MyMicrobiome Standard

Test report no.: 230.238.7

The influence of the test product on the key organisms of the respective body region was examined.

Information about the tested product:

Manufacturer:
Codex Labs Corporation
1900 Camden Avenue, Suite 101
San Jose CA 95124
USA

Name of the product:
Bia Eczema Relief Lotion

Product type:

- ✕ Final Product
- ○ Ingredient

Application:

- ○ Rinse Off
- ✕ Leave On

Standard:

- ✕ Face/Lips
  MyMicrobiome Standard 18.10
- ✕ Body / Neck / Chest / Hands
  MyMicrobiome Standard 18.10
- ✕ Back
  MyMicrobiome Standard 18.10
- ✕ Bottom / Thighs
  MyMicrobiome Standard 18.10
- ○ Axillary vault
  MyMicrobiome Standard 18.10
- ○ Infant skin
  MyMicrobiome Standard 20.10
- ○ Vaginal tract
  MyMicrobiome Standard 21.10
- ○ Feet
  MyMicrobiome Standard 22.10
- ○ Mouth
  MyMicrobiome Standard 23.10
- ○ Nasal mucosa
  MyMicrobiome Standard 24.10

Sample receipt: 25 January 2023
Test period: 31 January – 20 February 2023

Test result: 2.0
Approved yes/no: yes; 24 February 2023

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Test report no.: 230.238.7

Test description

The MyMicrobiome Standard evaluates cosmetic and personal care products, that encounter the skin or mucous membrane, in terms of their influence on the microbiome located at a specific body site.

An intact skin microbiome has a fundamental influence on skin health. Products which are to be skin-friendly must also be Microbiome-friendly in order not to unbalance the skin of the user.

The MyMicrobiome Standard evaluates the influence of cosmetic and personal care products on the microbial key players of a specific skin or mucous membrane area.
The human microbiome is very individual from person to person.

Each area, however, harbors a characteristic composition of bacteria, viruses and fungi. The test examines the products influence on the key organisms typical for each skin area and thus offers a standardized procedure.

Various aspects are examined:

The microbial quality of the product.

The influence of the product on the natural, healthy skin balance.

The skin-commensal bacterium *Staphylococcus epidermidis* keeps the skin with antimicrobial peptides (so-called bacteriocins) and pH adjustments healthy and keeps skin-harmful germs such as *Staphylococcus aureus* in check. The product should not disturb this balance between skin-friendly and skin-harmful bacteria. This sensitive balance is investigated in conjunction with the product.

The influence of the product on the bacterial diversity of the specific body region.

Each body region is colonized by a certain microbial composition. For a healthy skin it is particularly important to maintain this biodiversity. The influence of the product on the respective microbial mixture is examined in the test. The aim is to find as many key organisms as possible after contact with the product.

The influence of the product on the growth behavior of the microbes of the specific body region.

In addition to the diversity of the specific microbiome, the growth or number of different key organisms should not be influenced by the product. This is investigated in a skin-product contact model. The key organisms are brought into direct and indirect contact with the product and their growth is observed.

Results

The microbial quality of the product.

The prerequisite for the test for microbial friendliness is the microbiological quality of the product.

The following table contains the limit values that must be observed.

Types of organisms	Limit values	
	Products specially designed for children under 3 years, eye area or mucous-skins	Other products
Total counts mesophilic, aerobic microorganisms (bacteria, yeasts, molds, (TAMC and TYMC))	≤ 1 x 10^2 cfu/g or ml[a]	≤ 1 x 10^3 cfu/g or ml[b]
Escherichia coli	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
Pseudomonas aeruginosa	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
Staphylococcus aureus	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
Candida albicans	Not detectable in 1g or 1 ml	Not detectable in 1g or 1 ml
a >200 cfu/g or ml, b >2000 cfu/g or ml		

Results Microbiological quality:
Determination of TAMC, TYMC, absence of *E. coli*, *P. aeruginos*a and *S. aureus.*

The microbiological quality of the product according to DIN EN ISO 17516 is fulfilled.

