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Muenster, 27.05.2019

Expert opinion by dermatological specialists concerning a

clinical-dermatological application study

in 20 volunteers with application once daily (in the night) in the face for a period of eight weeks

Test for dermal tolerability with final questionnaire and determination of individual wrinkle depth and analyses of the antioxidative status

probiotic pillowcase Skin+

Table of contents

1 General information 1
1.1 Synopsis 2
1.2 Schedule 3
2 Introduction 4
2.1 Antioxidantien „Carotenoide“ 4
3 Study objective 5
3.1 Primary outcomes 6
3.2 Secondary outcomes 6
3.3 Study parameters 6
4 Selection of subjects 6
4.1 Information of the subjects 6
4.2 Inclusion criteria 6
4.3 Exclusion criteria 7
4.4 Exclusion of subjects from the clinical-dermatological application study 7
4.5 List of subjects 8
5 Test product 9
5.1 Application of the investigational product 9
5.2 Interruptions / Discontinuation of the application 9
6 Benefit-risk weighing and precautions 9
7 Methods 9
7.1 Query of the subjective impression 9
7.2 Measurement of the individual wrinkle depth (PRIMOS handheld) 10
7.3 Measurement of the antioxidativen Status (MSRRS Methode) 11
7.4 Statistics 11
8 Results 12
8.1 Dermatological examination results 12
8.2 Query of the subjective impression 13
8.3 PRIMOS handheld / individual wrinkle depth 17
8.4 Antioxidative Status (Determination of the Carotenoide) 18
9 Assessment of the study results 19
9.1 Skin tolerability 19
9.2 Efficacy 19
10 Addendum 19
10.1 Quality control, quality assurance and data protection 19
10.2 Certificates 19

1 General information

Title

Clinical application study under dermatological control

Testing body

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Unterschrift

1.1 Synopsis

Study title	Clinical application study under dermatological control
Test product	**probiotischer Kissenbezug Skin+**
Product type	pillowcase
Study design	Single-centre
Testing body	Dermatest GmbH Engelstr. 37 D-48143 Münster
Primary study objectives	Assessment of skin tolerability From the time of the start of the study to the end of the study and 30 days beyond the latter, all skin reactions and any other adverse reactions are recorded in the reaction file.
Secondary study objectives	Assessment of efficacy - Query of the subjective impression by questionnaire - Individual wrinkle depth (PRIMOS handheld) - Measurement of the antioxidative status (5 subjects)
Number of subjects	20
Application period	eight weeks
Times of measurement	Questionnaire: T_{8Weeks} Individual wrinkle depth: T_0 and T_{8Weeks}
Test area	Face
Frequency of application	once daily (in the night)
Inclusion criteria	- 25 years up to 45 years - Female healthy volunteers - Skin type: any - Written informed consent of the subjects or legal guardian is available
Exclusion criteria	- Severe or chronic skin inflammations - Severe internal or chronic diseases - Taking of drugs that may interfere with skin reactions (glucocorticoids, antiallergics, topical immune modulators, etc.) - Application of active substance-containing products and care products 7-10 days before the start of the test - Severe allergies or any serious side effects of cosmetic preparations ever occurred - Sun baths or solarium visits during the study - Known neoplastic disease

	- Pregnancy and breast-feeding

1.2 Schedule

Study day	Day 0	Day 56
Information of the subjects	✔	
Informed Consent Form Sheet	✔	
Medical history	✔	
Dermatological examination	✔	✔
Compliance with the inclusion and exclusion criteria	✔	✔
Query of the subjective impression		✔
Measurement of individual wrinkle depth (PRIMOS handheld)	✔	✔
Measurement of the antioxidative status	✔	✔

2 Introduction

The human skin is the largest and functionally most versatile human organ. It delimits the organism against the outside world and protects it against dehydration and environmental influences. The skin consists of three layers: Epidermis (upper skin layer), dermis (true skin) and subcutis (hypoderm). The epidermis, in turn, is composed of five layers and consists of 90% keratinocytes (horny cells). From the outside, the superimposed layers are the following: *Stratum corneum*, *stratum lucidum*, *stratum granulosum*, *stratum spinosum* and *stratum basale*.

