

## TECHNICAL DATA SHEET

### ROYAL JELLY EXTRACT / A / HGL / CA11 /



**Trade Name:** ROYAL JELLY EXTRACT / A / HGL / CA11 /

**Product Code:** EJRAHGLCA11.

**INCI Name:** AQUA, GLYCERIN, ROYAL JELLY EXTRACT, POTASSIUM SORBATE.

**INCI Status:** Conforms.

**REACH Status:** Low Volume Exemption.

**CAS Number:** 7732-18-5; 56-81-5; 91081-56-0; 24634-61-5 / 590-00-1.

**EC Number:** 231-791-2; 200-289-5; 293-662-7; 246-376-1.

**Origin:** GLYCERIN: Vegetable origin.

**ROYAL JELLY 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/cm<sup>3</sup> (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:** Nutrient, anti-ageing, anti-radical, after-sun, sun protection, anti-seborrheic, toning, regenerating, vulnerary and antiphlogistic preparations, as well as, those against hair loss.

**Properties:** Stimulating, anti-ageing, moisturizing, nutritive, toning and anti-hair loss.

**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.

- Fitocosmeticos 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**

Royal jelly is a foodstuff which is vital for bee's survival. Its exceptional nutrient qualities can be illustrated with a single fact: it is the only nutrient material which queen bee larvae are fed. Worker bees, on the other hand, are only given royal jelly during the first three days of their life. This difference in feeding means that queen bee larvae only need 16 days to develop from larva to adult bee, while the workers need 21 days. Moreover, the former reach twice the size, live 4 or 5 years and lay 2 or 3 thousand eggs a day, while the workers, only live 6 weeks and are sterile.

ROYAL JELLY EXTRACT by BIOGRÜNDL, S.L. is obtained by cold extraction, using a mixture of water and glycerin. With that, the most active components are drawing out, among which includes vitamins in B group (B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>5</sub>, B<sub>6</sub>, B<sub>7</sub>, B<sub>8</sub>, B<sub>9</sub>, B<sub>12</sub>), as well as, smaller proportions of other vitamins (A, C, D, and E); glucids (glucose, fructose, saccharose); lipids very rich in polyunsaturated fatty acids; proteins and free amino acids; minerals and oligoelements (Ca, Cu, Fe, P, K, Si, S, Se); also enzymes and other bioactive compounds (acetylcholine).

### **USE AND DOSAGE**

The incorporation of royal jelly extract in cosmetics is justified by its properties to stimulate cellular metabolism in skin tissue, while normalizes sebaceous secretion in it; it prevents skin ageing by improving its elasticity, hydration and texture; it feeds and tones the skin; it speeds up the metabolism of hair follicle, so achieving faster hair growth and slowing hair loss; it also speeds up the immune response to harmful outside agents (sun, cold, heat, free radicals, dryness, micro-organisms).

It is highly advisable to include ROYAL JELLY EXTRACT in nutrient, anti-ageing, anti-radical, after-sun, sun protection, anti-seborrheic, toning, regenerating, vulnerary and antiphlogistic preparations, as well as, those against hair loss.

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/cm<sup>3</sup> (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% ROYAL JELLY 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, ROYAL JELLY EXTRACT, POTASSIUM SORBATE.

### **EFFECTIVENESS TESTS**

**Assay:** Double blind spot trial and subsequent cosmetic evaluation.

**Assayed parameters:** Anti-wrinkle action. Toning action. Anti-hair loss action.

**N (volunteers):** 30 (17 ♀ and 13 ♂).

**Age (volunteers):** 25 – 75 years old.

**Left side part to be treated:**

Placebo, 30 volunteers, suitable cosmetic base.

**Right side part to be treated:**

ROYAL JELLY EXTRACT 2%, 15 volunteers, suitable cosmetic base.

**Right side part to be treated:**

ROYAL JELLY EXTRACT 5%, 15 volunteers, suitable cosmetic base.



