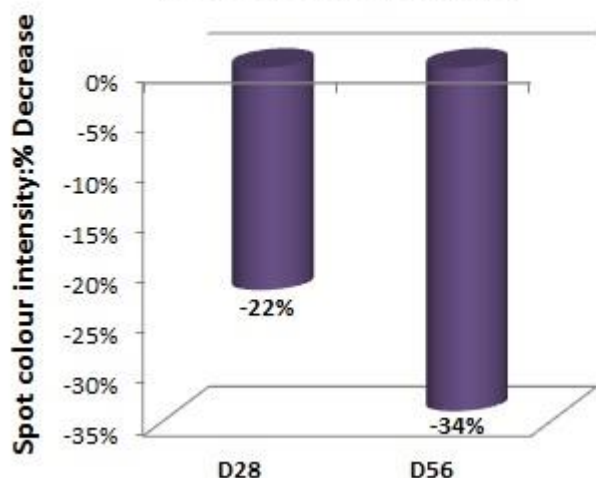
The treatment with Bicowhite gel at 3% produced a real, visible effect in terms of whitening and brightening the skin after 56 days of treatment.

Bicowhite increased I.T.A.^o and L* in both spot and non-hyperpigmented areas.
The effect is more intense in the SPOT areas, indicating the specificity of the treatment.

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SPOT COLOUR INTENSITY

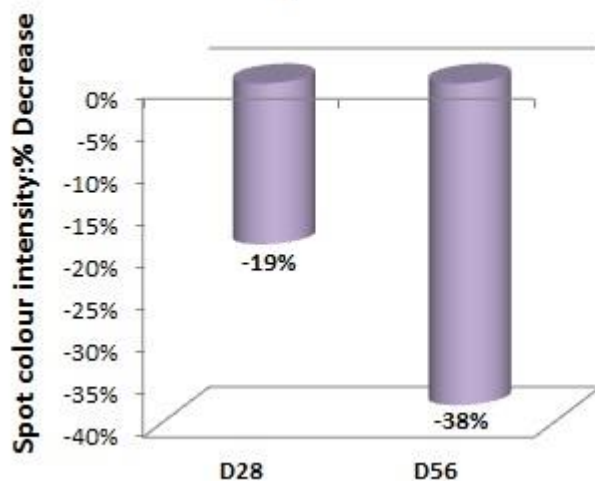
Clinical Evaluation



The dermatologist evaluation indicated that after treatment with Bicowwhite 3% gel, the spot colour intensity **DECREASED** in **22%** (D28) and **34%** (D56).

Bicowwhite **PROMOTES** a decrease in the spot color intensity after 28 and 56 days of treatment.

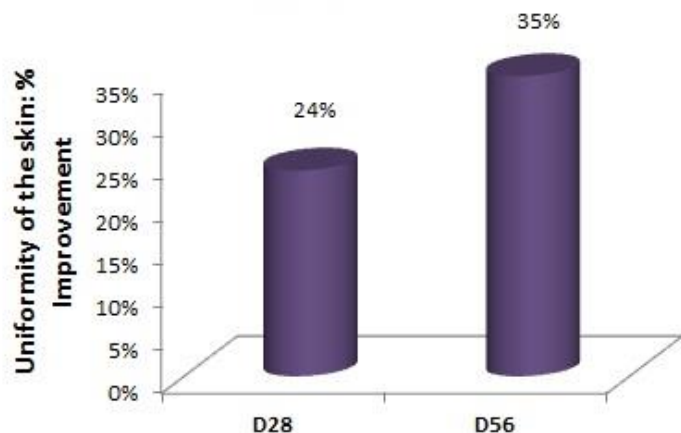
User Self-assessment



The volunteers self-assessment pointed to a **REDUCTION** of the spot colour intensity of **38%** in D56, which is almost double that reduction seen on day 28.

UNIFORMITY OF THE SKIN

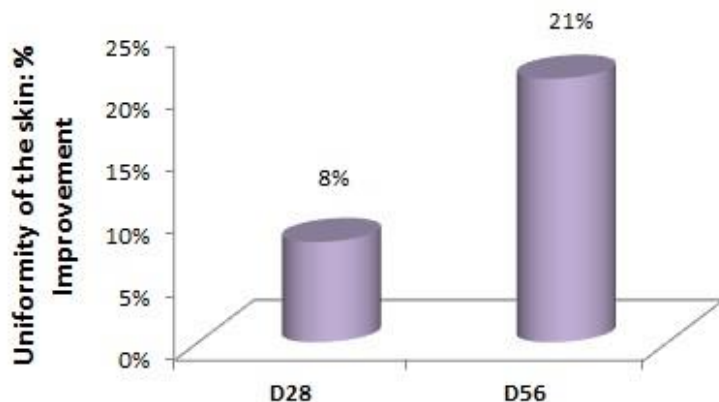
Clinical Evaluation



The dermatologist evaluation indicated an **IMPROVEMENT** of **35%** of the uniformity of the skin after 56 day of treatment.