These days, any products, in particular cosmetics, consumer goods and medical devices, are in contact with the skin daily and often over long periods. Good tolerability is therefore a prerequisite for the application of these products. Since alternative test methods such as animal testing are prohibited and cell culture experiments yield results that can be applied to human beings only to a limited extent, tests under medical supervision are currently required from an ethical and scientific point of view. For analysis of the skin tolerability of products, application studies, so-called home-in-use tests, can be carried out. Here, the product to be tested is applied over a prolonged period in the intended application area. The inclusion and exclusion criteria of the subjects are adapted to the target group as far as possible. Before each testing, a risk analysis of the contents of the test product is carried out. All available information is systematically analysed in order to identify potential hazards and to avert risks.

2.1 Antioxidants „Carotenoids“

Antioxidants enable the neutralization of free radicals, which can be caused by stress, sunlight, smoking, and lack of sleep or metabolic processes. Excessive oxidative stress can lead to premature skin aging, among other things. Antioxidants such as vitamins, carotenoids, enzymes, flavonoids or polyphenols trap free radicals, render them harmless and thus protect the cells and the body.

Carotenoids (also called tetraterpenoids) are characterized by their organic pigments. Due to their specific structure and absorption, they appear from pale yellow to deep red and give the specific colour, e.g. carrots, maize, apricots and tomatoes etc. Carotenoids are mainly produced in plants and algae, but also in some fungi and several bacterial strains. With the exception of aphids and spider mites, animals and humans are not able to synthesize carotenoids themselves and therefore have to uptake them through food.

To date, more than 1100 different carotenoids are known, which are divided into two classes: xanthophylls (with oxygen) and carotenes (hydrocarbons without oxygen). The most famous representatives of the Xanthrophillen are, for example, Lutein and Zeaxanthin. Some known carotenes are A-carotene, ß-carotene and lycopene. Carotenoids are particularly concentrated in the stratum corneum and are considered marker substances for the antioxidant status of the entire epidermis.

The carotenoids of PD01 (carotenoid-producing, spore-forming bacteria) used in the present study belong to the carotene group. Carotenoids produced by several bacillus species have the advantage that, unlike vegetable carotenoids (e.g. ß-carotene), they are acid-stable, which allows the use of carotenoids as an efficient oral supplement.

In addition, the antioxidant activity of Bacillus carotenoids is 10 times higher than that of lycopene, one of the most well-known hydrophobic antioxidants. This property is most likely due to the additional sugar and/or fatty acid content. In addition, this provides solubility in hydrophobic and hydrophilic environments, which allows application in many areas.

From only a few of the carotenoids described, the effects on human physiology are known. In general, they act as antioxidants, can protect cells from cell damage, UV radiation, premature aging and even some chronic diseases (e.g. cardiovascular diseases). In some studies, carotenoids have been observed to have positive effects on skin structure, clarity, strength and even elasticity.

LITERATUR

- S. Haag, B. Taskoparan, M.E.Darvin, N. Groth, J. Lademann, W. Steinke, M.C. Meinke „Determination oft he antioxidative capacity of the skin in vivo using resonance Raman and electron paramagnetic resonance spectroscopy" Exp. Dermatol 2011 Vol.20;(6);483-487

3 Study objective

The objective of this study was to precisely test the tolerability of the named product **probiotic pillowcase skin+** with regard to its tolerability with clinical-dermatological test criteria.

Before the subjects were included, the dermatological integument was examined for health and integrity. If there is a condition requiring medical attention, the subjects are excluded. Furthermore, an information talk took place, in which the study conditions were explained to the prospective study participants, and the rights and duties of the subjects in the context of the study by the attending study nurse or the attending dermatologist. Only if the subjects did not show any pathological changes of the skin in the application area, signed the consent statement of their own free will and accord or had it signed by their legal guardians, and fulfilled all other inclusion and exclusion criteria, were they included in the study. During the study, the subjects might consult the attending study nurse or the attending dermatologist in case of any objective and subjective skin changes. In accordance with the schedule, dermatological examinations took place.

