

TECHNICAL DATA SHEET

WILLOW EXTRACT / AEC / HGL / CA20 /



Trade Name: WILLOW EXTRACT / AEC / HGL / CA20 /

Product Code: CESA AHGLC20.

INCI Name: AQUA, GLYCERIN, SALIX ALBA BARK EXTRACT, POTASSIUM SORBATE, SODIUM BENZOATE.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 84082-82-6; 24634-61-5/ 590-00-1; 532-32-1.

EC Number: 231-791-2; 200-289-5; 282-029-0; 246-376-1; 208-534-8.

Origin: GLYCERIN: Vegetable origin.

SALIX ALBA BARK EXTRACT: Vegetable origin.



POTASSIUM SORBATE: Synthetic origin.

SODIUM BENZOATE: 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, Sodium Benzoate. 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: Pain, wound and inflammation treatment. Oily and impure skin products. Products to treat greasy or prone to premature fall hair. Greasy dandruff treatment. Functional massages.

Properties: Astringent, anti-inflammatory, calming, restorative, anti-wrinkle and anti-hair loss.

Industrial packing: 1Kg., 5Kg., 25Kg., 225Kg.

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

Willow (*Salix alba* L.) is a tree belonging to the Salicaceae family, widespread throughout the northern hemisphere. Leaves are gray-green colour, lanceolate shaped; flowers in cylindrical catkins, the fruit is a brown ovoid capsule.

WILLOW EXTRACT by BIOGRÜNDL, S.L. ecological agriculture plant is obtained from the bark of young branches, treating it with a mixture of water and glycerin, whereby the following active ingredients are obtained:

- Phenolic glycosides such as salicin, fragiline, triandine, vimaline, salidroside and salicortin.
- Catechic tannins.
- Estrogenic activity actives.

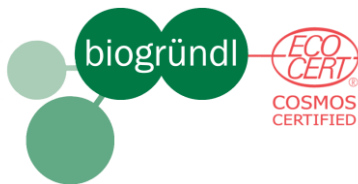
USE AND DOSAGE

The incorporation of willow extract in cosmetics is justified by its astringent; anti-inflammatory; muscle, joint, rheumatic, arthritic and arthrosic pain reliever; restorative; anti-wrinkle and hair loss treatment properties.

It is used in preparations to treat all types of pain, wounds or inflammation. Also, in products for oily and impure skin. In hair cosmetic to treat greasy or prone to premature fall hair, as well as, in greasy dandruff treatment. Very interesting its inclusion in functional massage products.

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.

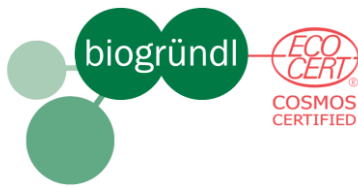
DERMATOLOGY INNOCUOUSNESS

It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% WILLOW 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, SALIX ALBA BARK EXTRACT, POTASSIUM SORBATE, SODIUM BENZOATE.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Calming action. Anti-wrinkle action. Anti-hair loss action.

N (volunteers): 30 (16 ♀ and 14 ♂).

Age (volunteers): 23 – 65 years old.

Left side part to be treated:

Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

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

Right side part to be treated:

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

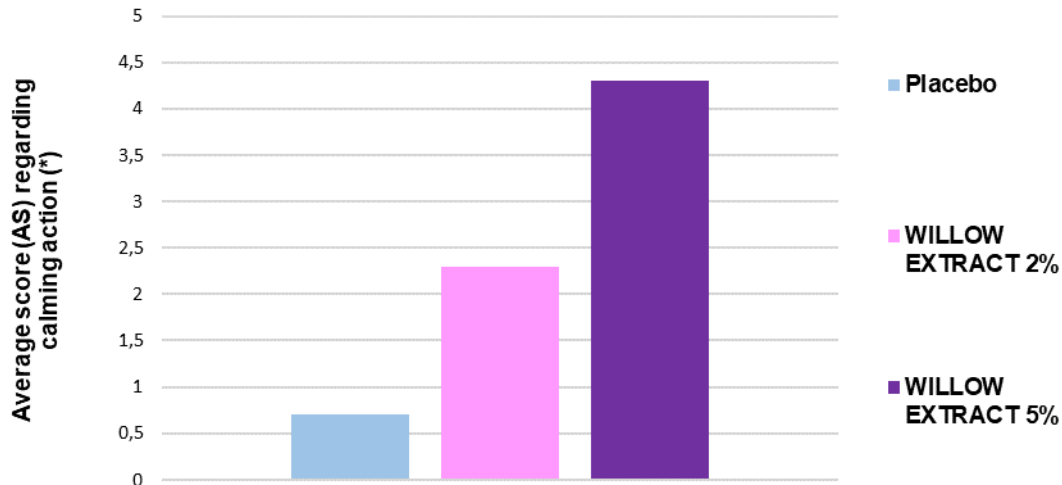
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Assayed parameters:

	Assay	N (volunteers)	Age (volunteers)	Placebo	WILLOW EXTRACT 2%	WILLOW EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Calming action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	23 – 65	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 30
Anti-wrinkle action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	30 – 65	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1
Anti-hair loss action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	23 – 65	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 10	D' = 1

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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Calming action was measured by itch, redness and warm feeling decrease, by subjective assessment from volunteers, in the treated skin zone.

Total number of days in which the assay was performed (treatment was applied):
 D = 30 days (every day during the effectiveness test).

Total number of days in which the results were measured:
 D' = 30 days (every day during the effectiveness test).

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% WILLOW EXTRACT by BIOGRÜNDL, S.L., 5% WILLOW EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

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

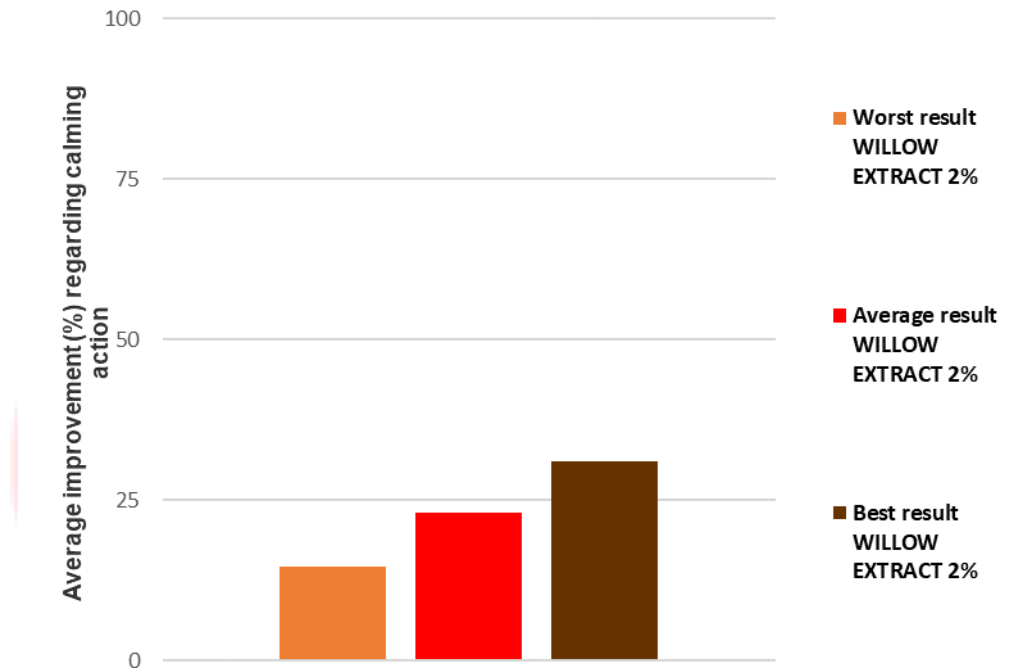
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

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WILLOW EXTRACT 2%



Results:

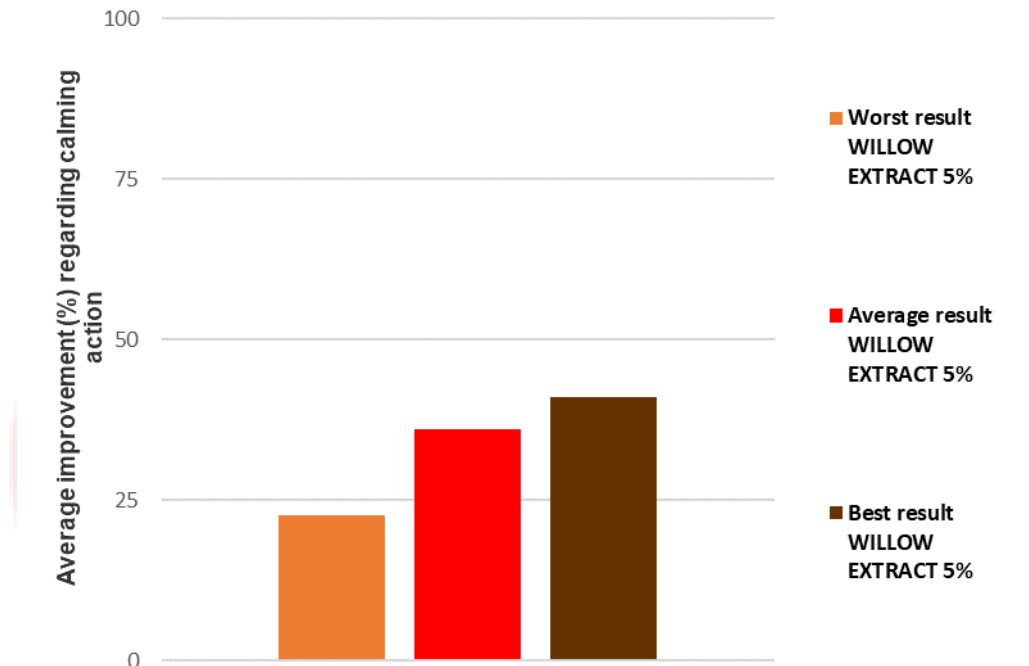
Worst result WILLOW EXTRACT 2%: **14,5%**.
 Average result WILLOW EXTRACT 2%: **23%**.
 Best result WILLOW EXTRACT 2%: **31%**.

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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WILLOW EXTRACT 5%



Results:

Worst result WILLOW EXTRACT 5%: 22,5%.

Average result WILLOW EXTRACT 5%: 36%.

Best result WILLOW EXTRACT 5%: 41%.

Results meaning:

AI rank between < 20%: No significant changes.

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

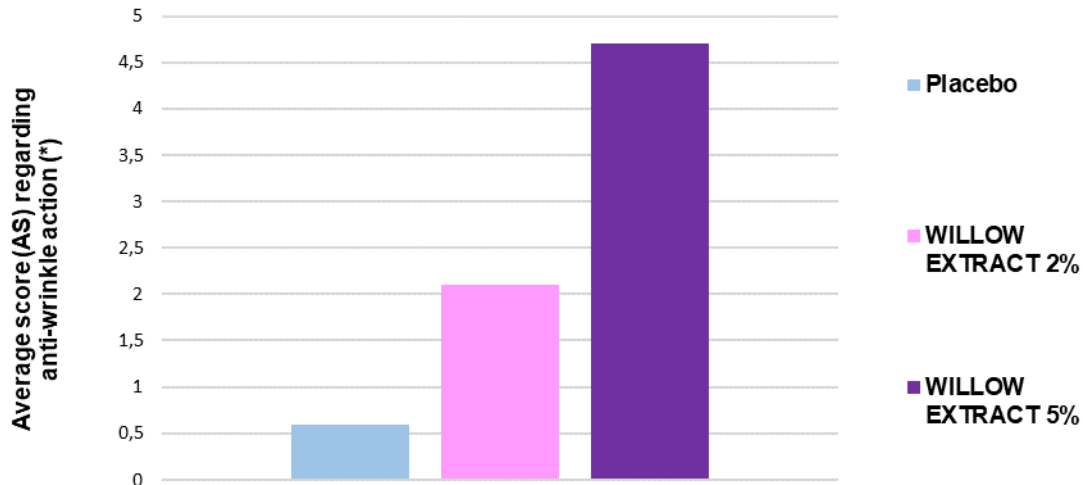
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

TECHNICAL DATA SHEET

SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-wrinkle action was determined by microscopic observation of depth and length of furrows, wrinkles and expression lines from volunteers.

