

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

WHITE HAIR COMPLEX

/ A / HGL / CA11 /



Trade Name: WHITE HAIR COMPLEX / A / HGL / CA11 /

Product Code: CWHHAHGLC11.

INCI Name: AQUA, GLYCERIN, QUATERNIUM-80, FAEX EXTRACT, POTASSIUM SORBATE, HYDROLYZED KERATIN, GLYCOSAMINOGLYCANS, CITRIC ACID, PANTHENOL, THIAMINE HCL, PYRIDOXINE HCL, NIACINAMIDE, INOSITOL, BIOTIN, RIBOFLAVIN, CI 60725, CYANOCOBALAMIN.

INCI Status: Conforms.

REACH Status: Low Volume Exemption.

CAS Number: 7732-18-5; 56-81-5; 134737-05-6; 8013-01-2; 24634-61-5 / 590-00-1; 69430-36-0; 94945-04-7; 77-92-9 / 5949-29-1; 81-13-0 / 16485-10-2; 67-03-8; 58-56-0 / 12001-77-3; 98-92-0; 87-89-8; 58-85-5; 83-88-5; 81-48-1; 68-19-9.

EC Number: 231-791-2; 200-289-5; No disponible; 232-387-9; 246-376-1; 274-001-1; 305-682-6; 201-069-1; 201-327-3 / 240-540-6; 200-641-8; 200-386-2; 202-713-4; 201-781-2; 200-399-3; 201-507-1; 201-353-5; 200-680-0.

Origin: GLYCERIN: Vegetable origin.

FAEX EXTRACT, INOSITOL: Vegetable origin.

QUATERNIUM-80: Synthetic – vegetable origin.

POTASSIUM SORBATE, PANTHENOL, THIAMINE HCL, PYRIDOXINE HCL, NIACINAMIDE, BIOTIN, CI 60725: Synthetic origin.

HYDROLYZED KERATIN: Animal origin.

GLYCOSAMINOGLYCANS: Animal origin (Shark).

CITRIC ACID, RIBOFLAVIN, CYANOCOBALAMIN: Fermentation.

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, glycerin and isopropyl alcohol.

Appearance: Clear or slightly opalescent liquid.

Colour: Characteristic (yellowish to deep brown).

Odour: Characteristic.

Specific gravity: 1,000 - 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.

Suggested Use Levels: 2,0 – 10,0%.

Suggested Applications: After washing, dyeing, permanent or discoloration treatments. Gray hair whitening products.

Properties: Fortifying and gray hair whitening.

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.

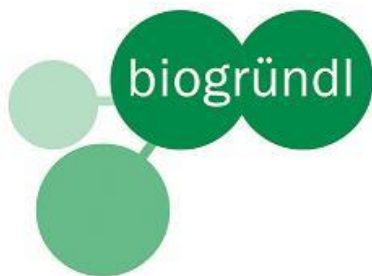
- Fitocosméticos ALVAREZ CRUZ i BAGUE SERRANO.

- 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

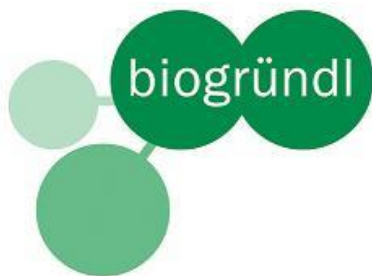
WHITE HAIR COMPLEX by BIOGRÜNDL, S.L. is based on the latest research in hair cosmetics. It is a proven and rigorous solution to problems such as attacked, damaged and worn hair in its physico-chemical structure, due to negative environmental factors (sun, heat, cold, pollution, radiation) and the increasingly often treatments, among which should be mentioned, as more aggressive to hair fibers, permanents, dyes, discolorations, brushes and backcombs. In addition, it neutralizes yellowish colour of gray hair, which gives exceptional whiteness.

WHITE HAIR COMPLEX by BIOGRÜNDL, S.L. contains various active ingredients that combine their actions, so that the overall effect is achieved not only on hair structure, but also on the follicle, which depends, ultimately, the health of hair.