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### Assayed parameters:

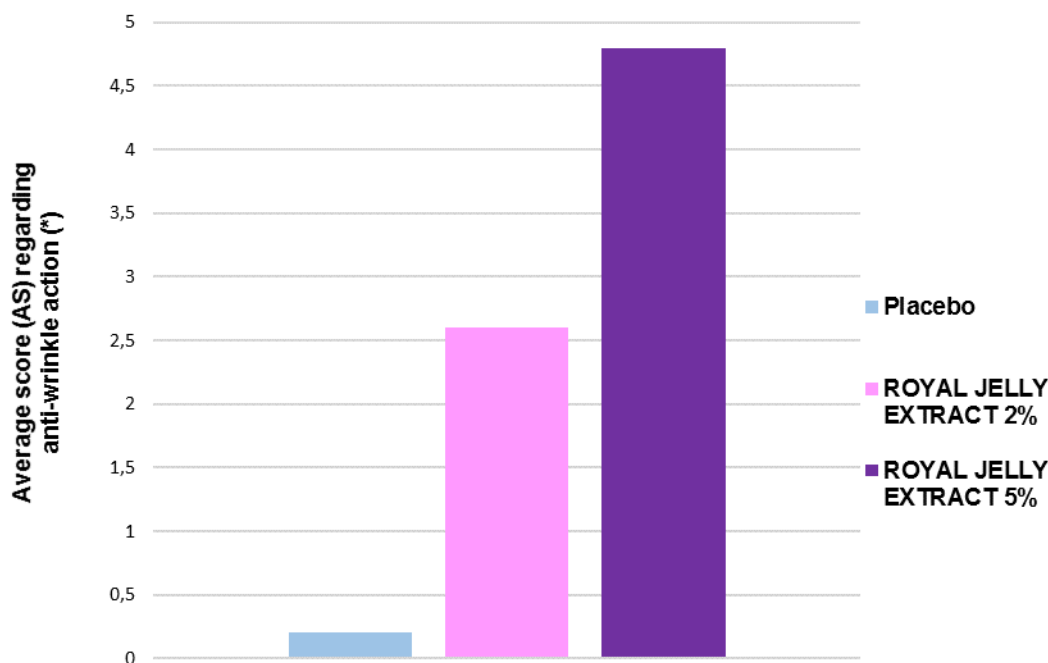
	Assay	N (volunteers)	Age (volunteers)	Placebo	ROYAL JELLY EXTRACT 2%	ROYAL JELLY EXTRACT 5%	Assay performed (Days)	Results measured (Days)
Anti-wrinkle action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 17 ♀ 13 ♂	30 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 30	D' = 1
Toning action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 17 ♀ 13 ♂	25 – 75	Left side part	Right side part 15 volunteers.	Right side part. 15 volunteers.	D = 15	D' = 1
Anti-hair loss action	Double blind spot trial and subsequent cosmetic evaluation.	N = 30 17 ♀ 13 ♂	25 – 75	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



(\*) 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% ROYAL JELLY EXTRACT by BIOGRÜNDL, S.L., 5% ROYAL JELLY 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.

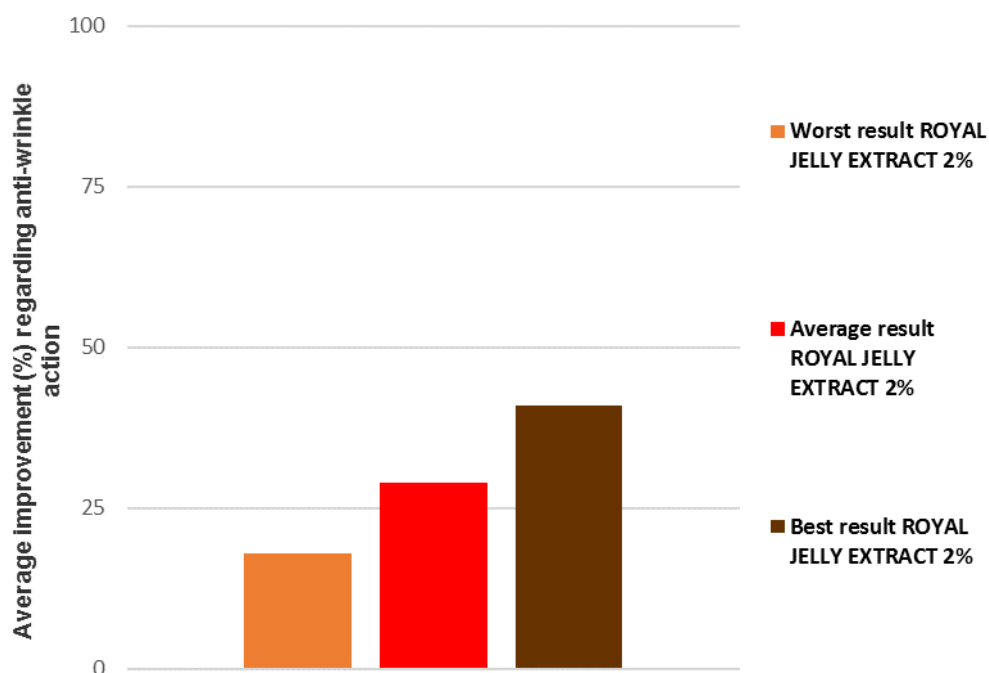
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### ROYAL JELLY EXTRACT 2%