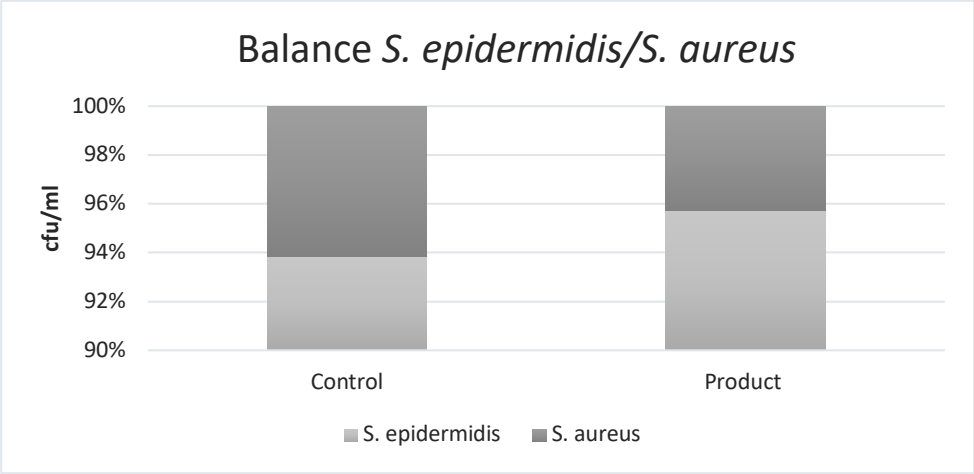
Parameter	Sample no.: 230.238.7
TAMC [cfu/0,1 ml]	< 1,0E+01
TYMC (incl. *Candida albicans*) [in 0,1 ml]	negative
***Escherichia coli* [in 0,1 ml]**	negative
***Pseudomonas aeruginosa* [in 0,1 ml]**	negative
***Staphylococcus aureus* [in 0,1 ml]**	negative

Results

The influence of the product on the natural, healthy skin balance.

A co-culture of *S. epidermidis* and *S. aureus* is incubated with the product. The ratio of the two microbes to each other is determined.

Determination of the bacterial count at time t = 15 min (rinse-off) or 4h (leave-on).