3.1 Primary outcomes

Assessment of skin tolerability and possibly sensitisation potential

- Application study

3.2 Secondary outcomes

Control of efficacy

- Query of the subjective impression by questionnaire
- Individual wrinkle depth (PRIMOS handheld)
- Determination of the antioxidative status

3.3 Study parameters

Monocentric clinical trial over a period of a total of eight weeks.

4 Selection of subjects

The test was carried out in 20 female subjects aged between 25 and 45 years according to the inclusion and exclusion criteria. The subjects were selected from the subject database, but volunteers are also sought by means of flyers, social networks and newspaper entries.

4.1 Information of the subjects

Before the study, the participants were informed by the attending study nurse or the attending dermatologist about the course of the study. Participation in the study was voluntary. All subjects could discontinue the study at any time and without giving any reason, without any negative consequences for the subjects.

4.2 Inclusion criteria

- 25 years up to 45 years
- Female healthy volunteers
- Skin type: any
- Written informed consent is on hand

The subjects had to be able to communicate with the attending study nurse or the attending dermatologist and to understand and follow the requirements of this clinic-dermatological application study.

4.3 Exclusion criteria

- Severe or chronic skin inflammations
- Severe internal or chronic diseases
- Taking of drugs that may interfere with skin reactions (glucocorticoids, antiallergics, topical immune modulators, etc.)
- Application of active substance-containing products and care products 7-10 days before the start of the test
- Severe allergies or any serious side effects of cosmetic preparations ever occurred
- Sun baths or solarium visits during the study
- Known neoplastic disease
- Pregnancy and breast-feeding

4.4 Exclusion of subjects from the clinical-dermatological application study

The investigator can exclude a subject from the clinical-dermatological application study if any of the following conditions occurs:

- Revocation of the consent
- Occurrence of an undesirable event
- Deterioration of the clinical condition

The premature withdrawal of a subject is fully documented. The subjects continue to be taken care of for a reasonable time in order to control the clinical condition and occurrence of adverse events.

4.5 List of subjects

Subject №	Initials	Sex [f/m]	Age
1	CaKi	f	31
2	ErPi	f	28
3	FrEv	f	34
4	GlRa	f	34
5	HeMa	f	34
6	HoCl	f	35
7	JuMa	f	40
8	KeCo	f	34
9	MiTh	f	27
10	OlJu	f	34
11	PaLe	f	35
12	PaKa	f	36
13	PeLe	f	33
14	PoNa	f	37
15	PuDa	f	43
16	ScJo	f	27
17	ScAn	f	32
18	TaAn	f	32
19	ThKa	f	30
20	UtJa	f	32

5 Test product

5.1 Application of the investigational product

Over the entire application period, the product was applied to the face every night. The subjects were instructed not to use any equivalent product in the test area during the test period.

5.2 Interruptions / Discontinuation of the application

Application of the product to be tested could be discontinued at any time by the subject or, if the clinical condition so requires, upon the investigator's decision. Each discontinuation was fully documented. It was the investigator's responsibility to assess when conditions for discontinuation are given.

6 Benefit-risk weighing and precautions

There is no known risk in the use of the product. If a residual risk is detected, or if a change in the acceptance of the product is evident, the sponsor is notified immediately.

If during the study 10% or more of the test subjects experience a product-related reaction that is not acceptable for the corresponding product category, the study is terminated immediately, and the sponsor is notified accordingly.

7 Methods

In order to minimise fluctuations caused by external influences such as room temperature and relative humidity, the measurements are always carried out at the same physical ambient conditions in rested condition (≈20 °C, humidity 40–60 %).

7.1 Query of the subjective impression

By means of a final questionnaire, very disparate and non-measurable parameters (subjectively experienced effect, smell, taste, consistency, influence on the appearance of the skin, etc.) can be determined. To this end, each subject independently fills in the respective questionnaire at the query times. In case of uncertainty, the attending study nurse or the attending dermatologist can be consulted and questioned at any time.

