



BIOGRÜNDL, S.L.
POLÍGONO LES FALLULLES, NAVE 34 -SECTOR 2-
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TECHNICAL DATA SHEET

BURDOCK EXTRACT **/ A / HGL / CA11 /**



Trade Name: BURDOCK EXTRACT / A / HGL / CA11 /

Product Code: EBAAHGLCA11.

INCI Name: AQUA, GLYCERIN, ARCTIUM LAPPA ROOT EXTRACT, POTASSIUM SORBATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 84012-13-5; 24634-61-5 / 590-00-1.

EC Number: 231-791-2; 200-289-5; 281-658-8; 246-376-1.

Origin: GLYCERIN: Vegetable origin.

ARCTIUM LAPPA ROOT EXTRACT: Vegetable origin.

POTASSIUM SORBATE: Synthetic origin.

Processing: GMO Free. / No Ethoxylation. / No Irradiation. / No Sulphonation. / No BSE/TSE. / No CMR. / No SVHC. / No Nanomaterial. / No DEG. / No DEHP. / No Formaldehyde. / No Phthalates. /

Additives: Preservatives: Potassium sorbate. Paraben Free. / Antioxidants: None. / Other additives: None.

Solvents Used: Water and glycerin.

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 1,050 - 1,300 g/cm³ (20°C approx.).

Direct pH value: 4,5 - 6,5 (20°C approx.).

Soluble/ Miscible: Water. Surfactants. Hydroalcoholic, hydroglyceric and hydroglycolic mixtures.

Ecological Information: Sustainable.

Microbial Count: **Total aerobics:** Max. 300 microorganisms / gram.

Fungi and yeasts: Max. 200 microorganisms / gram.

Pathogens: Total absence in 1 gram.

Suggested Use Levels: 2,0 – 10,0%.

Suggested Applications: Antiseborrheic, eczematous with fat and/or impurities skin preparations. Fatty, seborrheic and/or prone to fall hair treatments.

Properties: Cleansing, antiseborrheic and sebaceous gland regulatory function.

Industrial packing: 1Kg., 5Kg., 25Kg.

Storage conditions: It is very important to keep the product in well closed containers, away from direct sunlight at temperatures not over 15°C. In case of not having refrigerators, store the product in the coolest and free from artificial light area.

Bibliography: - Atlas Ilustrado de Plantas Medicinales y Curativas, Ed. Susaeta.

- Dumont's grosse Kräuter Enzyklopädie.

- Fitocosméticos ALVAREZ CRUZ i BAGUE SERRANO.

- Gran enciclopedia de las plantas medicinales, BERDONCES i SERRA.

- Plantas medicinales, FONT i QUER.

- Proserpio G., Martelli A., Patri GF.; Elementi di Fitocosmeci; Ed. Sepem / Milano 1983.

- Websites.



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OVERVIEW

Burdock (*Arctium lappa* L.) is a biennial herb, belonging to the composite family, within tubuliflorae subfamily.

To obtain BURDOCK EXTRACT, BIOGRÜNDL, S.L. uses the root, since in this part is where most of the active ingredients concentrated are.

As active materials includes carbohydrates inulin, mucilages, polyphenols (chlorogenic and caffeic acids) and phytosterols. It also contains an essential oil comprising polyacetylenic compounds, hydrocarbons and sulfur acid (Arctic acid).

It also presents a bitter matter called lapaline.

USE AND DOSAGE

The incorporation of burdock extract in cosmetics is justified by its recognized cleansing, antiseborrheic and sebaceous gland regulatory function properties. So, its use is very suitable in preparations for antiseborrheic, eczematous, with fat and/or impurities skin. It emphasizes its good qualities in the treatment of fatty, seborrhoeic and/or prone to fall hair.

If turbidity is observed, it is advisable to previously dissolve the product in a portion of the water provided to manufacture the final product and filter after 12-24 hours.

The recommended concentrations of use are between 2% and 10%. For very special effects the dosage can raise up to 15%.



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PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Direct pH value: 4,5 - 6,5 (20°C approx.).

Specific gravity: 1,050 - 1,300 g/cm³ (20°C approx.).

Solubility in water: Fully soluble (20°C approx.).

Solubility in other solvents: Insoluble in organic solvents and lipids. Soluble in surfactants, hydroalcoholic, hydroglyceric and hydroglycolic mixtures.

Heavy metals: No more than 5 mg/Kg.

Sulfated ash: No more than 0,01%.