The active ingredients contained in WHITE HAIR COMPLEX by BIOGRÜNDL, S.L. are:

- Tiosilicones and quaternized silicones, forming a thin, but, at the same time, protective film on hair, which provides effective protection that results in an appreciable improvement. On the other hand, they help disulfide links restructuring of cystine broken bonds; this implies a recovery of normal physiological properties of hair.
- Quaternized resins, which reduce hair negative electric charge. Electrostatically fixed on hair, give to it more protection, brightness, smoothness and combing.
- B vitamin Complex, obtained from yeast and standardized to a certain vitamin content. It contains B₁, B₂, B₃, B₅, B₆, B₇, B₈, B₁₂ vitamins, and other bioactive substances contained in yeast (amino acids, peptides, enzymes and cell metabolism boosters). They have clear revitalizing action on hair follicle, which is manifested in a formative capacity regeneration of capillary protein component: keratin.
- Tricosaccharides and tricopeptides, the first consist of sulfur mucopolysaccharides, which are the main material of scalp connective tissue. Its high moisturizing ability promotes normal wetting, both hair and scalp. Moreover, tricopeptides obtained by hydrolysis of hair, are very rich in sulfur amino acids; particularly, cystine, which has high repairing power of hair keratin.

USE AND DOSAGE



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The incorporation in cosmetics of white hair complex is justified by its fortifying and gray hair whitening properties.

WHITE HAIR COMPLEX by BIOGRÜNDL, S.L. is used as very effective recovery of hair fiber and vivifying of follicle. Gives to hair extraordinary silky touch, bright appearance and such a combing allowing all kind of shapes and styles. On the other hand, it gives to hair a renewed vigor and good strength. Very useful its use in treatments after washing, dyeing, permed or discoloration. Added to hair preparations before application, makes them less aggressive. It also returns to gray hair whiteness exempt of yellowish tone.

Note that WHITE HAIR COMPLEX by BIOGRÜNDL, S.L. is compatible with anionic tensioactives, so there is no disadvantage in adding it, for example, to shampoos based in laurylsulphates. It may be included, also, in preparations as balms, masks or treating solutions.

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: 1,000 - 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% WHITE HAIR COMPLEX by BIOGRÜNDL, S.L., was added to a surfactant solution; 0,5g. of this surfactant solution 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, QUATERNIUM-80, FAEX EXTRACT, POTASSIUM SORBATE, HYDROLYZED KERATIN, GLYCOSAMINOGLYCANS, CITRIC ACID, PANTHENOL, THIAMINE HCL, PYRIDOXINE HCL, NIACINAMIDE, INOSITOL, BIOTIN, RIBOFLAVIN, CI 60725, CYANOCOBALAMIN.

EFFECTIVENESS TESTS

Assay: Double blind spot trial and subsequent cosmetic evaluation.

Assayed parameters: Hair fortifying action. Gray hair whitening action.

N (volunteers): 30 (16 ♀ and 14 ♂).

Age (volunteers): 40 – 69 years old.

Left side part to be treated:

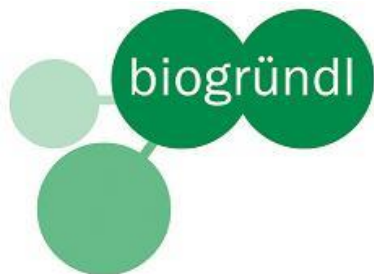
Placebo, 30 volunteers, suitable cosmetic base.

Right side part to be treated:

WHITE HAIR COMPLEX 2%, 15 volunteers, suitable cosmetic base.

Right side part to be treated:

WHITE HAIR COMPLEX 5%, 15 volunteers, suitable cosmetic base.

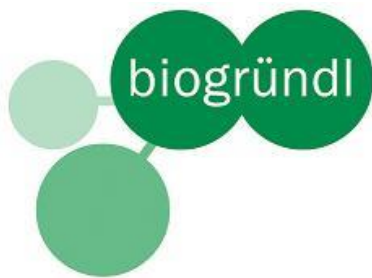


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Assayed parameters:

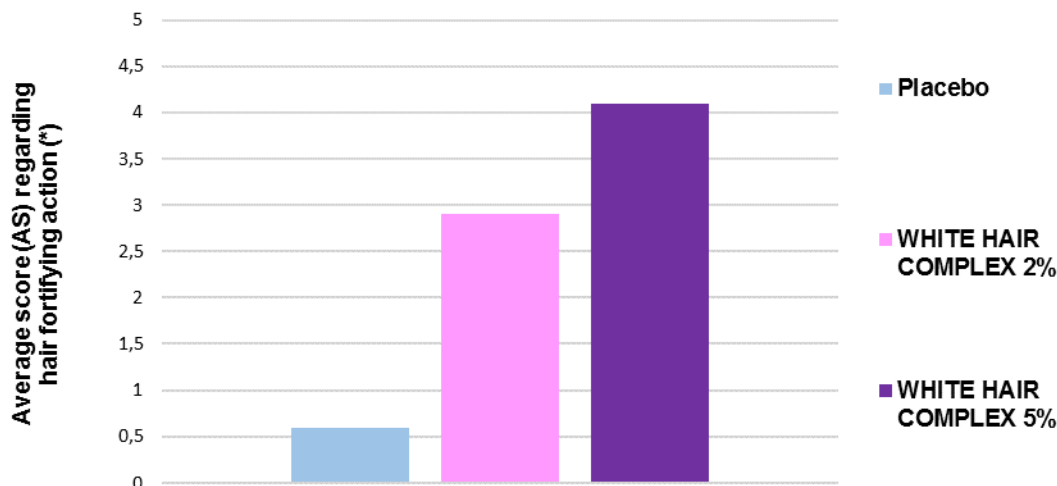
| | Assay | N (volunteers) | Age (volunteers) | Placebo | WHITE HAIR COMPLEX 2% | WHITE HAIR COMPLEX 5% | Assay performed (Days) | Results measured (Days) |
|-----------------------------------|---|-------------------------|------------------|----------------|-----------------------------------|------------------------------------|------------------------|-------------------------|
| Hair fortifying action | Double blind spot trial and subsequent cosmetic evaluation. | N = 30 16 ♀ and 14 ♂ | 40 – 69 | Left side part | Right side part 15 volunteers. | Right side part. 15 volunteers. | D = 10 | D' = 1 |
| Gray hair whitening action | Double blind spot trial and subsequent cosmetic evaluation. | N = 30 16 ♀ and 14 ♂ | 40 – 69 | Left side part | Right side part 15 volunteers. | Right side part. 15 volunteers. | D = 10 | D' = 10 |



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TECHNICAL DATA SHEET

HAIR/SCALP CONDITION EVALUATION AFTER 30 DAYS



(*) Hair fortifying action was determined by microscopic observation and determination of hair thickness (diameter) from volunteers.

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

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% v by BIOGRÜNDL, S.L., 5% WHITE HAIR COMPLEX by BIOGRÜNDL, S.L..

Results meaning:

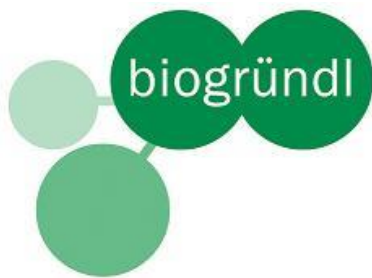
AS rank between 0 – 1: No significant changes.

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.

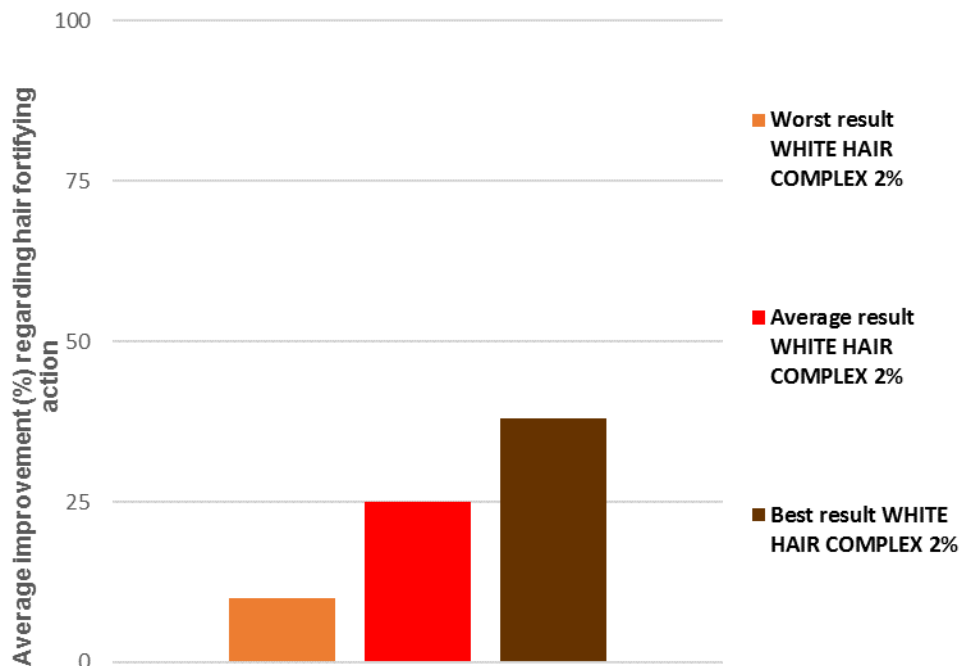
AS rank between 4 – 5: Excellent cosmetic result.



