



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

MALLOW EXTRACT / A / HGL / CA11 /



Trade Name: MALLOW EXTRACT / A / HGL / CA11 /.
Product Code: EMVAHGLCA11.
INCI Name: AQUA, GLYCERIN, MALVA SYLVESTRIS FLOWER / LEAF EXTRACT, POTASSIUM SORBATE.
INCI Status: Conforms.
REACH Status: Low Volume Exemption.
CAS Number: 7732-18-5; 56-81-5; 84082-57-5; 24634-61-5 / 590-00-1.
EC Number: 231-791-2; 200-289-5; 282-003-9; 246-376-1.
Origin: GLYCERIN: Vegetable origin.
MALVA SYLVESTRIS FLOWER / LEAF 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: Weakened hair preparations. Toothpastes. Mouthwashes. Sensitive, aged, irritated or children skin lotions. After sunbathing products. Hand creams.
Properties: Emollient, calming, anti-inflammatory, protective, decongestant and anti-radical.
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.

OVERVIEW



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Mallow (*Malva sylvestris*) is a biennial or perennial herbaceous plant belonging to the Malvaceae family. It easily grows in Europe, Asia and Africa.

MALLOW EXTRACT by BIOGRÜNDL, S.L. is obtained from leaves and flowers treating them with a mixture of water and glycerin.

As main active ingredients includes anthocyanins (malvidin and malvine), flavonoids, mucilages, tannins, polyphenolic acids (chlorogenic and caffeic), as well as, A, B and C vitamins.

USE AND DOSAGE

The incorporation of mallow extract in cosmetics is justified by its emollient, calming, anti-inflammatory, protective, decongestant and anti-radical properties.

Its use is appropriate in preparations for weakened hair; in toothpastes and mouthwashes; in sensitive, aged, irritated or children skin lotions; in after sunbathing products, as well as, in hand creams.

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%.

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



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It was performed by the patch test (Patch test) on 10 volunteers. To this purpose, 15% MALLOW 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.

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, MALVA SYLVESTRIS FLOWER / LEAF EXTRACT, POTASSIUM SORBATE.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Emollient action. Calming action. Anti-inflammatory action.

N (volunteers): 30 (16 ♀ and 14 ♂).

Age (volunteers): 24 – 80 years old.

Left side part to be treated:

Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

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

Right side part to be treated:

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

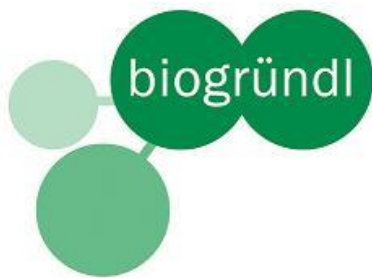


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Assayed parameters:

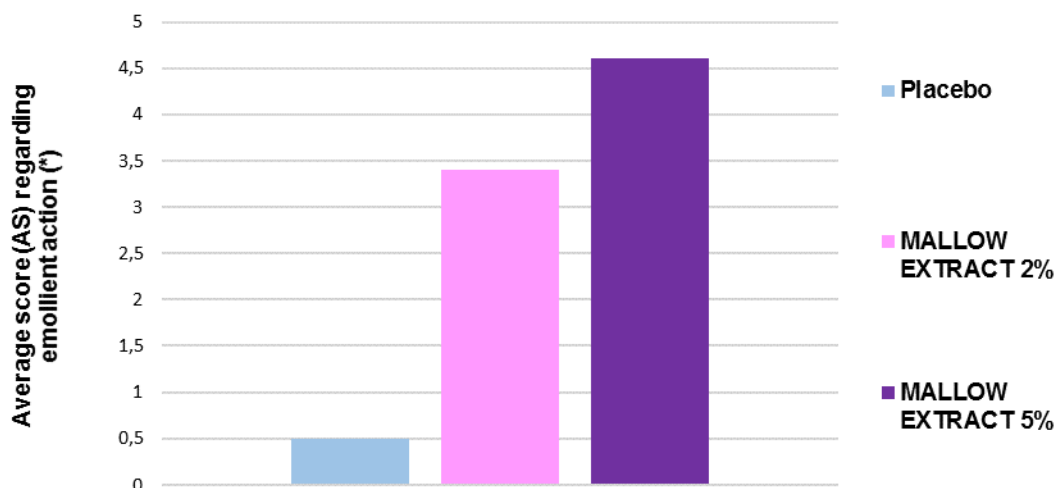
	Assay	N (volunteers)	Age (volunteers)	Placebo	MALLOW EXTRACT 2%	MALLOW EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Emollient action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	24 – 80	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1
Calming action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	24 – 80	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 30
Anti-inflammatory action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 16 ♀ and 14 ♂	24 – 80	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1



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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Emollient action was determined by softening degree of calluses on volunteers treated body 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' = 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% MALLOW EXTRACT by BIOGRÜNDL, S.L., 5% MALLOW EXTRACT by BIOGRÜNDL, S.L..