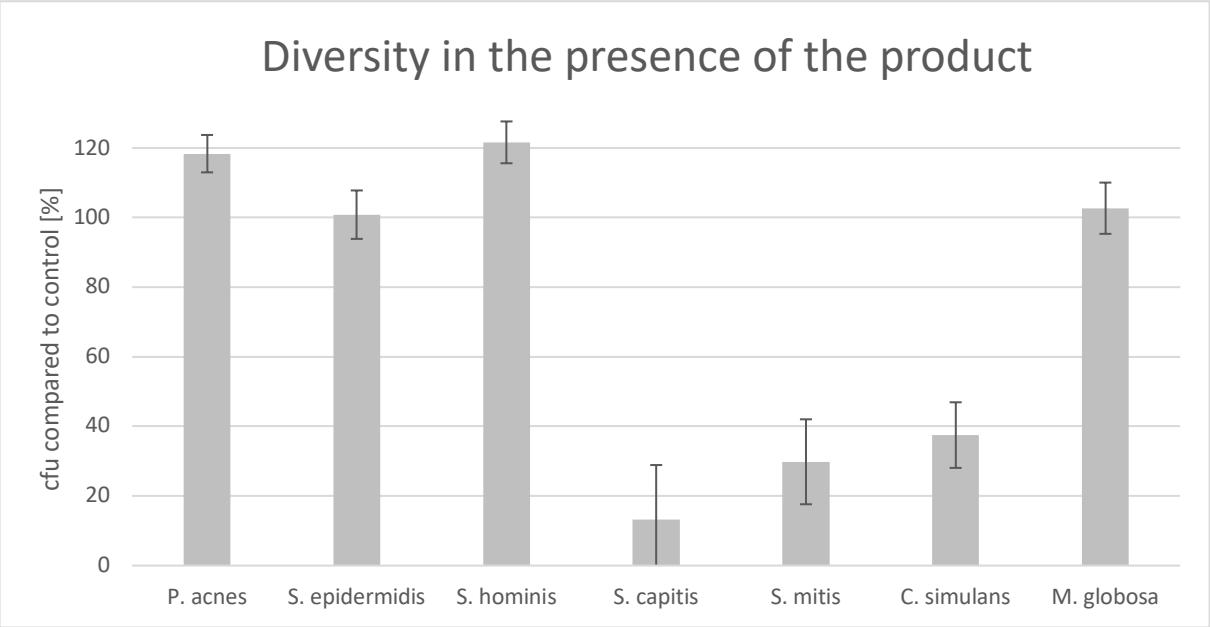


	cfu/ml		Ratio Product/ Control	Grade
	S. epidermidis	***S. aureus***		
Control	2.6E+03	1.7E+02	1.5	1.0
Product	4.8E+03	2.1E+02		

Results – SEBACEOUS SKIN -

The influence of the product on the microbial diversity of the specific body region.

A co-culture of key organisms of the specific body region is incubated with the product for 15 min (rinse-off) or 4h (leave-on) The ratio of the bacteria compared to the control (PBS) is determined.