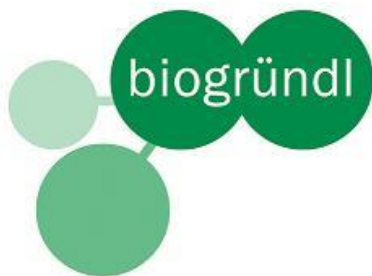


#### Results:

Worst result ROYAL JELLY EXTRACT 2%: 18%.  
Average result ROYAL JELLY EXTRACT 2%: 29%.  
Best result ROYAL JELLY EXTRACT 2%: 41%.

#### Results meaning:

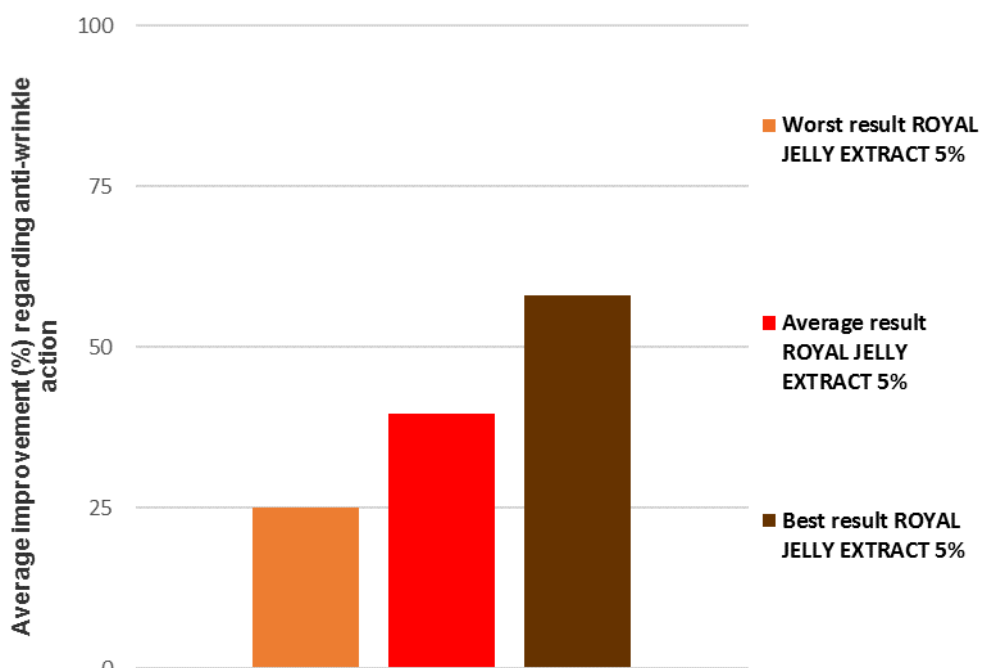
AI rank between < 20%: No significant changes.  
AI rank between 21 – 40%: Slight improvement regarding placebo.  
AI rank between 41 – 60%: Appreciable improvement regarding placebo.  
AI rank between 61 – 80%: Great improvement regarding placebo.  
AI rank between > 81%: Excellent cosmetic result.



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### ROYAL JELLY EXTRACT 5%



#### Results:

Worst result ROYAL JELLY EXTRACT 5%: 25%.

Average result ROYAL JELLY EXTRACT 5%: 39,5%.

Best result ROYAL JELLY EXTRACT 5%: 58%.

#### Results meaning:

AI rank between < 20%: No significant changes.