Results meaning:

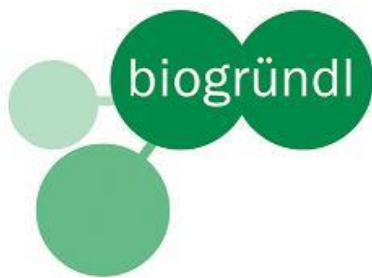
AS rank between 0 – 1: No significant changes.

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.

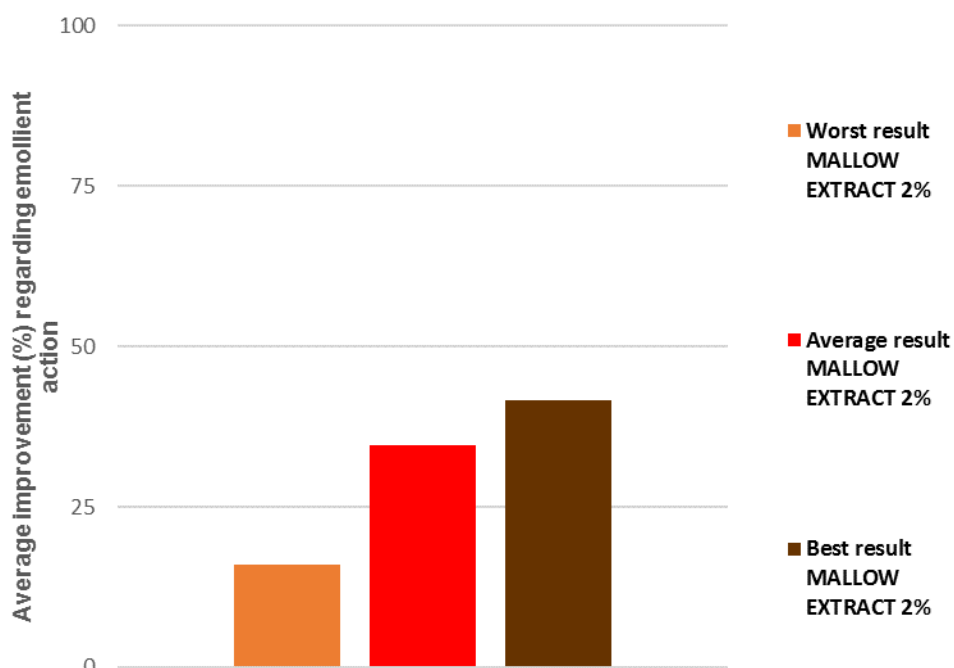
AS rank between 4 – 5: Excellent cosmetic result.



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MALLOW EXTRACT 2%



Results:

Worst result MALLOW EXTRACT 2%: 16%.

Average result MALLOW EXTRACT 2%: 34,5%.

Best result MALLOW EXTRACT 2%: 41,5%.

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.