Total number of days in which the assay was performed (treatment was applied):
 D = 30 days (every day 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% WILLOW EXTRACT by BIOGRÜNDL, S.L., 5% WILLOW EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

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

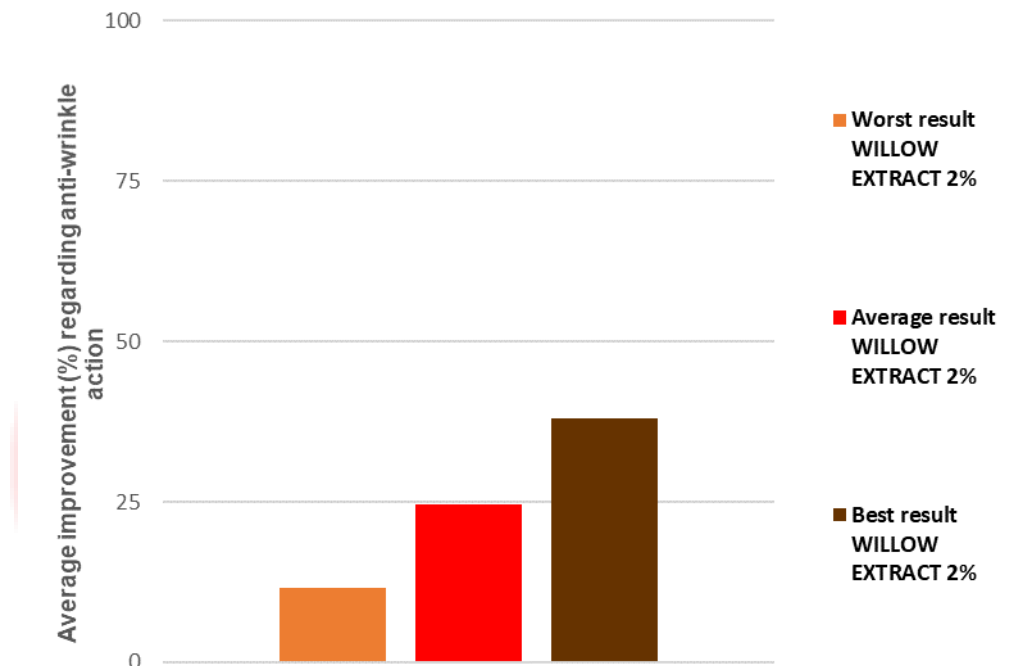
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

TECHNICAL DATA SHEET

WILLOW EXTRACT 2%



Results:

Worst result WILLOW EXTRACT 2%: **11,5%**.

Average result WILLOW EXTRACT 2%: **24,5%**.

Best result WILLOW EXTRACT 2%: **38%**.

Results meaning:

AI rank between < 20%: No significant changes.

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

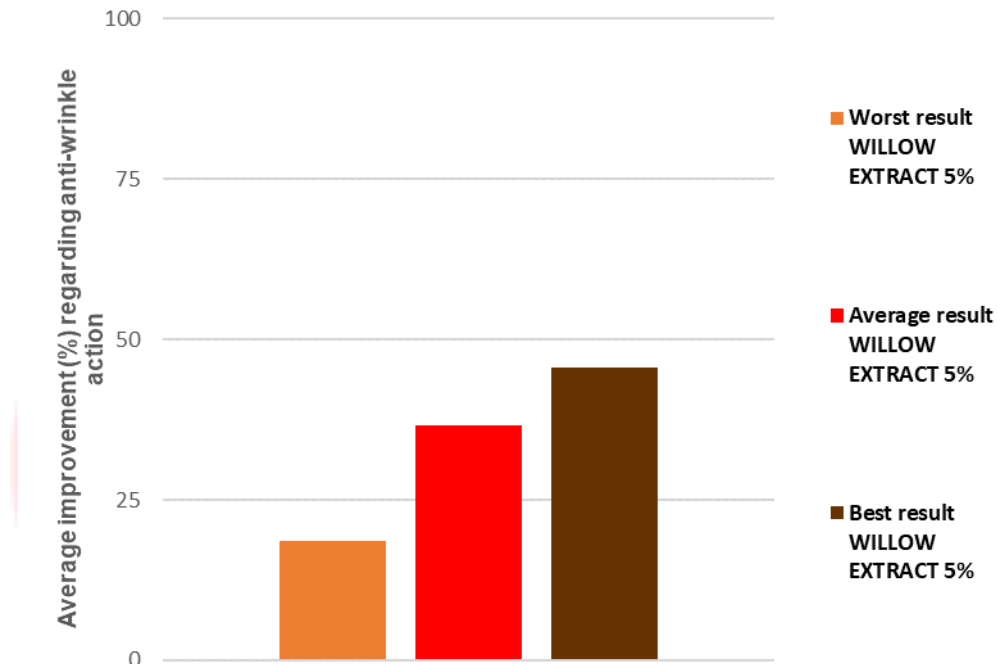
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