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TECHNICAL DATA SHEET

WHITE HAIR COMPLEX 2%

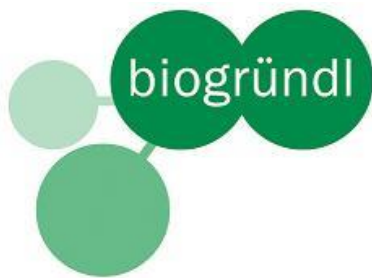


Results:

Worst result WHITE HAIR COMPLEX 2%: **10%**.
Average result WHITE HAIR COMPLEX 2%: **25%**.
Best result WHITE HAIR COMPLEX 2%: **38%**.

Results meaning:

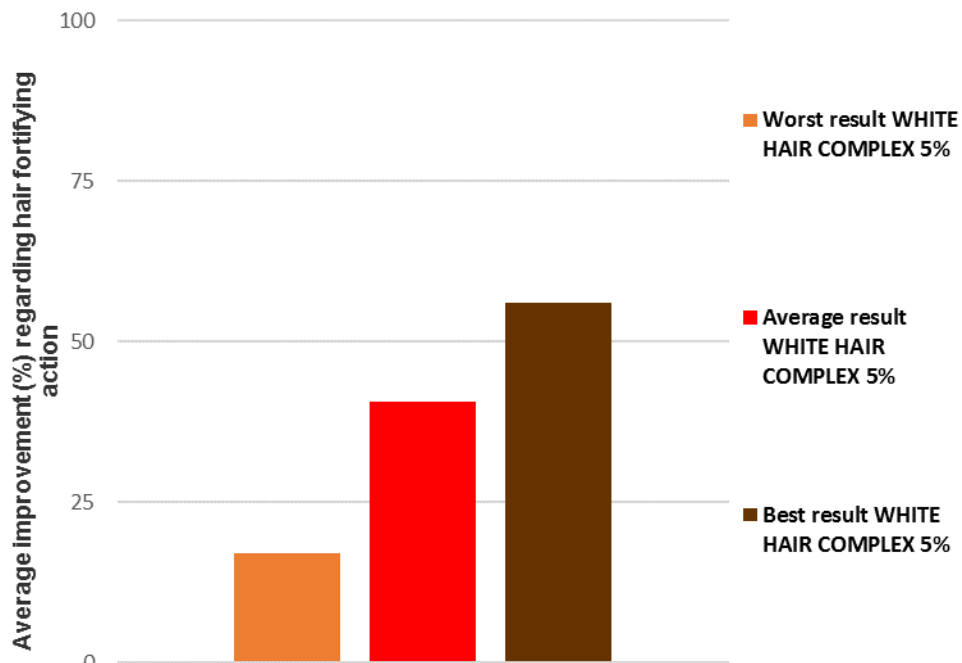
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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TECHNICAL DATA SHEET

WHITE HAIR COMPLEX 5%

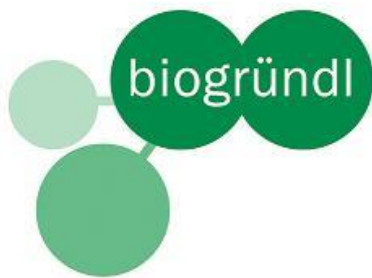


Results:

Worst result WHITE HAIR COMPLEX 5%: **17%**.
Average result WHITE HAIR COMPLEX 5%: **40,5%**.
Best result WHITE HAIR COMPLEX 5%: **56%**.

