

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

Information about the tested product:

Manufacturer:

Topaz Biosciences, Inc.
1250 45th St. Ste. 320
Emeryville, CA 94608
USA

Name of the product:

hypothesis ECZEMA PRECISION HYDROGEL

Product type:	Eczema Treatment
Application:	Leave-on
Dilution:	no
Sample received:	25.04.2025
Test Start:	25.04.2025
Test End:	06.06.2025
Test Standard:	MyMicrobiome Standard 27.10 Eczema Adult
Test result:	2.0
Certification:	Granted

Test description

The MyMicrobiome Eczema Standard specifically assesses the effects of products and ingredients on nine different *S. aureus* strains in conjunction with strains critical for maintaining skin homeostasis. A key feature of the Eczema Standard is the inclusion of a balance test, which examines the interaction between *S. aureus* and *S. hominis*—a species found to be antagonistic to *S. aureus*. This is significant because other species, such as *S. epidermidis*, have been implicated in contributing to inflammation in eczema.

Various aspects are examined:

The microbial quality of the product.

To be evaluated according to our standard, the product needs to be free of contaminants. This is verified in the microbial quality test.

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

The skin-commensal bacterium *Staphylococcus hominis* produces antimicrobial peptides (so-called bacteriocins) and regulates skin pH, which keeps harmful microorganisms such as *Staphylococcus aureus* in check. The product should not disturb the balance between friendly and harmful bacteria and significantly reduce the level of *S. aureus*.

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

Each body region is colonized by a certain set of microorganisms. For healthy microbiome, it is particularly important to maintain this biodiversity. The influence of the product on the respective microbial composition 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 microorganisms in a specific body area, the growth of the individual key organisms should not be influenced by the product. The key organisms are brought into direct and indirect contact with the product and their growth is observed.

The influence of the product on the growth behavior of *S. aureus* strains.

The product must specifically reduce the strain which triggers inflammation, *S. aureus*. Therefore nine *S. aureus* strains are brought into direct contact with the product and their growth is observed. For a successful certification the growth of these strains must be significantly impaired by the product.

Results

The microbiological quality of the product.

The prerequisite for the test for microbial friendliness is the microbiological quality of the product based on DIN ISO 17516. The following table contains the limit values for contaminants that must be observed.

Types of organisms	Limit values
Total aerobic microbial count (TAMC) and total combined yeasts/ moulds count (TYMC)	≤ 20 cfu*/g or ml

* colony forming units (cfu)

Results microbiological quality

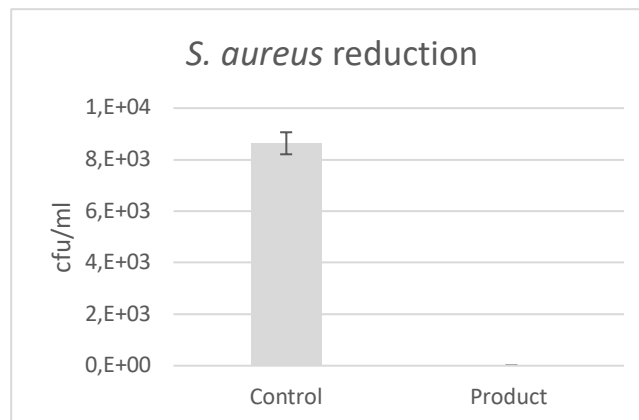
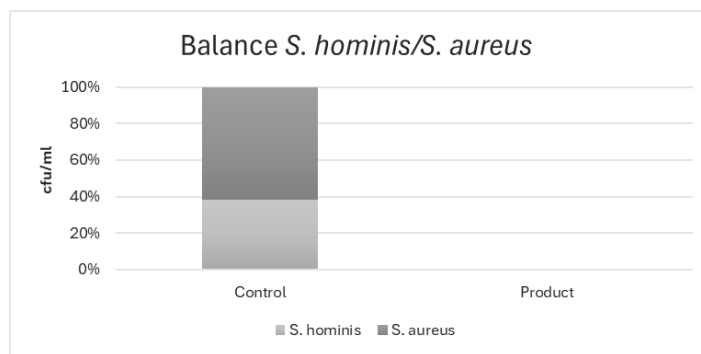
Parameter	Sample no.: {d.Testno}
TAMC and TYMC [cfu/0,1 ml]	< 20

The microbiological quality of the product is fulfilled.