Chlorides: No more than 0,007%.

Sulfates: No more than 0,002%.

Other information: None.

Total aerobics: Max. 300 microorganisms / gram.

Fungi and yeasts: Max. 200 microorganisms / gram.

Pathogens: Total absence in 1 gram.

DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% BURDOCK EXTRACT by BIOGRÜNDL, S.L., was added to an O/W emulsion; 0,5g. of this emulsion was poured over the patch and attached on the forearm. It is thus maintained for 24, 48 and 72 hours, after which, the given reaction was evaluated, according to the following table of values:

1. No erythema.
2. Slight erythema.
3. Well defined erythema.
4. Severe erythema.

The result was absence of erythema on the 10 volunteers.

On the recommended concentrations, the product is skin innocuous.



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STORAGE CONDITIONS

It is very important to keep the product in well closed containers, away from direct sunlight at temperatures not over 15°C. In case of not having refrigerators, store the product in the coolest and free from artificial light area.

INCI DENOMINATION

AQUA, GLYCERIN, ARCTIUM LAPPA ROOT EXTRACT, POTASSIUM SORBATE.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Anti-hair loss action. Antiseborrheic action.

N (volunteers): 30 (18 ♀ and 12 ♂).

Age (volunteers): 18 – 65 years old.

Left side part to be treated:

Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

BURDOCK EXTRACT 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

BURDOCK EXTRACT 5%, 15 volunteers, suitable cosmetic base.



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Assayed parameters:

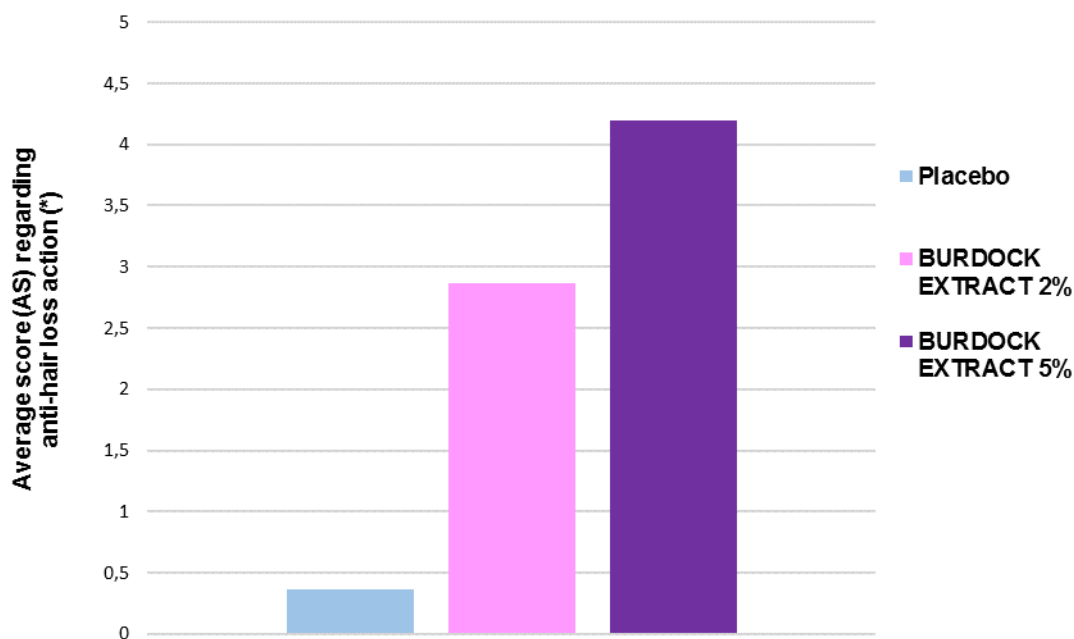
	Assay	N (volunteers)	Age (volunteers)	Placebo	BURDOCK EXTRACT 2%	BURDOCK EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Anti-hair loss action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 18 ♀ 12 ♂	18 – 65	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 10	D' = 1
Antiseborrheic action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 18 ♀ 12 ♂	18 – 45	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 10	D' = 10



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HAIR/SCALP CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-hair loss action was determined by hair amount quantification collected in a brush or a comb, from volunteers.

Total number of days in which the assay was performed (treatment was applied):
D = 10 days (every three days during the effectiveness test).

Total number of days in which the results were measured:
D' = 1 day (effectiveness test last day).

Average score:

Worst result: Zero limit value is assigned.

Best result: Five limit value is assigned.

Score is assigned to obtained results between the two limit values.