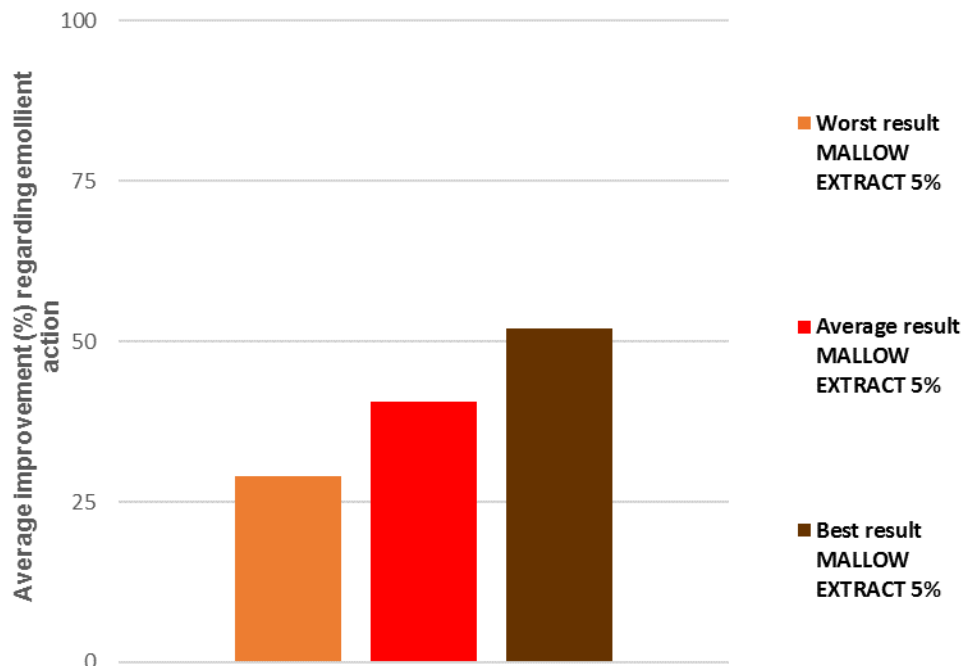
AI rank between > 81%: Excellent cosmetic result.



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TECHNICAL DATA SHEET

MALLOW EXTRACT 5%



Results:

Worst result MALLOW EXTRACT 5%: 29%.

Average result MALLOW EXTRACT 5%: 40,5%.

Best result MALLOW EXTRACT 5%: 52%.

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.

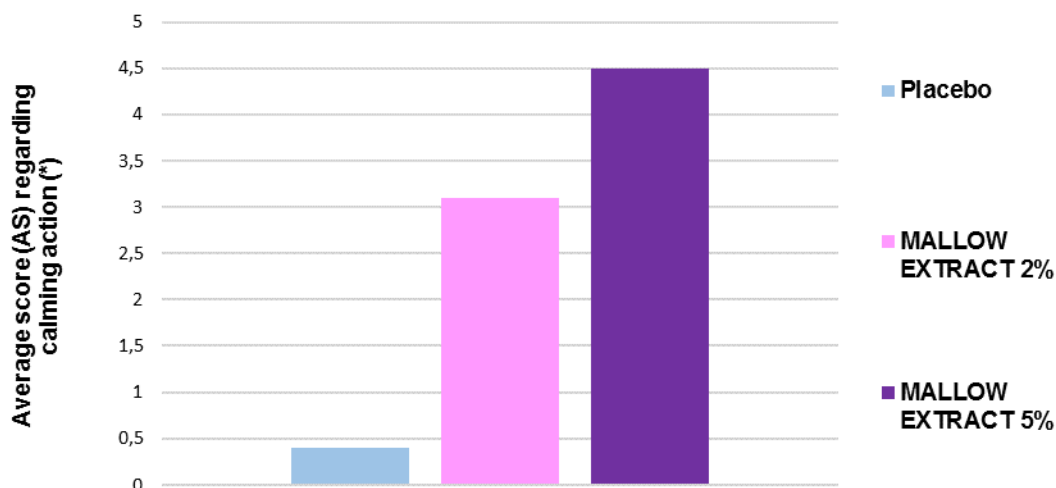
AI rank between > 81%: Excellent cosmetic result.



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

Results meaning:

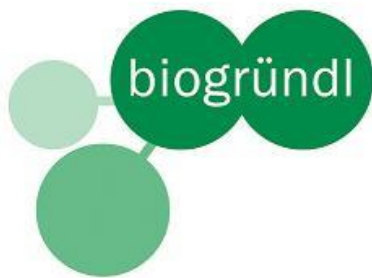
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AS rank between 1 – 2: Slight improvement regarding placebo.