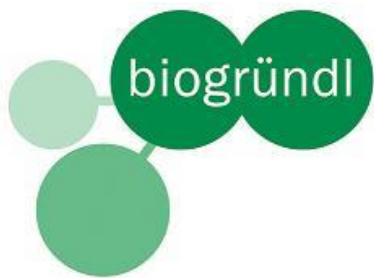
AI rank between 21 – 40%: Slight improvement regarding placebo.

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.

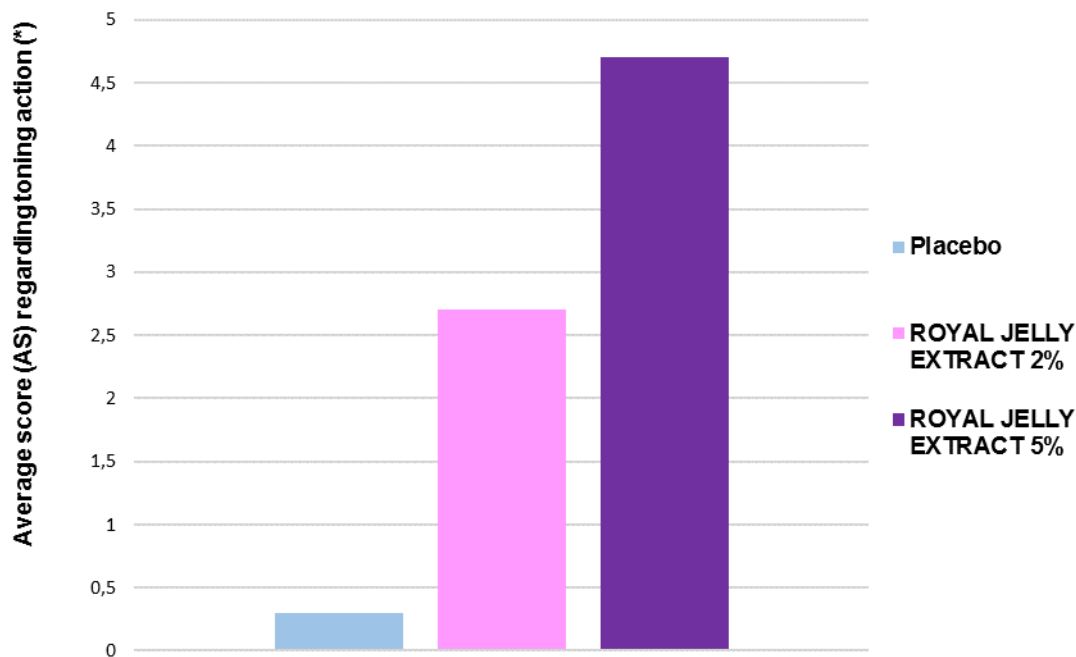




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### SKIN CONDITION EVALUATION AFTER 30 DAYS



(\*) Toning action was measured by a cutometer and by direct observation of volunteers skin firmness (tension).

Total number of days in which the assay was performed (treatment was applied):  
D = 15 days ( every other 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% ROYAL JELLY EXTRACT by BIOGRÜNDL, S.L., 5% ROYAL JELLY 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.

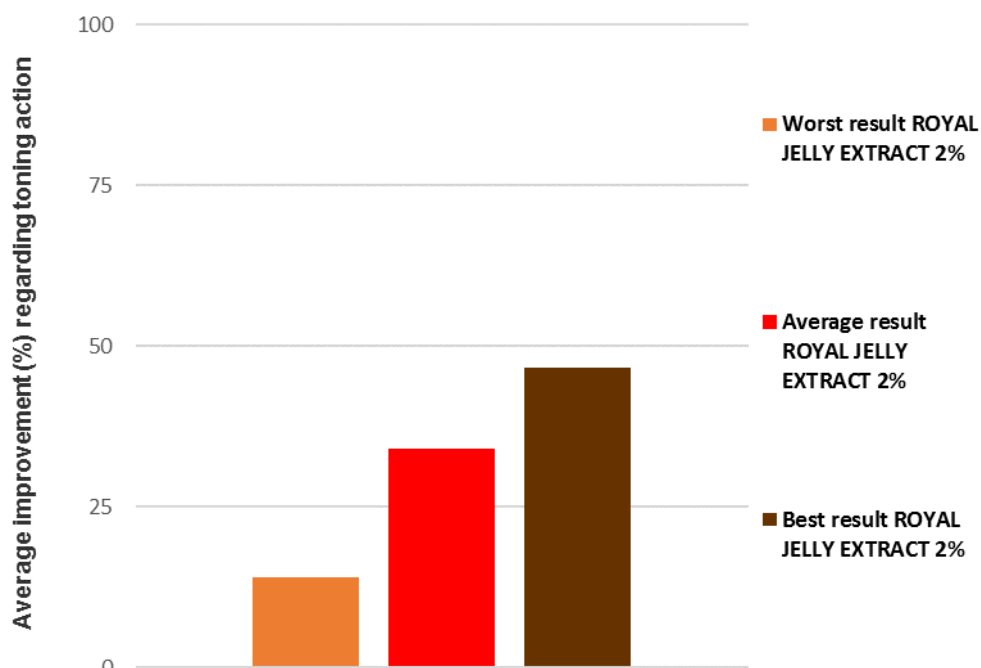
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### ROYAL JELLY EXTRACT 2%