Average computation for each obtained results group is done:

Placebo, 2% BURDOCK EXTRACT by BIOGRÜNDL, S.L., 5% BURDOCK EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

AS rank between 1 – 2: Slight improvement regarding placebo.

AS rank between 2 – 3: Appreciable improvement regarding placebo.

AS rank between 3 – 4: Great improvement regarding placebo.

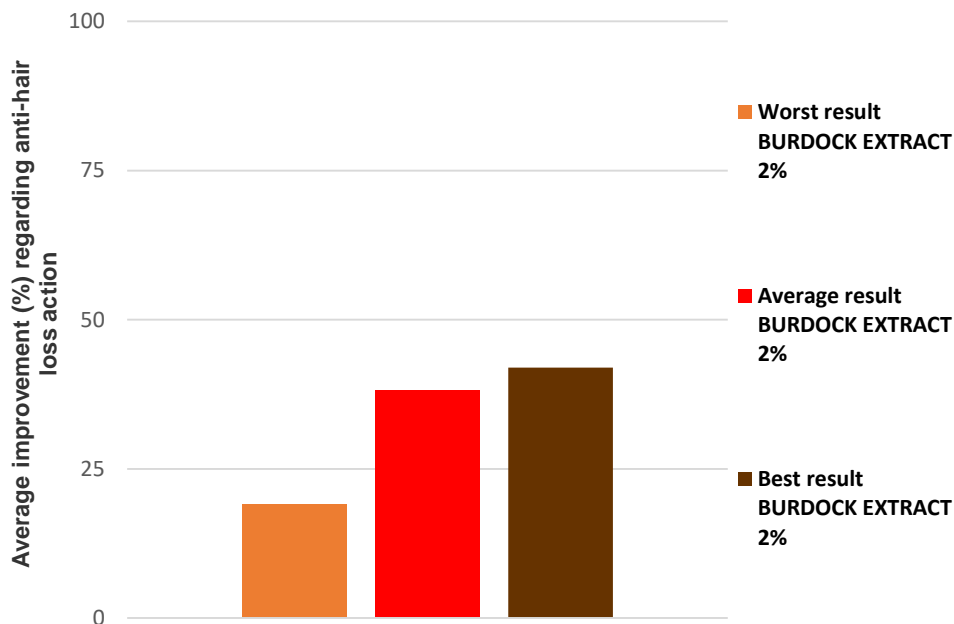
AS rank between 4 – 5: Excellent cosmetic result.



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BURDOCK EXTRACT 2%



Results:

Worst result BURDOCK EXTRACT 2%: **19%**.
Average result BURDOCK EXTRACT 2%: **38,1%**.
Best result BURDOCK EXTRACT 2%: **42%**.

Results meaning:

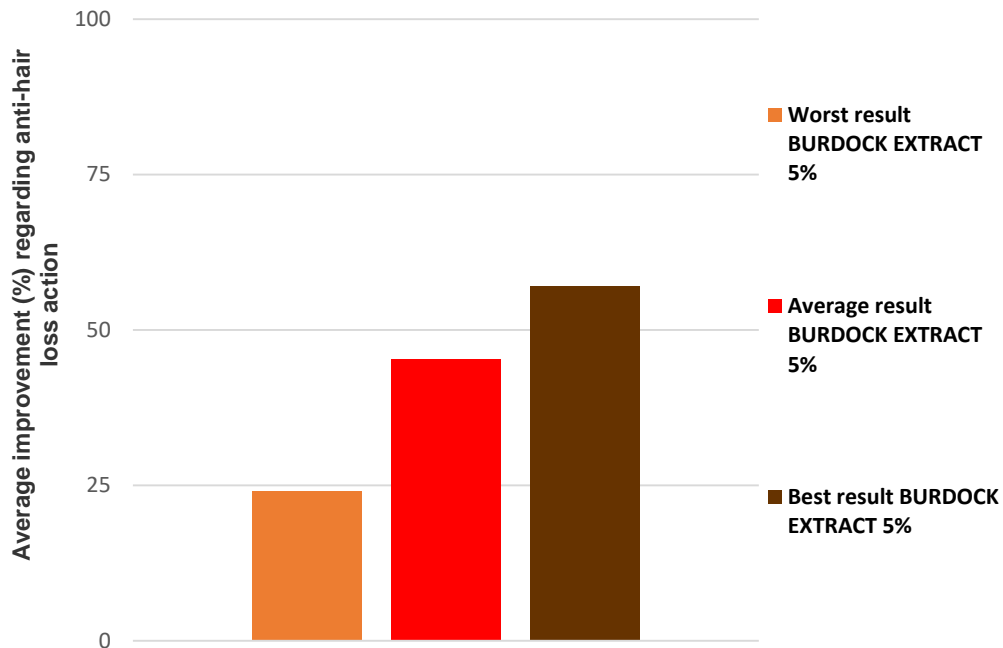
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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BURDOCK EXTRACT 5%



Results:

Worst result BURDOCK EXTRACT 5%: 24%.