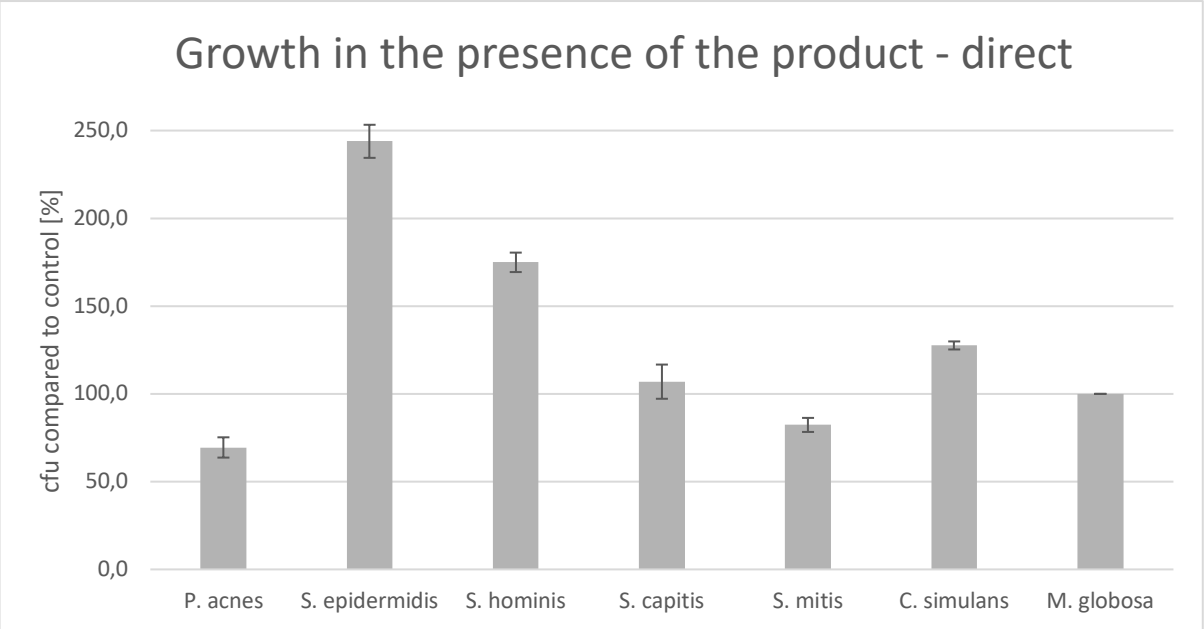


Key-Microbe	t=	4h	Rating
	cfu/ml		
P. acnes	Control	1.5E+03	1
	Product	1.8E+03	
S. epidermidis	Control	7.9E+03	1
	Product	8.0E+03	
S. hominis	Control	4.9E+03	1
	Product	6.0E+03	
S. capitis	Control	8.4E+03	3
	Product	1.1E+03	
S. mitis	Control	2.3E+04	3
	Product	7.0E+03	
C. simulans	Control	2.0E+03	3
	Product	7.5E+02	
M. globosa	Control	1.7E+04	1
	Product	1.8E+04	
Overall rating:			1.9

Results – SEBACEOUS SKIN -

The influence of the product on the growth behavior of the microbes of the specific body region – directly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). Product contact with the microorganisms is directly.

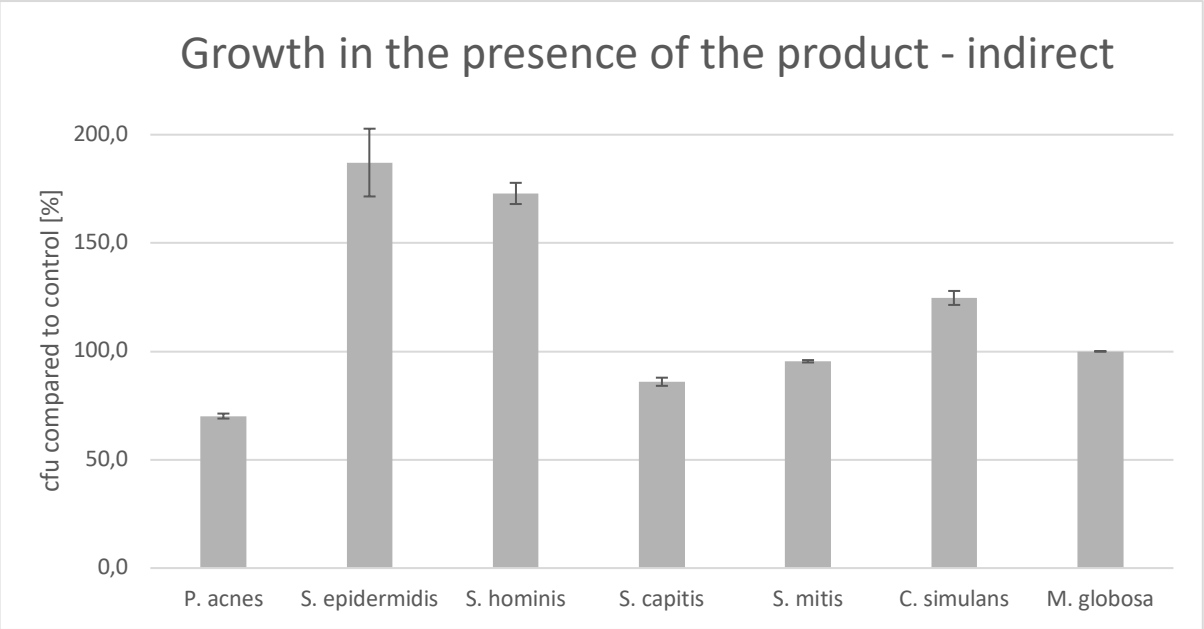


Key-Microbe	cfu /Plate		Rating
P. acnes	Control	600.7	
	Product	417.3	2
S. epidermidis	Control	130.7	
	Product	318.7	3
S. hominis	Control	258.0	
	Product	451.3	2
S. capitis	Control	316.3	
	Product	338.3	1
S. mitis	Control	2186.7	
	Product	1800.0	2
C. simulans	Control	418.0	
	Product	533.3	2
M. globosa	Control	1.0	
	Product	1.0	1
Overall rating:			1.9

Results – SEBACEOUS SKIN -

The influence of the product on the growth behavior of the microbes of the specific body region – indirectly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). The product contact to the microorganisms is indirect.