#### Results:

Worst result ROYAL JELLY EXTRACT 2%: 14%.  
Average result ROYAL JELLY EXTRACT 2%: 34%.  
Best result ROYAL JELLY EXTRACT 2%: 46,5%.

#### Results meaning:

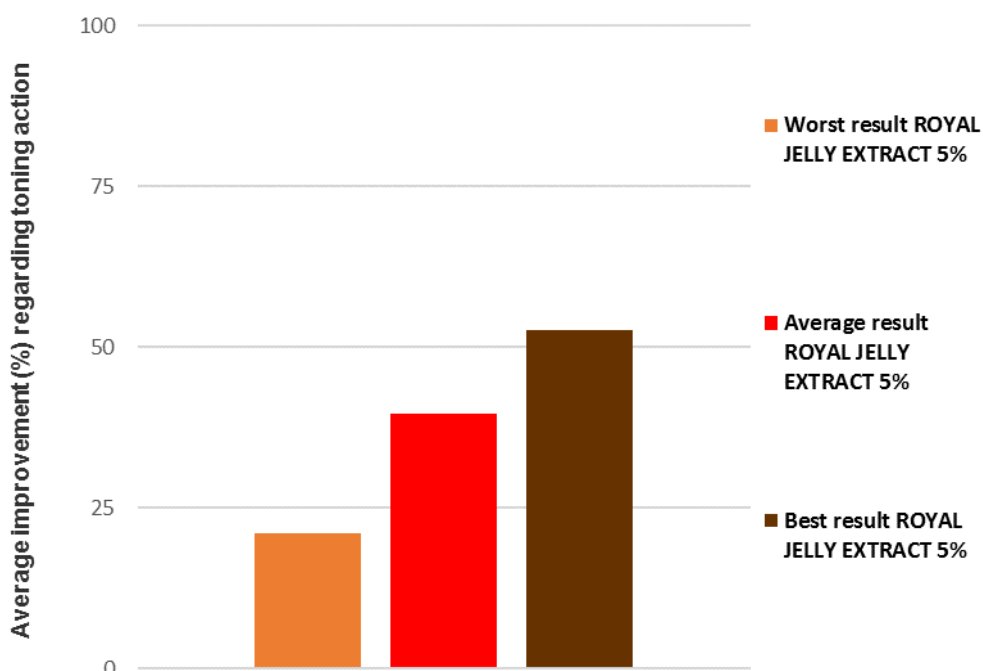
AI rank between < 20%: No significant changes.  
AI rank between 21 – 40%: Slight improvement regarding placebo.  
AI rank between 41 – 60%: Appreciable improvement regarding placebo.  
AI rank between 61 – 80%: Great improvement regarding placebo.  
AI rank between > 81%: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### ROYAL JELLY EXTRACT 5%

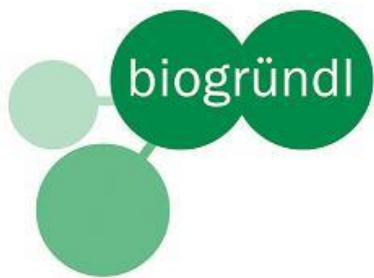


#### Results:

Worst result ROYAL JELLY EXTRACT 5%: 21%.  
Average result ROYAL JELLY EXTRACT 5%: 39,5%.  
Best result ROYAL JELLY EXTRACT 5%: 52,5%.