Results meaning:

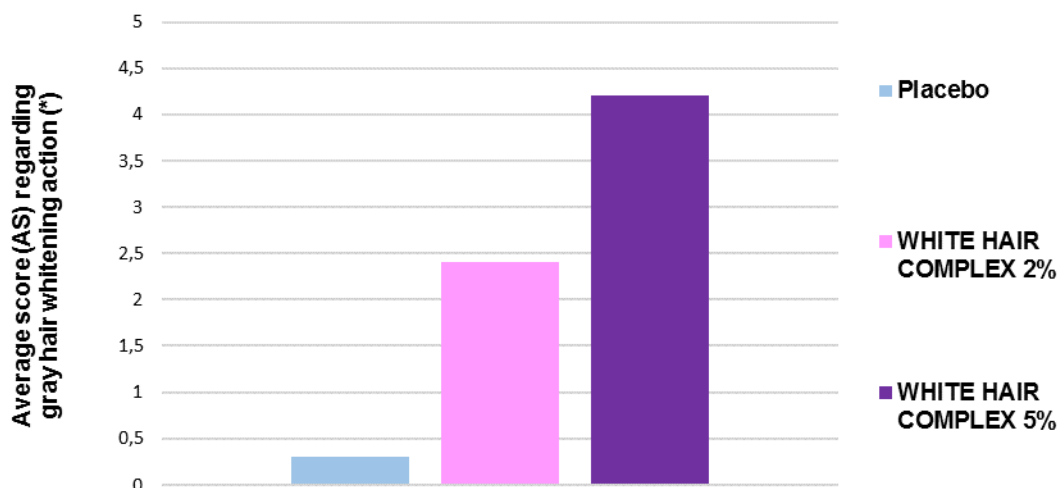
AI rank between < 20%: No significant changes.
AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
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HAIR CONDITION EVALUATION AFTER 30 DAYS



(*) Gray hair whitening action was determined by measurement of colour and hue from volunteers hair look.

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

Total number of days in which the results were measured:
D' = 10 days (every three days 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% v by BIOGRÜNDL, S.L., 5% WHITE HAIR COMPLEX by BIOGRÜNDL, S.L..

Results meaning:

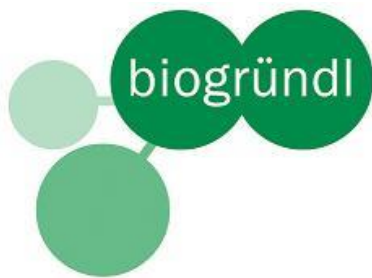
AS rank between 0 – 1: No significant changes.

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.

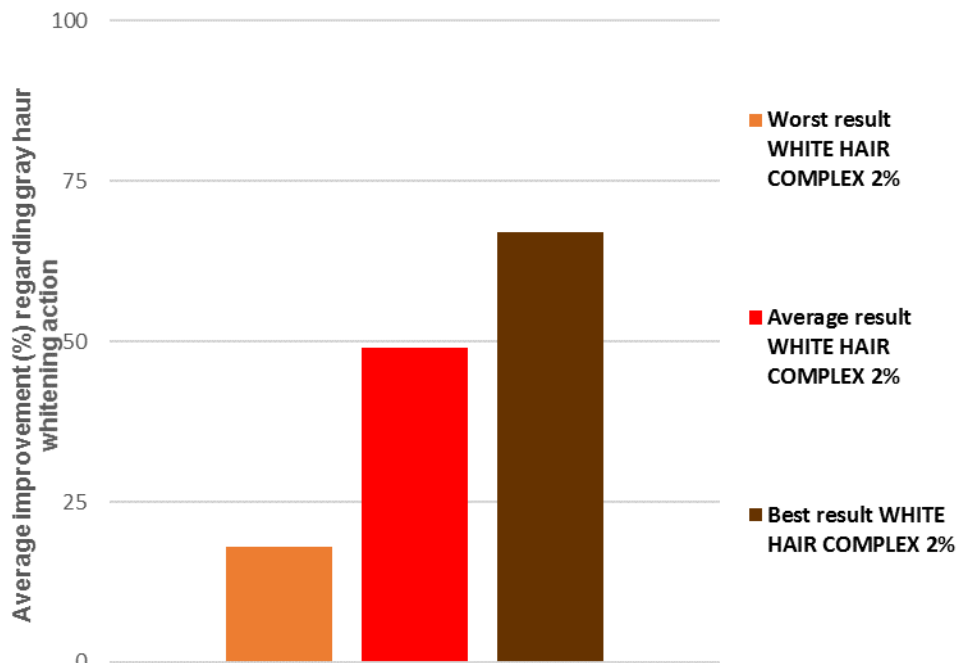
AS rank between 4 – 5: Excellent cosmetic result.