Results

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

A co-culture of *S. hominis* and *S. aureus* is incubated with the product for 15 min (rinse-off) or 4h (leave-on). Bacterial counts are determined, the ratio of the two microbes to each other is assessed and compared to the control sample (PBS).

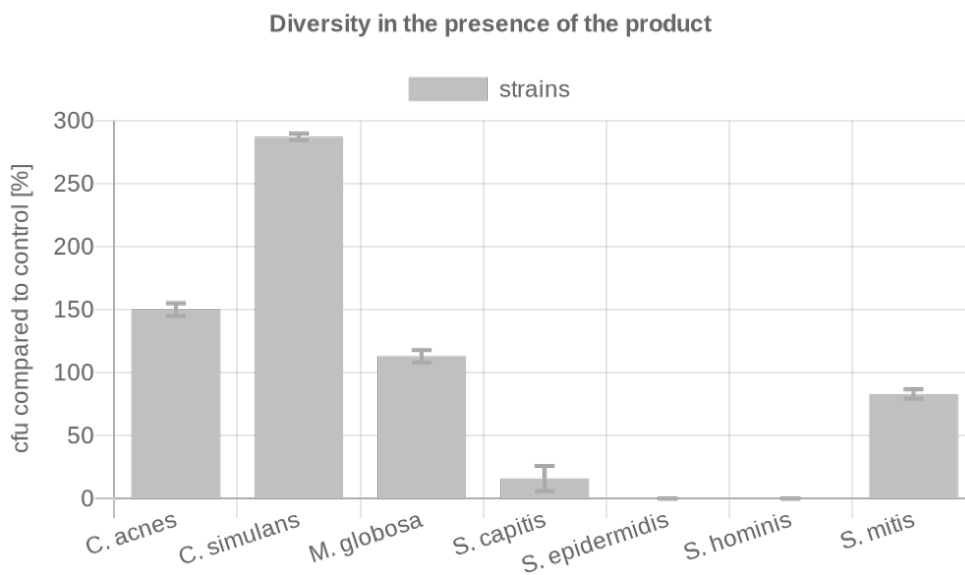


	cfu/ml		Ratio Product/ Control	Grade
	<i>S. hominis</i>	<i>S. aureus</i>		
Control	5.3E+03	8.6E+03	n.a.	3
Product	0.0E+00	0.0E+00	Reduction <i>S. aureus</i>	
			0.0	1

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). Bacterial colonies are counted, and the ratio of the cfu in the presence of the product compared to the control (PBS) is determined.