Bicowhite **PROMOTES** more even skin tone after 28 and 56 days of use. The continuous use of the product improves its effectiveness

User Self-assessment



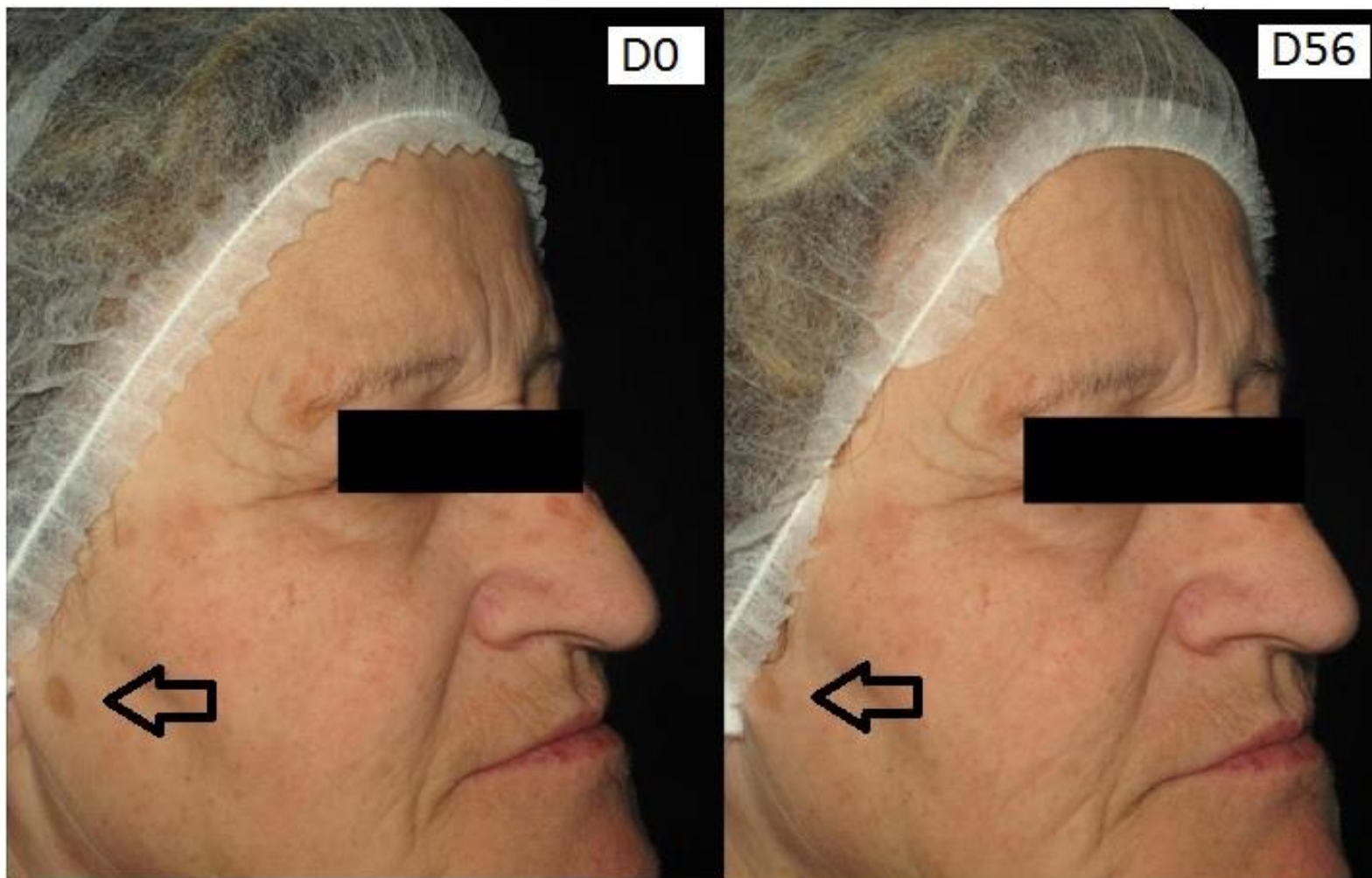
The volunteers self-assessment pointed to an **IMPROVEMENT** of **21%** in the uniformity of the skin after 56 days of application.

SPOT COLOUR INTENSITY & UNIFORMITY OF THE SKIN



High resolution photos of front face of a volunteer before and after 56 days of treatment with BW gel. An improvement of the most relevant spot is pointed.