#### Results meaning:

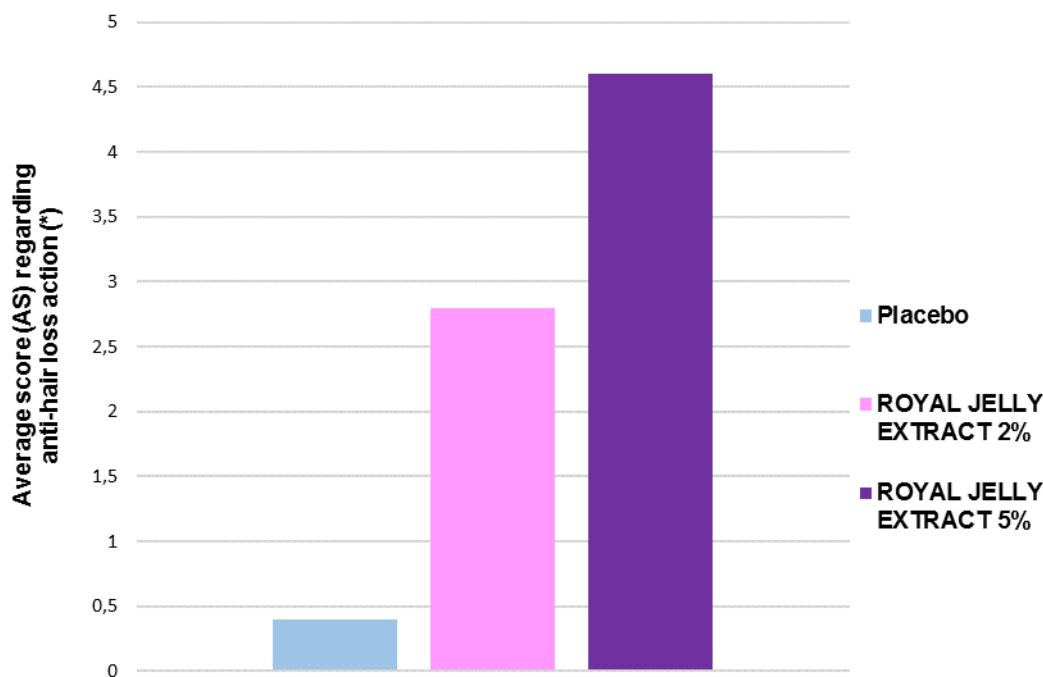
AI rank between < 20%: No significant changes.  
AI rank between 21 – 40%: Slight improvement regarding placebo.  
AI rank between 41 – 60%: Appreciable improvement regarding placebo.  
AI rank between 61 – 80%: Great improvement regarding placebo.  
AI rank between > 81%: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### 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% ROYAL JELLY EXTRACT by BIOGRÜNDL, S.L., 5% ROYAL JELLY EXTRACT by BIOGRÜNDL, S.L..

#### Results meaning:

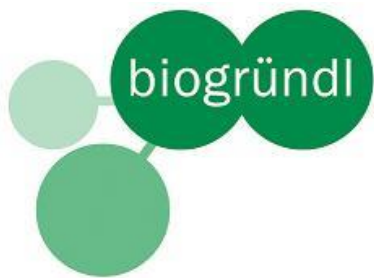
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AS rank between 1 – 2: Slight improvement regarding placebo.