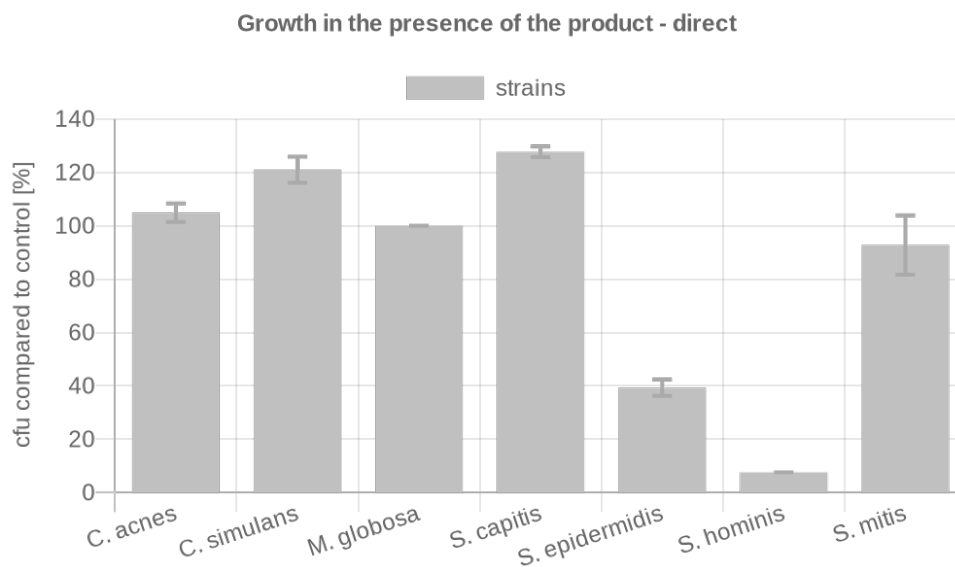


Key-Microbe	t=	4h	Rating
	cfu/ml		
C. acnes	Control	463.3	2
	Product	695	
C. simulans	Control	1180	3
	Product	3386.7	
M. globosa confluence	Control	18833.3	1
	Product	21200	
S. capitis	Control	85.7	3
	Product	14	
S. epidermidis	Control	62	3
	Product	0	
S. hominis	Control	33	3
	Product	0	
S. mitis	Control	84.3	2
	Product	70	
Overall rating:			2.4

Results – SEBACEOUS SKIN –

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

The influence of the product on the growth of each individual key organism of the specific body region is investigated and the ratio of the cfu in the presence of the product is calculated in % relative to the control sample (PBS). Product contact with microorganisms is direct.

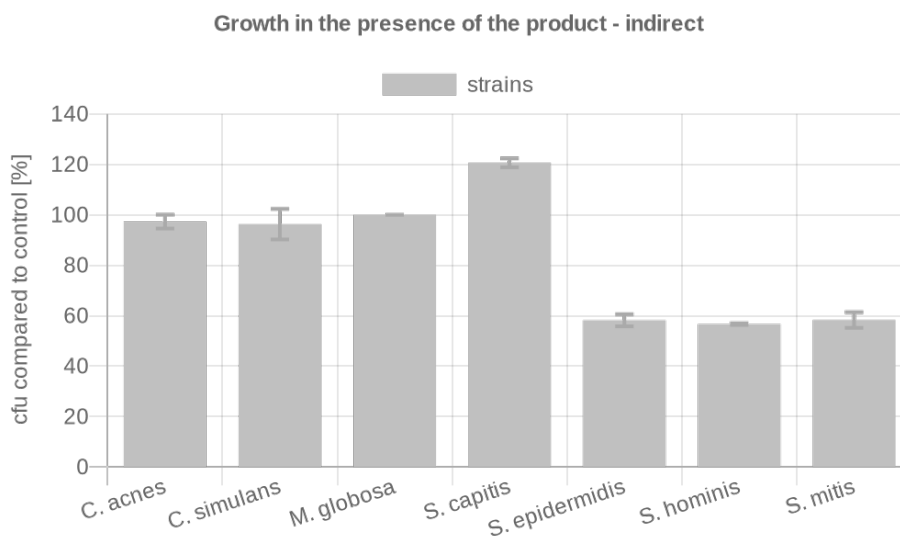


Key-Microbe	cfu/ml		Rating
	Control	Product	
C. acnes	Control	232.5	1
	Product	244	
C. simulans	Control	443.3	1
	Product	536.5	
M. globosa confluence	Control	100	1
	Product	100	
S. capitis	Control	541.7	2
	Product	691.7	
S. epidermidis	Control	828.7	3
	Product	326	
S. hominis	Control	393	3
	Product	30	
S. mitis	Control	562.7	2
	Product	522.3	
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 key organism of the specific body region is investigated and the ratio of the cfu in the presence of the product is calculated in % relative to the control sample (PBS). Product contact with microorganisms is indirect.