Average result BURDOCK EXTRACT 5%: 45,3%.

Best result BURDOCK EXTRACT 5%: 57%.

Results meaning:

AI rank between < 20%: No significant changes.

AI rank between 21 – 40%: Slight improvement regarding placebo.

AI rank between 41 – 60%: Appreciable improvement regarding placebo.

AI rank between 61 – 80%: Great improvement regarding placebo.

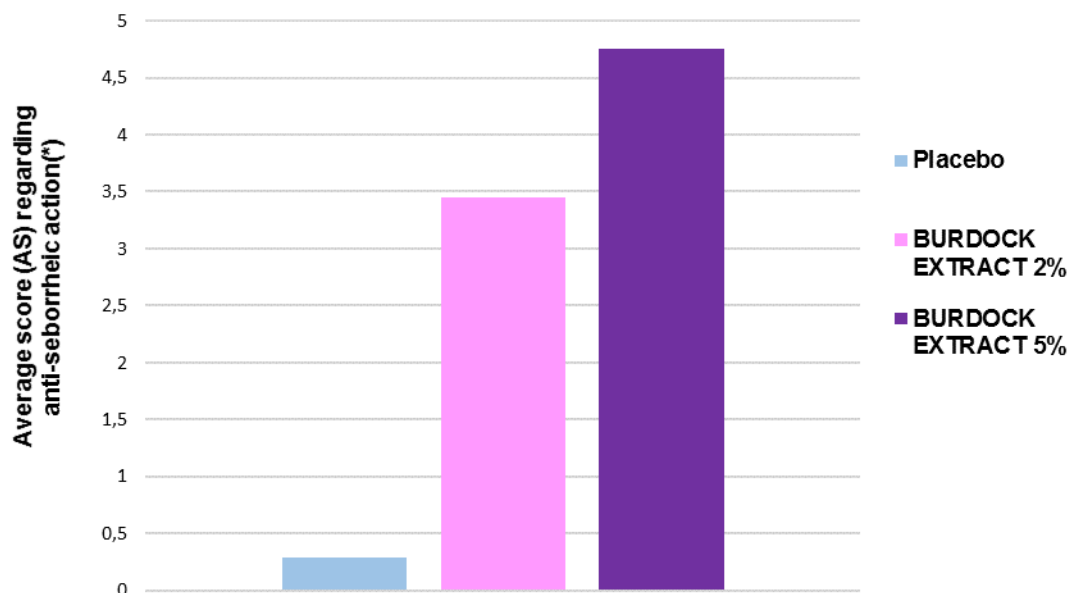
AI rank between > 81%: Excellent cosmetic result.



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HAIR/SCALP CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-seborrheic action was determined by quantification of fat substance amount collected from volunteers hair sample.

Total number of days in which the assay was performed (treatment was applied):
D = 10 days (every three days during the effectiveness test).

Total number of days in which the results were measured:
D' = 1 day (effectiveness test last day).

Average score:

Worst result: Zero limit value is assigned.

Best result: Five limit value is assigned.

Score is assigned to obtained results between the two limit values.

Average computation for each obtained results group is done:

Placebo, 2% BURDOCK EXTRACT by BIOGRÜNDL, S.L., 5% BURDOCK EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

AS rank between 1 – 2: Slight improvement regarding placebo.

AS rank between 2 – 3: Appreciable improvement regarding placebo.

AS rank between 3 – 4: Great improvement regarding placebo.