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

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

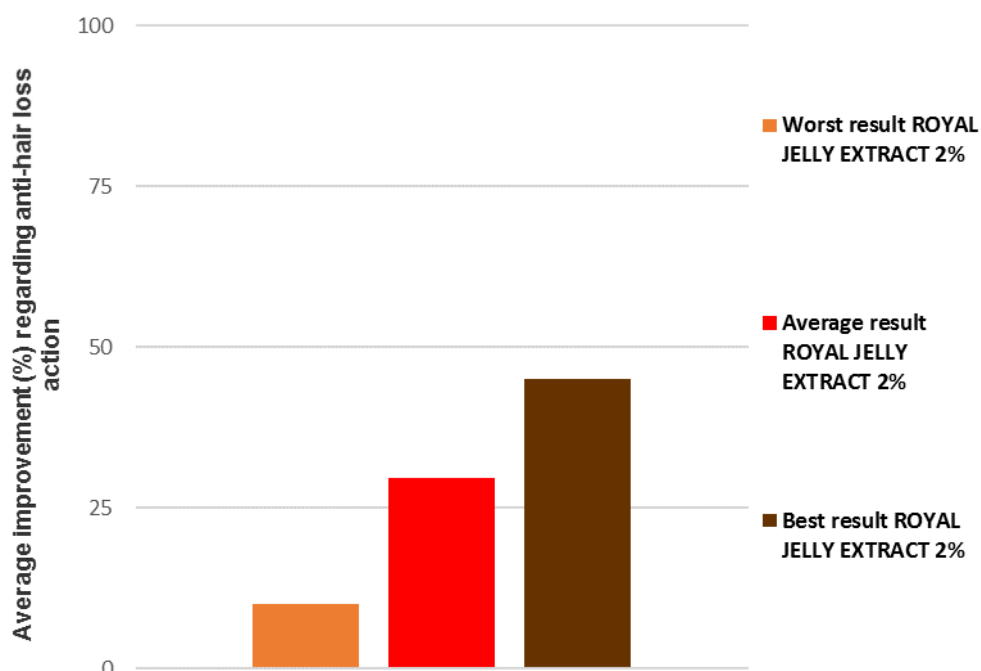
AS rank between 4 – 5: Excellent cosmetic result.



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## TECHNICAL DATA SHEET

### ROYAL JELLY EXTRACT 2%



#### Results:

Worst result ROYAL JELLY EXTRACT 2%: 10%.  
Average result ROYAL JELLY EXTRACT 2%: 29,5%.  
Best result ROYAL JELLY EXTRACT 2%: 45%.

#### Results meaning:

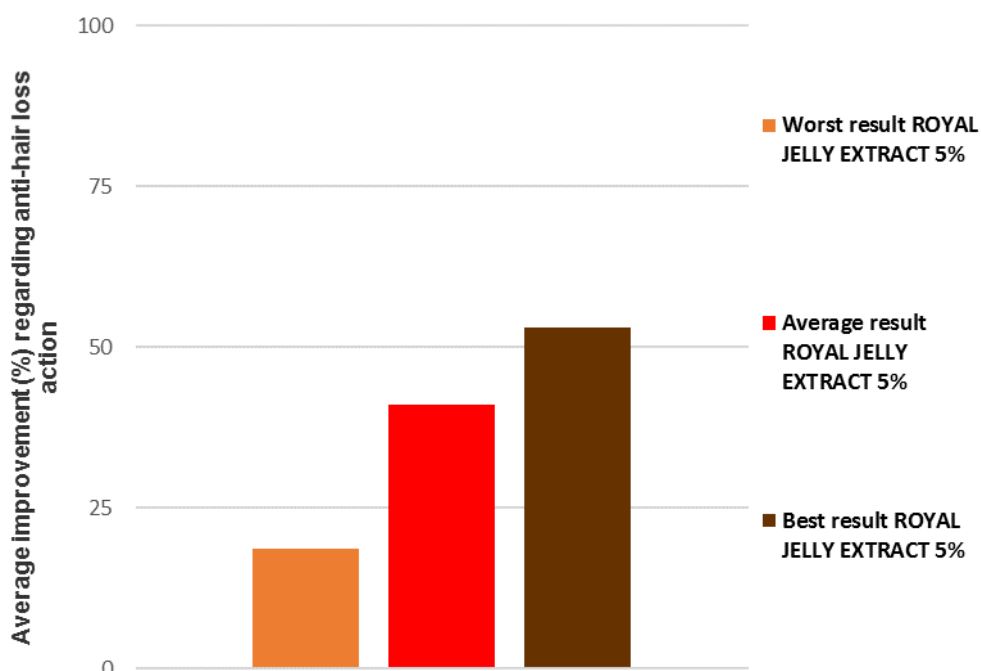
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### ROYAL JELLY EXTRACT 5%



#### Results:

Worst result ROYAL JELLY EXTRACT 5%: 18,5%.  
Average result ROYAL JELLY EXTRACT 5%: 41%.  
Best result ROYAL JELLY EXTRACT 5%: 53%.

#### 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.