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

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

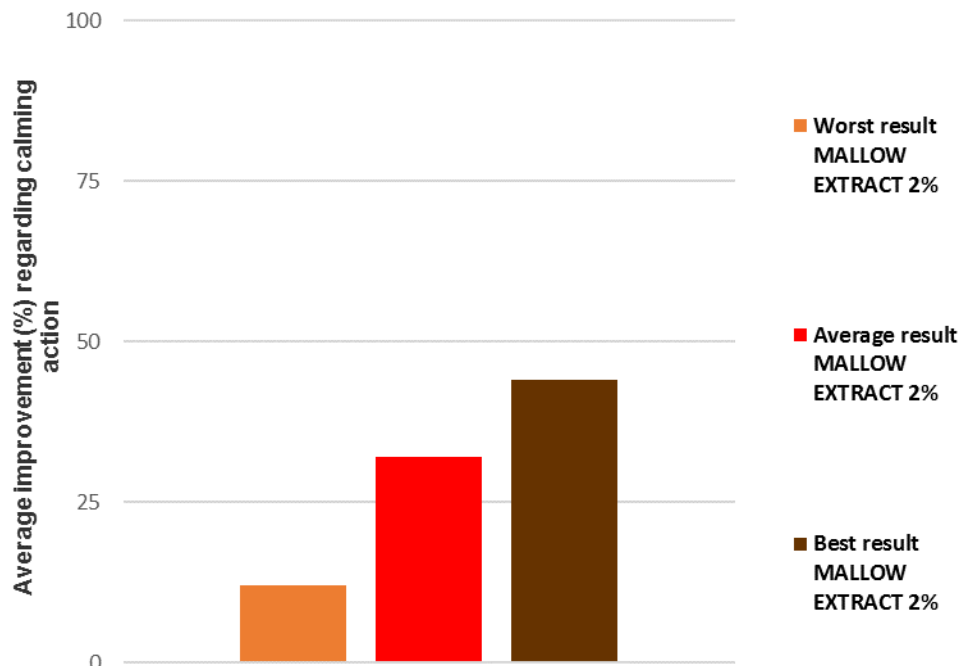
AS rank between 4 – 5: Excellent cosmetic result.



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MALLOW EXTRACT 2%



Results:

Worst result MALLOW EXTRACT 2%: 12%.

Average result MALLOW EXTRACT 2%: 32%.

Best result MALLOW EXTRACT 2%: 44%.

Results meaning:

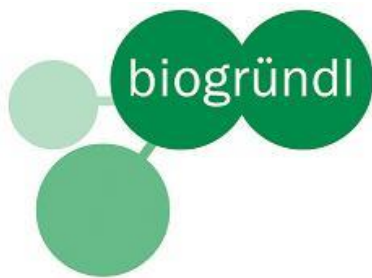
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AI rank between 21 – 40%: Slight improvement regarding placebo.

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

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

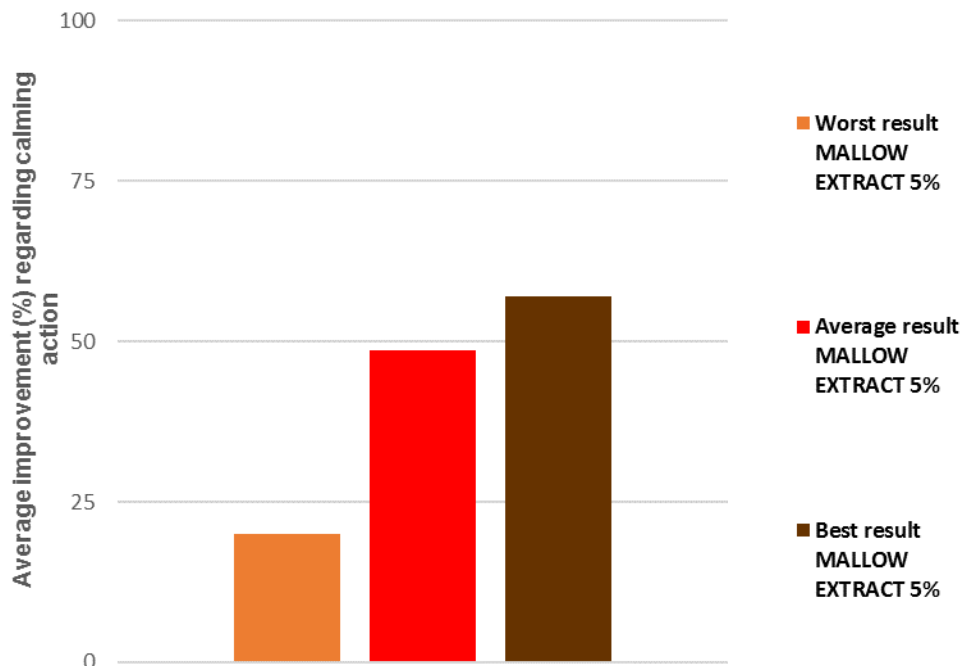
AI rank between > 81%: Excellent cosmetic result.