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TECHNICAL DATA SHEET

WHITE HAIR COMPLEX 2%

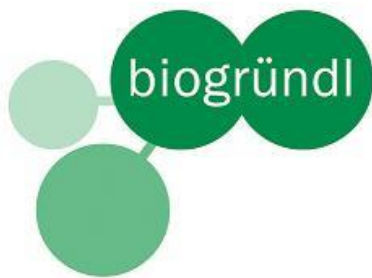


Results:

Worst result WHITE HAIR COMPLEX 2%: **18%**.
Average result WHITE HAIR COMPLEX 2%: **49%**.
Best result WHITE HAIR COMPLEX 2%: **67%**.

Results meaning:

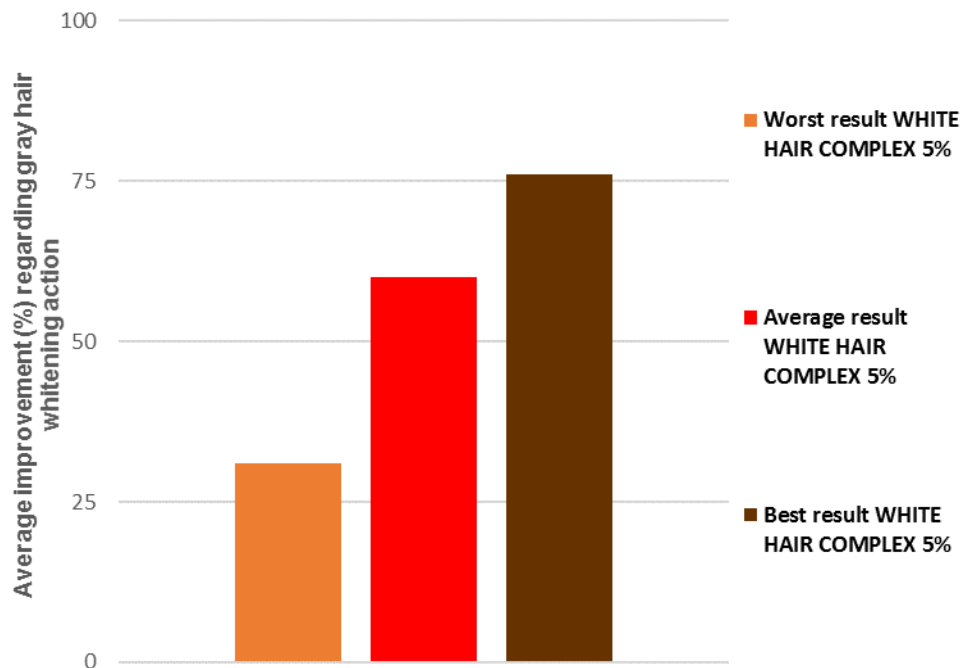
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AI rank between 21 – 40%: Slight improvement regarding placebo.
AI rank between 41 – 60%: Appreciable improvement regarding placebo.
AI rank between 61 – 80%: Great improvement regarding placebo.
AI rank between > 81%: Excellent cosmetic result.



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TECHNICAL DATA SHEET

WHITE HAIR COMPLEX 5%



Results:

Worst result WHITE HAIR COMPLEX 5%: **31%**.
Average result WHITE HAIR COMPLEX 5%: **60%**.
Best result WHITE HAIR COMPLEX 5%: **76%**.

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.