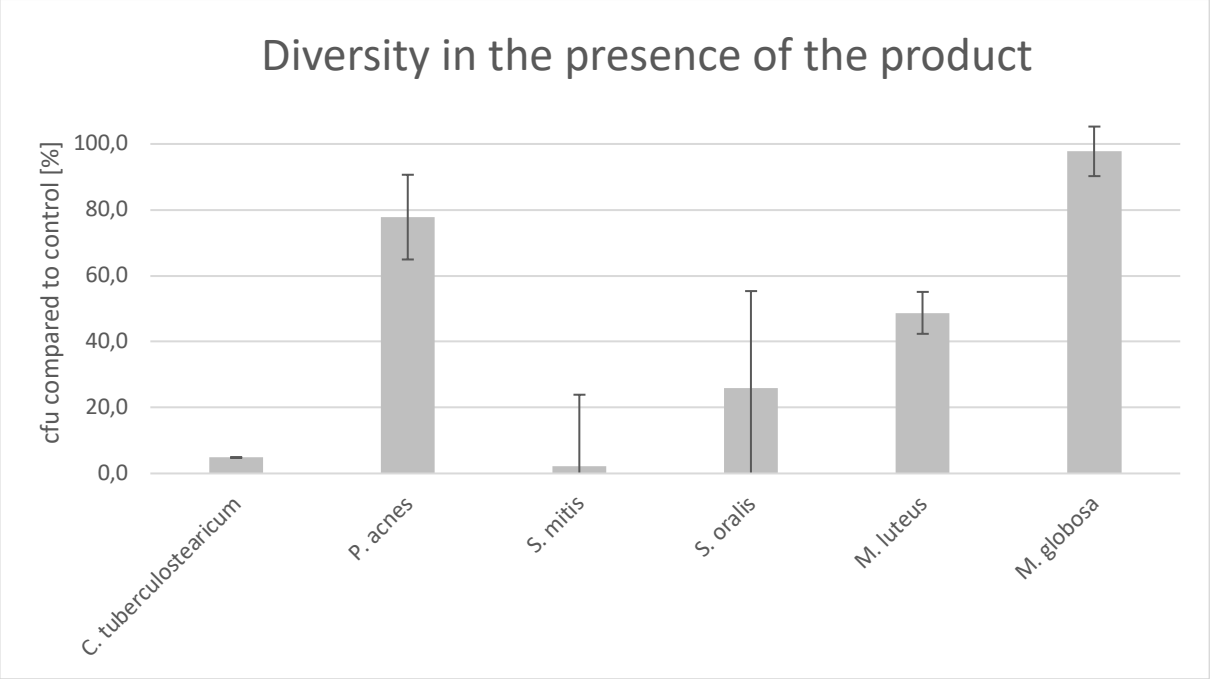


Key-Microbe	cfu /Plate		Rating
P. acnes	Control	574.0	
	Product	402.7	2
S. epidermidis	Control	134.7	
	Product	252.0	3
S. hominis	Control	260.7	
	Product	450.7	3
S. capitis	Control	356.7	
	Product	306.7	2
S. mitis	Control	2016.0	
	Product	1924.0	1
C. simulans	Control	497.3	
	Product	620.0	1
M. globosa	Control	1.0	
	Product	1.0	1
Overall rating:			1.9

Results – DRY SKIN -

The influence of the product on the microbial diversity of the specific body region.

A co-culture of key organisms of the specific body region is incubated with the product for t = 15 min (rinse-off) or 4h (leave-on). The ratio of the microbes compared to the control (PBS) is determined.