7.2 Measurement of the individual wrinkle depth (PRIMOS handheld)

In every human being, permanent wrinkles develop around the eyes over the course of his or her life. Due to the characteristic radiating structure, these wrinkles are colloquially also referred to as crow's feet. The older and more stressed the skin is, the more intense these wrinkles are. The depth of the wrinkles can be determined by means of the optical 3D in vivo skin measurement PRIMOS (***P**hase-shift **R**apid **I**n vivo **M**easurement **O**f **S**kin*), based on the digital strip projection technique (PRIMOS compact, GFMesstechnik GmbH). To measure wrinkle depth, parallel strip patterns are projected onto the skin and recorded by means of a CCD recording camera. Minute height differences deflect the parallel projection strips and thus form a quantitative and qualitative measure of the skin surface to be measured. Due to its overlay function, the corresponding software enables exact retrieval of the area, making direct comparison of the reference data set (data before) with a measurement data set (data after) possible. To determine wrinkle depth, the profile of a cutting line is selected, and the absolute depth of the wrinkle is measured.

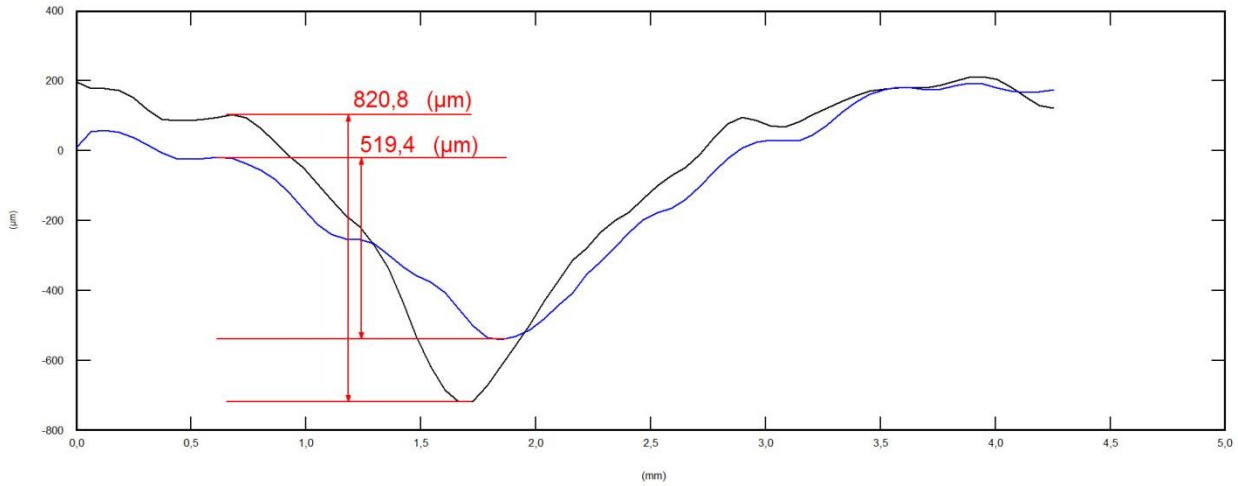

Figure: Graphical representation of individual wrinkle depth before (black line) and after (blue line) the application period. (Manual Optical 3D skin measuring device PRIMOS compact).

One image of the test area is created per time of measurement.

REFERENCES:

- S. Jaspers, H. Hopermann, G. Sauermann, U. Hoppe, R. Lunderstädt, J. Ennen: "Rapid in vivo measurement of the topography of human skin by active image triangulation using a digital mircromirror device", Skin Research & Technology, Vol. 5, Issue 3, August 1999, pp. 195-207.
- R. Lunderstädt, U. Müller: "Laserprofilometrie zur quantitativen Analyse der menschlichen Haut", Technisches Messen tm 59 (1992), S. 448-453.

7.3 Messung der antioxidativen Status (MSRRS Methode)

The emergence of free radicals, which can damage cells and body, is favored by factors such as stress, sun exposure, smoking or lack of sleep. Persistent and excessive oxidative stress can lead to premature skin aging. Antioxidants such as vitamins, carotenoids, enzymes, flavonoids or polyphenols trap free radicals, render them harmless and thus protect the cells and the body. The amount of carotenoids (biomarkers) located especially in the stratum corneum is a measure of the antioxidant capacity of the entire epidermis.

Based on the MSRRS method (Multiple Spatially Resolved Reflection Spectroscopy), light of specific wavelengths is irradiated into the skin by means of a handheld scanner (Biozoom GmbH, Germany). The light penetrates the tissue, absorbing information and reflecting the recorded light spectrum back to the scanner. During the measurement, the epidermis is passed through by 18,000 different light waves and thus ensures valid measurement results. Using a highly complex, medically validated algorithm, the data is evaluated and given as arbitrary units. The antioxidant status was determined before and 8 weeks after the use of the test product.