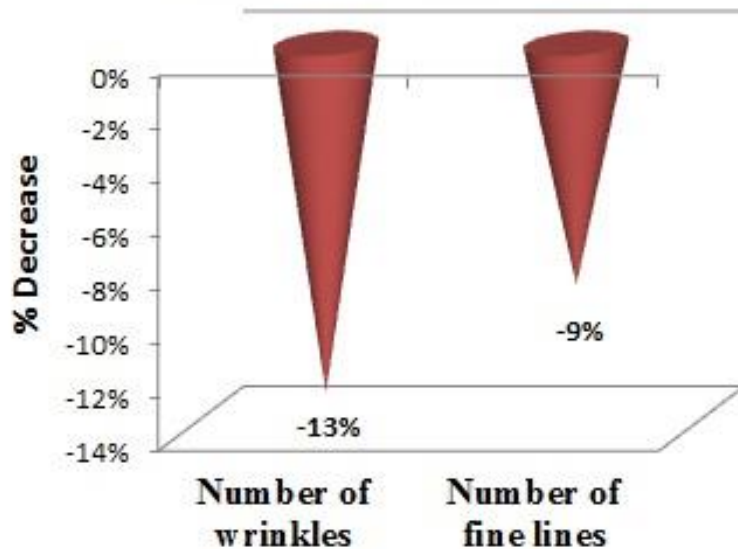
SPOT COLOUR INTENSITY & UNIFORMITY OF THE SKIN



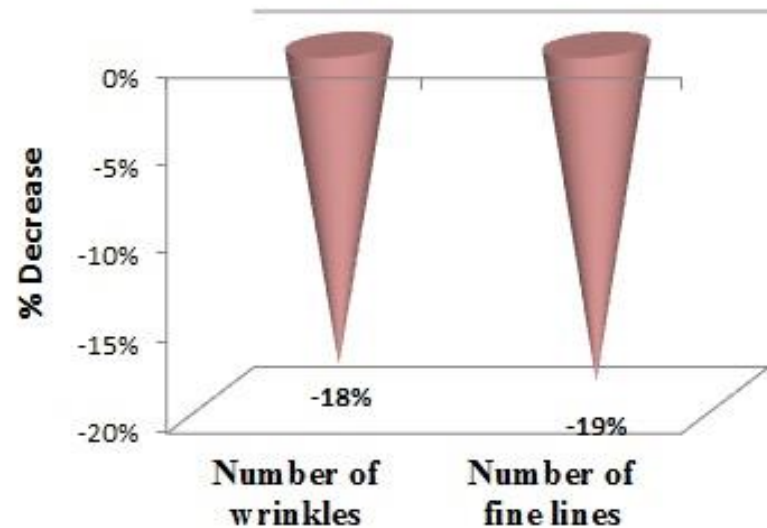
High resolution photos of lateral face of a volunteer before and after 56 days of treatment with BW gel. An improvement of the most relevant spot is pointed.

REDUCTION OF WRINKLES AND FINE LINES

Clinical Evaluation



User Self-assessment



Both clinical and volunteers self-assessment indicated an improvement of the appearance of wrinkles and fine lines after 56 days of treatment with Bicowhite 3% gel.

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REDUCTION OF WRINKLES AND FINE LINES



High resolution photos of the front of two volunteers before and after 56 days of treatment with Bicowhite 3% gel. An improvement of the front wrinkles is pointed.

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SUMMARY OF BICOWHITE FEATURES



- Introduces a **MULTI-TARGET** delivery strategy to incorporate and delivery 5 complementary whitening ingredients in the skin.
- Combines different mechanism of action, simultaneously **PREVENTING** and **BLOCKING** the main processes involved in the formation of dark spots.
- **REDUCES** melanin content in regular conditions and when skin is submitted to UV radiation, indicating the product may effective also in sunny seasons.
- **PROTECTS** the skin structures during the treatment, avoiding damages in the tissue.
- Demonstrates to be **HIGHLY EFFECTIVE** and **SPECIFIC** in depigmenting dark spots, whitening, brightening, unifying skin tone in *in vivo studies* under Dermatological control.
- In clinical evaluation indicates a **DECREASE** of wrinkles and fine lines.

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TECHNICAL INFORMATION

- Recommended dosage: 1-3%
- pH range: 4 – 8
- Bicowhite Complex is available in liquid form.
- Compatible with creams, lotions, gels, serums and other skin care liquid or anhydrous formulations.



EXAMPLES OF PRODUCTS

- WHITENING LOTIONS
- AGE SPOTS LIGHTENERS
- BRIGHTENING CREAMS
- RADIANCE SERUMS
- LIGHTENING ESSENCES
- BRIGHTENING EMULSIONS
- LIGHTENING MAKE-UP

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THANK YOU