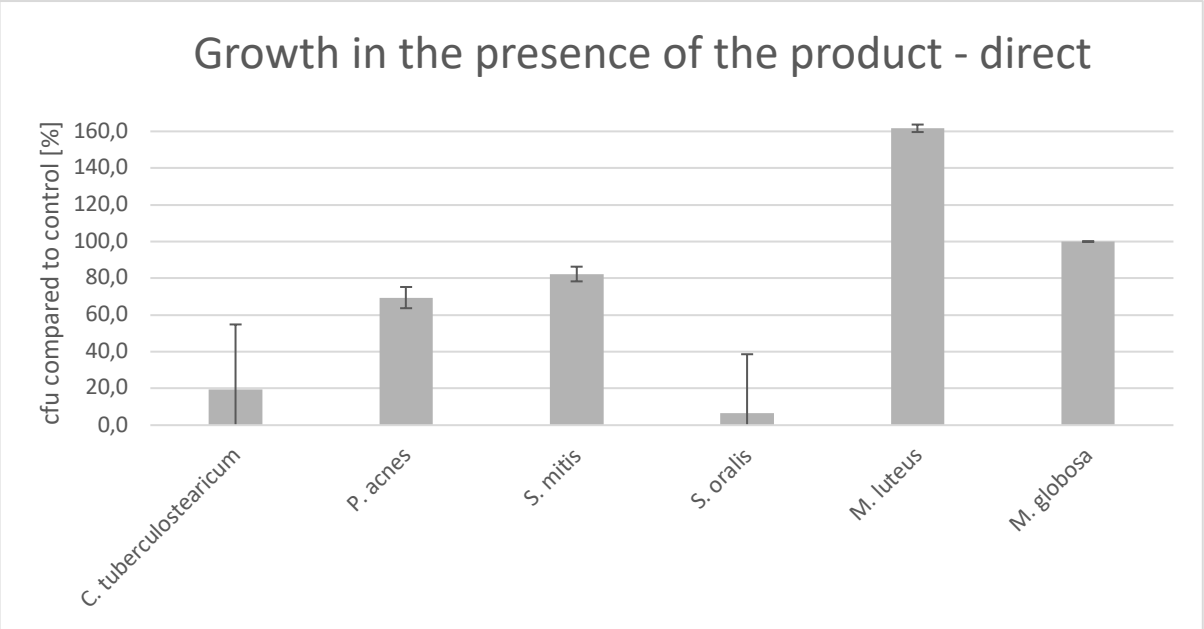


Key-Microbe	t=	4h	Rating
	cfu/ml		
C. tuberculostearicum	Control	2.1E+02	3
	Product	1.0E+01	
P. acnes	Control	1.7E+03	2
	Product	1.3E+03	
S. mitis	Control	1.2E+03	3
	Product	2.7E+01	
S. oralis	Control	1.4E+03	3
	Product	3.7E+02	
M. luteus	Control	4.1E+03	3
	Product	2.0E+03	
M. globosa	Control	6.7E+03	1
	Product	6.5E+03	
Overall rating:			2.5

Results – DRY SKIN -

The influence of the product on the growth behavior of the microbes of the specific body region – directly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). Product contact with the microorganisms is directly.