LITERATUR

- M.E. Darvin, B. Magnusson, J. Lademann, W. Köcher „Multiple spatially resolved reflection spectroscopy for in vivo determination of carotenoids in human skin and blood“, Laser Physics Letters, vol.13, Nr.9
- M.C. Meinke, S.B. Lohan, W. Köcher, B. Magnussen, M.E. darvin, J. Lademann „Multiple spatially resolved reflection spetroscopy to monitor cutaneous carotenoids during supplementation of fruit and vegetable extracts in vivo”, Skin Res Technol 2017 Nov;23(4);459-462
- S. Haag, B. Taskoparan, M.E.Darvin, N. Groth, J. Lademann, W. Steinke, M.C. Meinke „Determination oft he antioxidative capacity oft he skin in vivo using resonance Raman and electron paramagnetic resonance spectroscopy” Exp. Dermatol 2011 Vol.20;(6);483-487

7.4 Statistics

The values of the individual measurements are averaged, and the differences of the before and after values and the relative change of the mean values are calculated.

8 Results

8.1 Dermatological examination results

The examinations were carried out according to clinical-dermatological evaluation criteria. All test persons showed healthy skin in the test area before, during and after the application study. No pathological skin lesions were found in any form. No test interruption, even less treatment by a specialist in dermatology was performed in any case. The product named was very well tolerated, and it did not lead to dermatologically relevant skin changes in any subject.

Subject №	Findings before	Findings after	Type of reaction
1	–	–	–
2	–	–	–
3	–	–	–
4	–	–	–
5	–	–	–
6	–	–	–
7	–	–	–
8	–	–	–
9	–	–	–
10	–	–	–
11	–	–	–
12	–	–	–
13	–	–	–
14	–	–	–
15	–	–	–
16	–	–	–
17	–	–	–
18	–	–	–
19	–	–	–
20	–	–	–

If skin reactions occur, the type of the reaction is assessed clinically-dermatologically, and the findings are documented using the following scale:

–	no pathological findings
1	mild reaction
2	moderate reaction
3	severe reaction

8.2 Query of the subjective impression

The question of the subjective impression was made with the help of a final questionnaire.

1. What did you like most about the product?
[1 x] that it makes the pillow firmer, no odour in use, improves lying comfort
[1 x] easy application, good fit
[1 x] the cover made the pillow a little firmer, so I could sleep well
[1 x] did not affect the cushion structure, the pillow was still soft
[1 x] it is a comfortable and soft cover because it is so thick
[1 x] the cover was very convenient
[1 x] pleasant soft material
[1 x] pleasant feeling of sleep
[1 x] it is convenient
[1 x] the skin felt increasingly soft
[1 x] beautifully soft
[1 x] comfortable hang-up, fuller feeling
[1 x] soft, malleable
[1 x] soft, pleasant to lie on
[1 x] Haptics of the reference
[1 x] pleasantly soft
[4 x] no statement

2. What did you not like about the product?
[1 x] Plastic smell before first use
[1 x] that it must not be washed above 30 degrees
[1 x] the smell at the beginning
[1 x] I saw no anti-aging effect
[1 x] I had more pimples on my nose, but I can't tell if it came from the product
[1 x] too compact, therefore somewhat uncomfortable
[1 x] through the cover the cushion was a bit thick
[1 x] the cover is too hard and too thick
[12 x] no statement

3. How do you rate the product at all?
[5 x] very good
[8 x] good
[6 x] neither good nor bad
[0 x] bad
[1 x] very bad

4. How do you rate the feeling of sleep when using the product?
[8 x] better
[10 x] unchanged
[2 x] worse

5. How do you rate the effectiveness of the product in wrinkles or wrinkle reduction?
[0 x] clearly visible
[4 x] visible
[16 x] unchanged

6. How do you rate the skin feeling after using the product?
[2 x] very good
[8 x] good
[10 x] neither good nor bad
[0 x] bad
[0 x] very bad