TECHNICAL DATA SHEET

WILLOW EXTRACT 5%



Results:

Worst result WILLOW EXTRACT 5%: 18,5%.

Average result WILLOW EXTRACT 5%: 36,5%.

Best result WILLOW EXTRACT 5%: 45,5%.

Results meaning:

AI rank between < 20%: No significant changes.

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

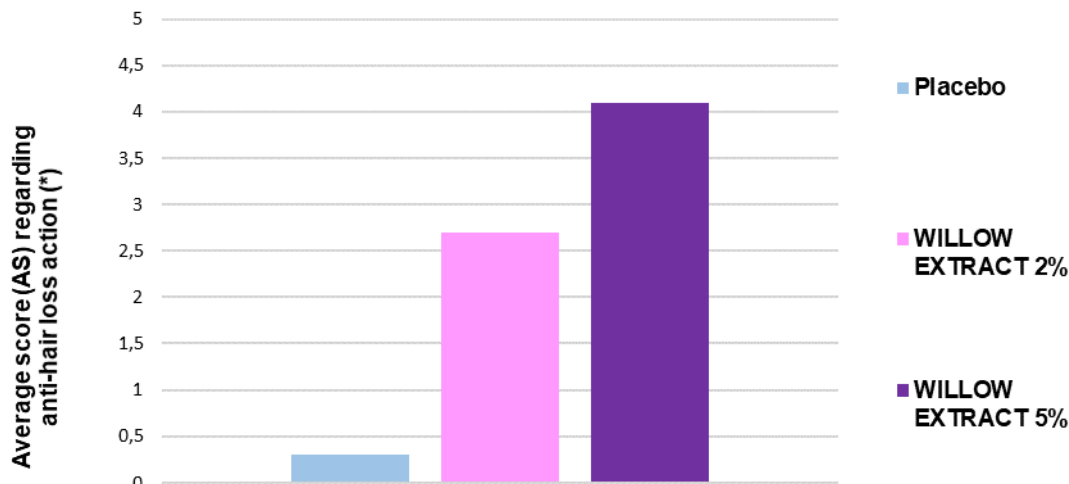
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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-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% WILLOW EXTRACT by BIOGRÜNDL, S.L., 5% WILLOW EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

AS rank between 0 – 1: No significant changes.