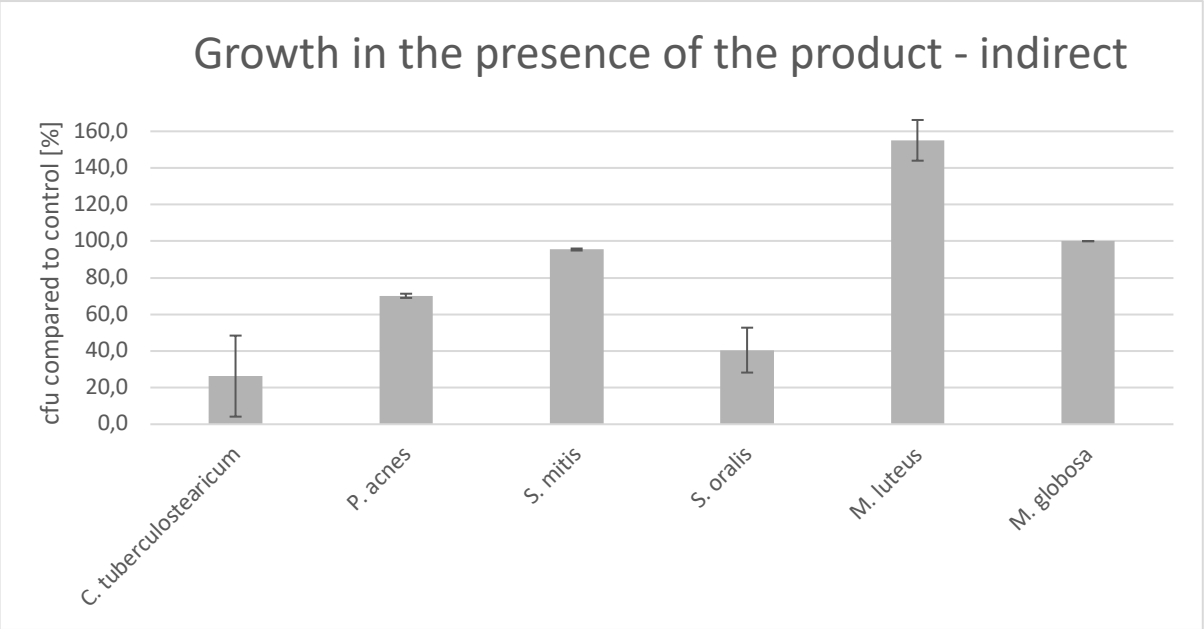


Key-Microbe	cfu /Plate		Rating
C. tuberculostearicum	Control	1601.3	
	Product	310.0	3
P. acnes	Control	600.7	
	Product	417.3	2
S. mitis	Control	2186.7	
	Product	1800.0	2
S. oralis	Control	231.3	
	Product	15.5	3
M. luteus	Control	342.7	
	Product	554.0	2
M. globosa	Control	1.0	
	Product	1.0	1
Overall rating:			2.2

Results – DRY SKIN -

The influence of the product on the growth behavior of the microbes of the specific body region – indirectly.

The influence of the product on the growth of each individual microbe of the key organisms of the specific body region is investigated and put in relation to the control (PBS). The product contact to the microorganisms is indirect.



Key-Microbe	cfu /Plate		Rating
C. tuberculostearicum	Control	2084.7	
	Product	548.0	3
P. acnes	Control	574.0	
	Product	402.7	2
S. mitis	Control	2016.0	
	Product	1924.0	1
S. oralis	Control	213.7	
	Product	86.5	3
M. luteus	Control	467.5	
	Product	725.0	2
M. globosa	Control	1.0	
	Product	1.0	1
Overall rating:			2.0

Results

The results are evaluated with grades from 1 (one) to 3 (three). If the product shows no or positive influence to the above-mentioned aspects, a grade of 1 is awarded respectively.

If only a very weak negative influence can be detected in the tests, the grade 2 is awarded and in case of a clearly negative influence, the product receives the grade 3.

The product has passed up to grade 2.0.

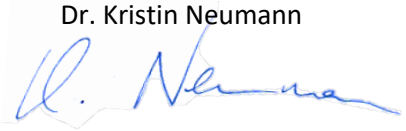
Here the grade means

1.0 – 2.0 = Microbiome-friendly; 2.1 – 3.0 = Microbiome-damaging.

Test	Grade
Balance of the skin microbiome	1.0
Diversity of the corresponding skin microbiome (sebaceous, x2)	1.9
Diversity of the corresponding skin microbiome (dry, x2)	2.5
Skin-product contact direct (sebaceous, x2)	1.9
Skin-product contact direct (dry, x2)	2.2
Skin-product contact indirect (sebaceous)	1.9
Skin-product contact indirect (dry)	2.0
Overall grade	**2.0**

With an overall grade of 2.0 the seal „Microbiome-friendly“ is awarded according to MyMicrobiome Standard 18.11.

Place, Date: Balzers, 24 February 2023

Responsible person: Dr. Kristin Neumann

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