7. How do you rate the tolerability of the product?
[12 x] very good
[5 x] good
[3 x] neither good nor bad
[0 x] bad
[0 x] very bad

8. Rate the following statement: „By applying the product, my skin works / is wrinkle-free.“
[0 x] totally agree
[6 x] rather agree
[10 x] neither nor
[4 x] rather not agree
[0 x] don't agree

9. Rate the following statement: „By applying the product, my skin is firmer.“
[0 x] totally agree
[8 x] rather agree
[8 x] neither nor
[4 x] rather not agree
[0 x] don't agree

10. Rate the following statement: „The application of the product creates a feeling of smoother skin.“
[1 x] totally agree
[8 x] rather agree
[8 x] neither nor
[3 x] rather not agree
[0 x] don't agree

11. Rate the following statement: „By applying the product, my skin looks more beautiful.“

[0 x] totally agree
[10 x] agree
[5 x] don't agree
[5 x] I am undecided

12. Rate the following statement: „The application of the product ensures a healthy complexion."

[3 x] totally agree
[9 x] agree
[5 x] don't agree
[3 x] I am undecided

13. Rate the following statement: „The application of the product gives me a fresher and younger appearance.“

[0 x] totally agree
[6 x] rather agree
[11 x] neither nor
[2 x] rather not agree
[1 x] don't agree

14. Rate the following statement: „The application of the product creates a feeling of firmer, smoother skin.“

[1 x] totally agree
[6 x] rather agree
[10 x] neither nor
[2 x] rather not agree
[1 x] don't agree

15. Rate the following statement: „The application of the product refines my skin.“

[0 x] totally agree
[5 x] rather agree
[12 x] neither nor
[2 x] rather not agree
[1 x] don't agree

16. Rate the following statement: „After applying the product, my skin feels beautiful.“

[2 x] totally agree
[7 x] rather agree
[8 x] neither nor
[2 x] rather not agree
[1 x] don't agree

17. Rate the following statement: „The application of the product gives me a fresh look.“
[3 x] totally agree
[5 x] rather agree
[9 x] neither nor
[2 x] rather not agree
[1 x] don't agree

18. Rate the following statement: „The application of the product makes my skin radiant.“
[2 x] totally agree
[5 x] rather agree
[11 x] neither nor
[1 x] rather not agree
[1 x] don't agree

19. Rate the following statement: „I initially doubted the mode of action, but I am convinced after the application.“
[4 x] totally agree
[5 x] rather agree
[5 x] neither nor
[4 x] rather not agree
[2 x] don't agree

20. How likely is it that you recommend the product?

unlikely									very likely
[4 x] 1	[1 x] 2	[3 x] 3	[0 x] 4	[1 x] 5	[1 x] 6	[4 x] 7	[1 x] 8	[1 x] 9	[4 x] 10

21. Would you buy the product after this application test?
[10 x] yes
[10 x] no, because
[1 x] because the cover gives a nice feeling of sleep
[1 x] I could not notice any change
[2 x] no effect detected
[1 x] no difference
[1 x] no effect could be seen
[1 x] uncomfortable, too firm, too compact
[1 x] there are no visible changes
[1 x] no need yet
[1 x] I have not noticed any effect
[1 x] no improvement

8.3 PRIMOS handheld / individual wrinkle depth

The measurements of individual wrinkle depth were carried out at one point in the **test area** at the times indicated.

Subject №	T_0 [µm]	T_{8Weeks} [µm]	Difference [µm]	Change [%]
2	99.7	96.5	-3.2	-3.21
11	128.0	100.5	-27.5	-21.48
12	147.3	146.5	-0.8	-0.54
17	207.4	193.9	-13.5	-6.51
19	172.5	147.9	-24.6	-14.26
Mean	**150.98**	**137.06**	**-13.92**	**-9.20**
Minimum	99.70	96.50	-0.80	-21.48
Maximum	207.40	193.90	-27.50	-0.54
Std.Dev.	41.28	40.06	12.10	8.58

8.4 Antioxidative Status (Determination of the Carotenoids)

The measurements of antioxidative status were carried out at two points in the **test area** at the times indicated and the values were averaged.