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

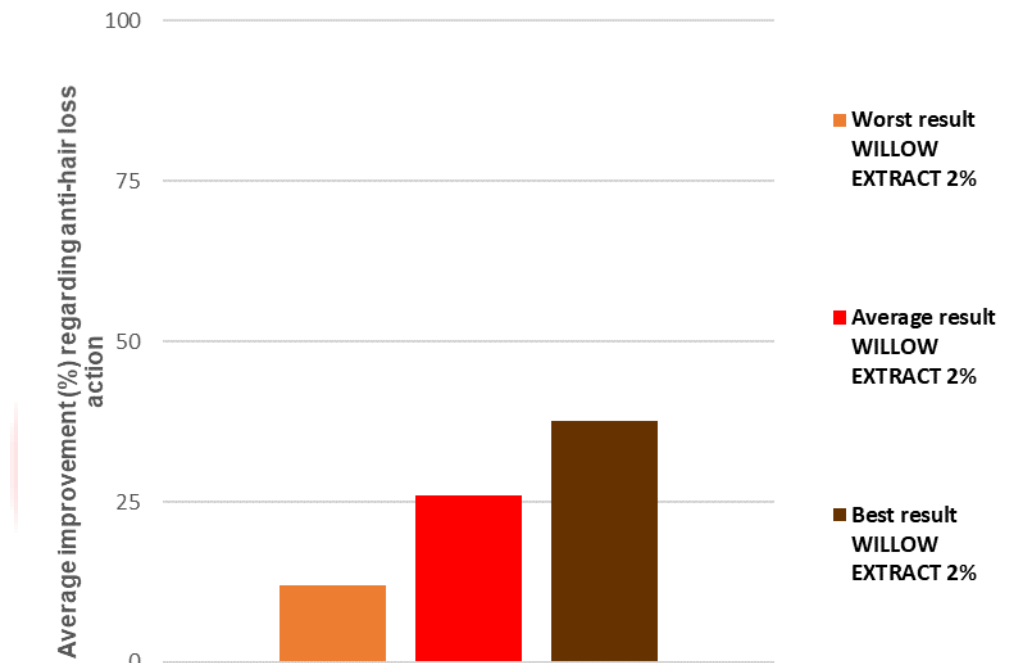
AS rank between 2 – 3: Appreciable improvement regarding placebo.

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

AS rank between 4 – 5: Excellent cosmetic result.

TECHNICAL DATA SHEET

WILLOW EXTRACT 2%



Results:

Worst result WILLOW EXTRACT 2%: 12%.

Average result WILLOW EXTRACT 2%: 26%.

Best result WILLOW EXTRACT 2%: 37,5%.

Results meaning:

AI rank between < 20%: No significant changes.

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

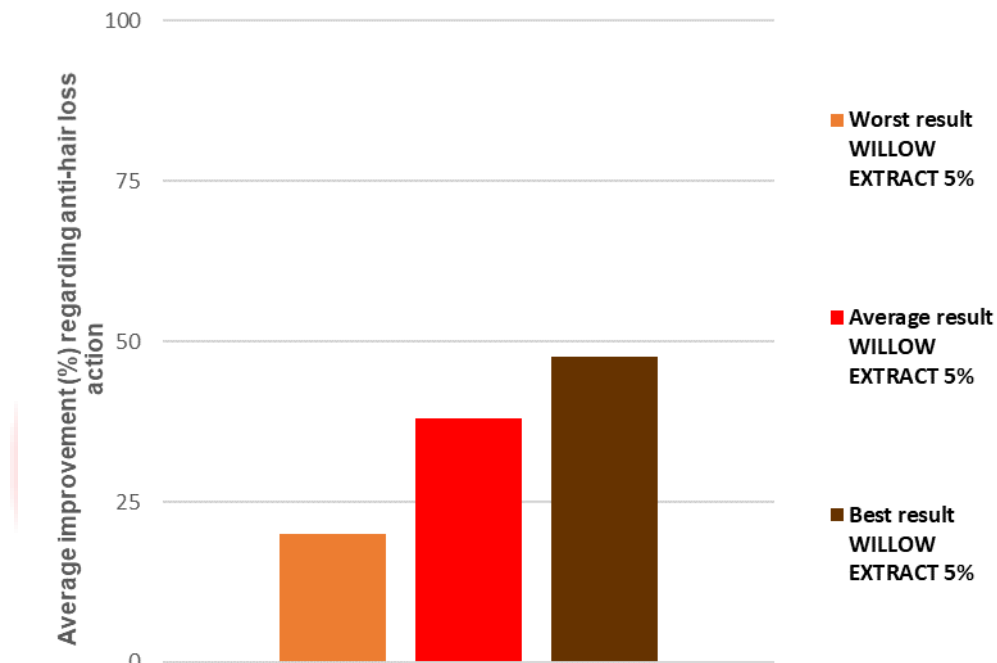
AI rank between 41 – 60%: Appreciable improvement regarding placebo.

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

AI rank between > 81%: Excellent cosmetic result.

TECHNICAL DATA SHEET

WILLOW EXTRACT 5%



Results:

Worst result WILLOW EXTRACT 5%: 20%.

Average result WILLOW EXTRACT 5%: 38%.

Best result WILLOW EXTRACT 5%: 47,5%.

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.