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MALLOW EXTRACT 5%



Results:

Worst result MALLOW EXTRACT 5%: 20%.

Average result MALLOW EXTRACT 5%: 48,5%.

Best result MALLOW EXTRACT 5%: 57%.

Results meaning:

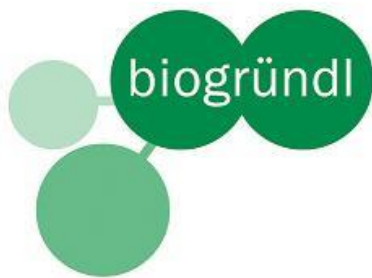
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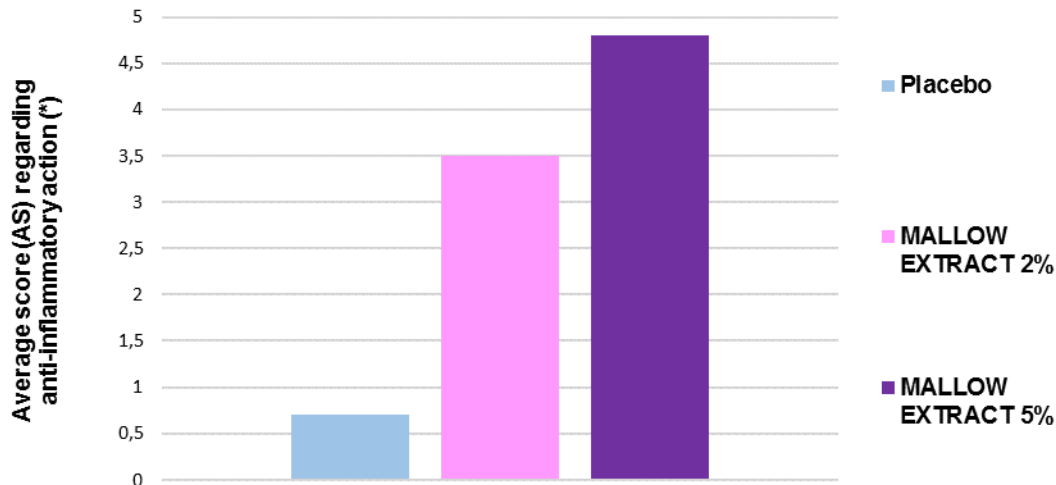
AI rank between > 81%: Excellent cosmetic result.



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SKIN CONDITION EVALUATION AFTER 30 DAYS



(*) Anti-inflammatory action was determined by direct measurement and observation of inflammation reduction 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% MALLOW EXTRACT by BIOGRÜNDL, S.L., 5% MALLOW EXTRACT by BIOGRÜNDL, S.L..

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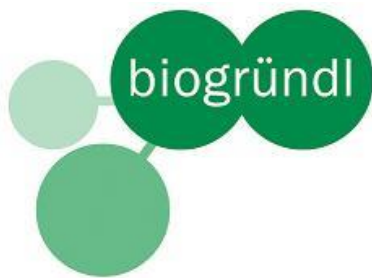
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AS rank between 3 – 4: Great improvement regarding placebo.