Probanden Nr.	T_0	$T_{8Wochen}$	Differenz	Veränderung [%]
1	4.4	4.70	0.30	6.82
2	5.5	5.60	0.10	1.82
3	6.5	6.40	-0.10	-1.54
4	5.5	5.30	-0.20	-3.64
5	3.7	4.30	0.60	16.22
6	4.5	4.90	0.40	8.89
7	4.1	4.30	0.20	4.88
8	5.5	6.50	1.00	18.18
9	6.4	6.70	0.30	4.69
10	7.0	7.30	0.30	4.29
11	5.9	7.00	1.10	18.64
12	5.6	5.60	0.00	0.00
13	3.1	3.70	0.60	19.35
14	5.7	5.90	0.20	3.51
15	6.3	6.50	0.20	3.17
16	7.0	6.90	-0.10	-1.43
17	6.3	7.10	0.80	12.70
18	5.2	6.30	1.10	21.15
19	4.9	5.50	0.60	12.24
20	5.1	5.40	0.30	5.88
Durchschnitt	**5.41**	**5.80**	**0.39**	**7.79**
Minimum	**7.00**	**7.30**	**1.10**	**21.15**
Maximum	**3.10**	**3.70**	**-0.20**	**-3.64**
Stand.abw.	**1.06**	**1.04**	**0.39**	**7.70**

9 Assessment of the study results

9.1 Skin tolerability

The test product **probiotic pillowcase Skin+** was applied during a period of eight weeks by 20 subjects once daily onto the face. There were no relevant skin reactions in the test area from the clinical-dermatological perspective; the product was very well tolerated. No intolerance reactions suggestive of irritation or allergic reactions (contact dermatitis) were detected.

Accordingly, from the dermatological viewpoint, there is no high potential for irritation and sensitisation for the tested product when this is used as intended.

9.2 Efficacy

The efficacy of the test product **probiotic pillowcase Skin+** with respect to individual wrinkle depth was determined by means of optical 3D in vivo skin measurement (PRIMOS compact, GFMesstechnik GmbH). Improvement of individual wrinkle depth by 9.20% in the test area could be shown.

The efficacy of the test product **probiotic pillowcase Skin+** with respect to antioxodative status was determined by means of MSRRS Methode (Multiple Spatially Resolved Reflection Spectroscopy). Improvement of antioxidative status by 7.79% in the test area could be shown.

10 Addendum

10.1 Quality control, quality assurance and data protection

The quality of the study implementation and of the data recording is ensured by ISO 9001 and checked at regular intervals internally and externally by monitoring by TÜV Rheinland.

The provisions of the applicable data privacy legislature are observed. All data of the subjects are handled confidentially and are disclosed to the sponsor only in a pseudonymised version. All data are stored for ten years.

10.2 Certificates

- Skin tolerability
- Efficacy

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Muenster, 27.05.2019

Certificate

about the cosmetic product

probiotic pillowcase Skin+

Clinical application study under dermatological control

The test product was applied during a period of eight weeks by 20 subjects once daily onto the face. From the clinical-dermatological point of view, no relevant skin reactions occurred in the test area; the product was tolerated

excellently.

Neither intolerance reactions suggestive of irritation nor allergic reactions (contact dermatitis) were detected. Accordingly, from the dermatological viewpoint, there is no high potential for irritation and sensitisation for the tested product when this is used as intended.

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Muenster, 27.05.2019

Certificate

about the cosmetic product

probiotic pillowcase Skin+

Clinical application study under dermatological and control and determination of individual wrinkle depth

The test product was applied during a period of eight weeks by 20 subjects once daily onto the face. Determination of the individual wrinkle depth carried out under clinical-dermatological control showed

improvement of the individual wrinkle depth by 9.20 %

in the test area.

Dr. med. Werner Voss
Specialist in Dermatology,
Venereology, Allergology,
Phlebology and Environmental Medicine

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Muenster, 27.05.2019

Certificate

about the cosmetic product

probiotic pillowcase Skin+

Clinical application study under dermatological and control and determination of the antioxidative capacity

The test product was applied during a period of eight weeks by 20 subjects once daily onto the face. Determination carried out under clinical-dermatological control showed

improvement of the antioxodative capacity by 7.79 %

in the test area.

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