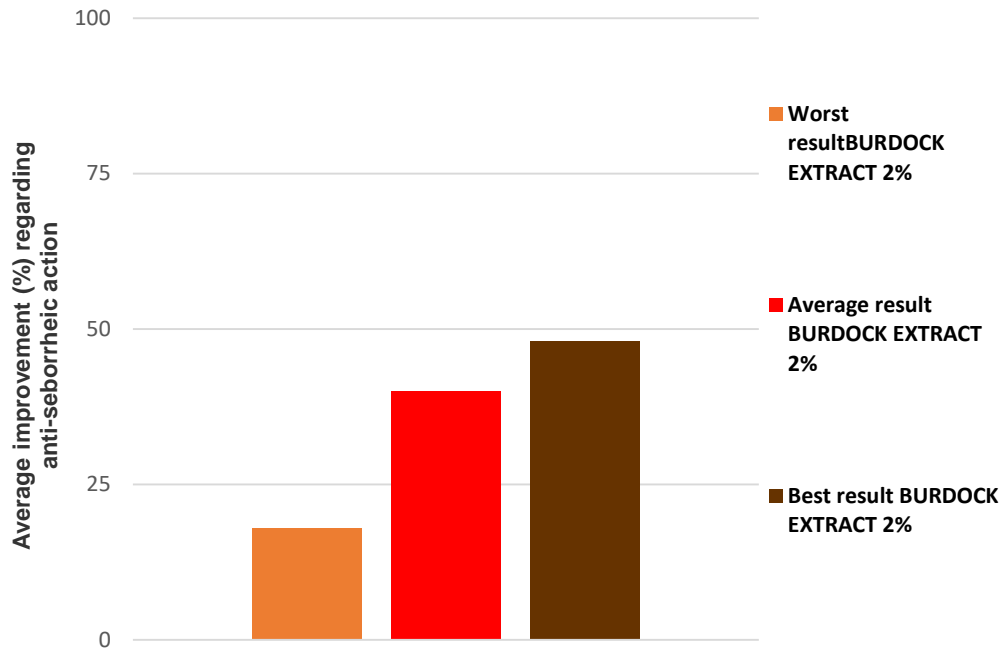
AS rank between 4 – 5: Excellent cosmetic result.



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BURDOCK EXTRACT 2%



Results:

Worst result BURDOCK EXTRACT 2%: 18%.
Average result BURDOCK EXTRACT 2%: 40%.
Best result BURDOCK EXTRACT 2%: 48%.

Results meaning:

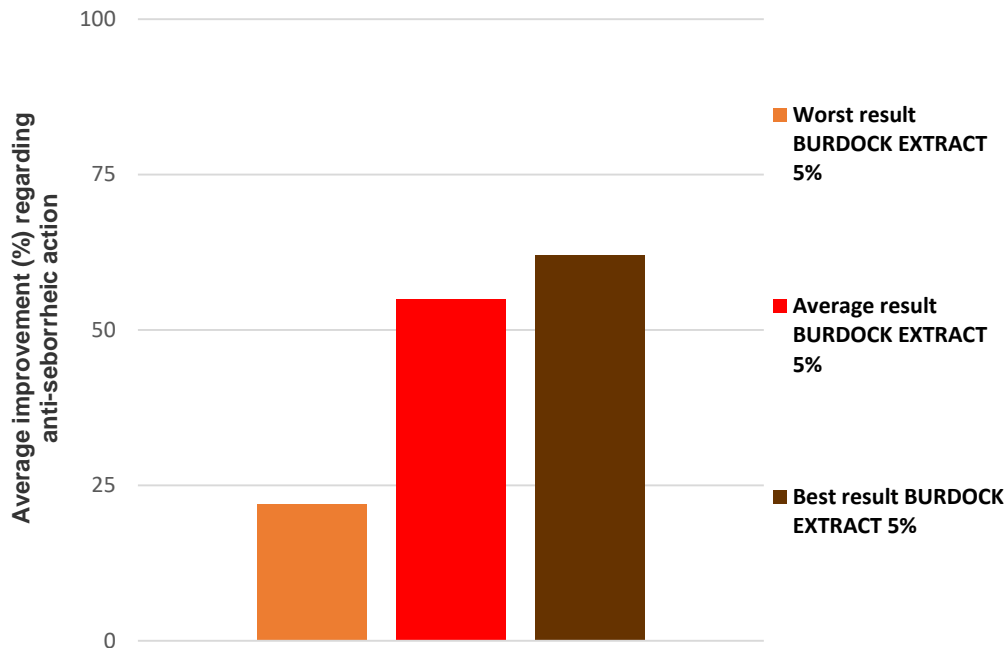
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
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BURDOCK EXTRACT 5%



Results:

Worst result BURDOCK EXTRACT 5%: **22%**.
Average result BURDOCK EXTRACT 5%: **55%**.
Best result BURDOCK EXTRACT 5%: **62%**.

Results meaning:

AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.