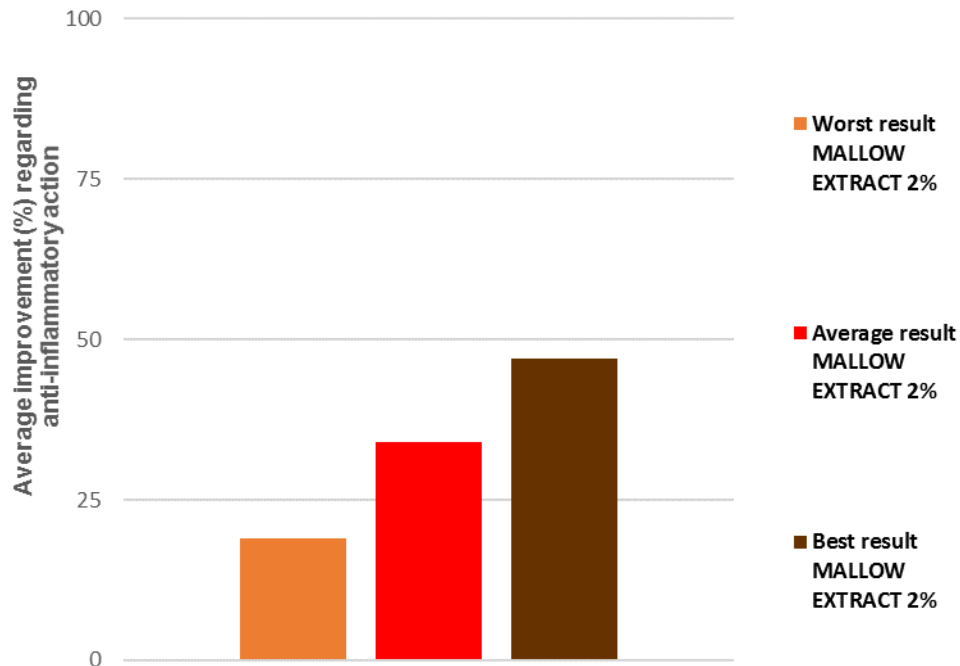
AS rank between 4 – 5: Excellent cosmetic result.



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MALLOW EXTRACT 2%



Results:

Worst result MALLOW EXTRACT 2%: 19%.

Average result MALLOW EXTRACT 2%: 34%.

Best result MALLOW EXTRACT 2%: 47%.

Results meaning:

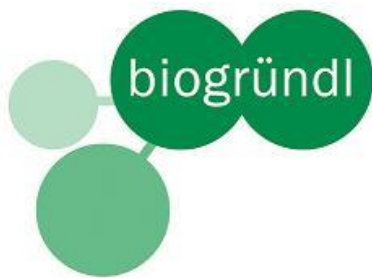
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AI rank between 61 – 80%: Great improvement regarding placebo.

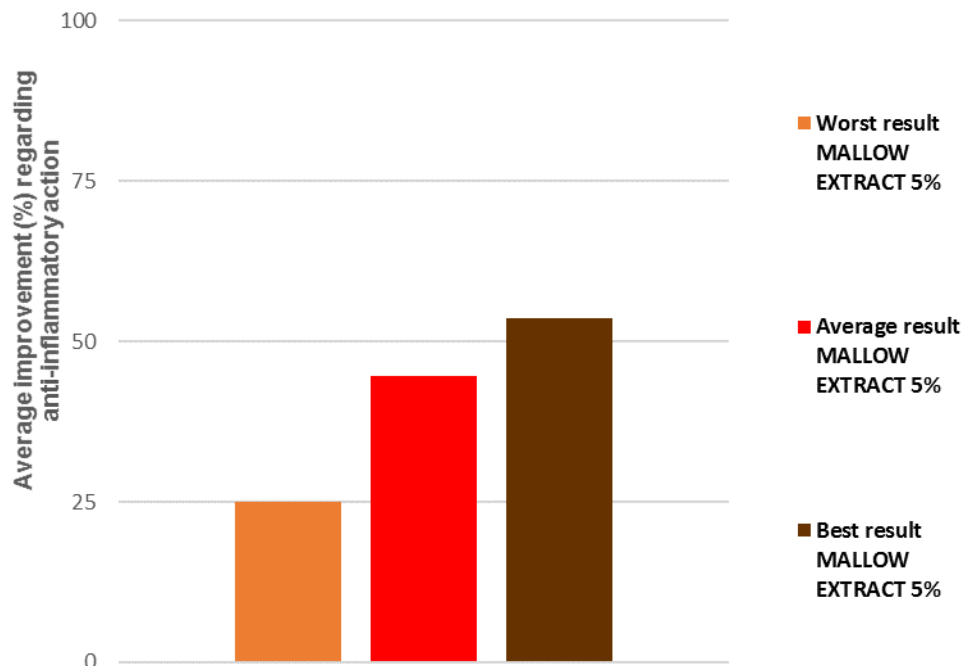
AI rank between > 81%: Excellent cosmetic result.



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MALLOW EXTRACT 5%



Results:

Worst result MALLOW EXTRACT 5%: 25%.

Average result MALLOW EXTRACT 5%: 44,5%.

Best result MALLOW EXTRACT 5%: 53,5%.

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.