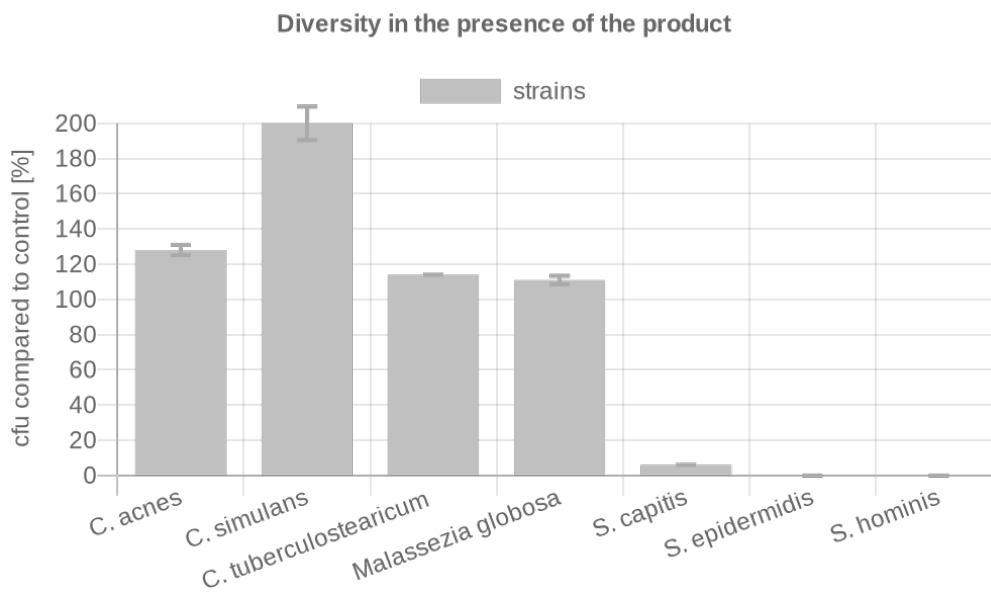


Key-Microbe	cfu/ml		Rating
	Control	Product	
<i>C. acnes</i>	Control	199.3	1
	Product	194	
<i>C. simulans</i>	Control	422.7	1
	Product	407	
<i>M. globosa confluence</i>	Control	100	1
	Product	100	
<i>S. capitis</i>	Control	773.7	1
	Product	933.3	
<i>S. epidermidis</i>	Control	956	3
	Product	556.5	
<i>S. hominis</i>	Control	385.3	3
	Product	218.5	
<i>S. mitis</i>	Control	525	3
	Product	306	
Overall rating:			1.9

Results – MOIST 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). Bacterial colonies are counted, and the ratio of the cfu in the presence of the product compared to the control (PBS) is determined.

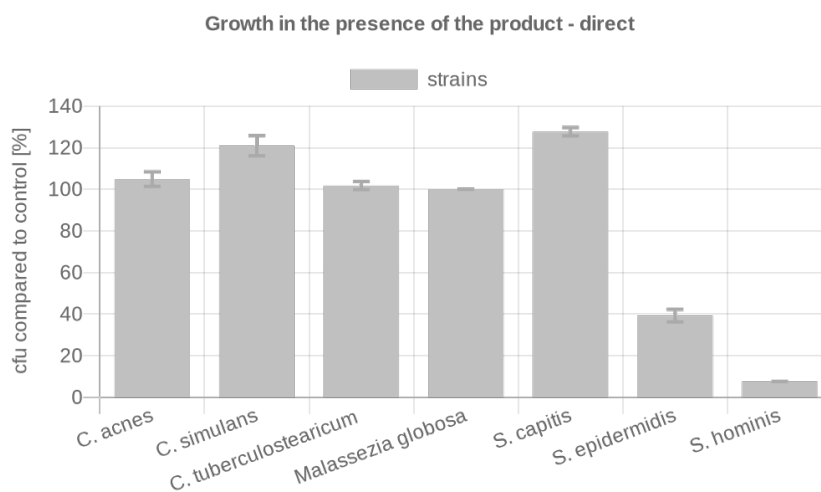


Key-Microbe	t=	4h	Rating
	cfu/ml		
<i>C. acnes</i>	Control	775	1
	Product	990	
<i>C. simulans</i>	Control	105	3
	Product	210	
<i>C. tuberculostearicum</i>	Control	185	1
	Product	210	
<i>Malassezia globosa confluence</i>	Control	20250	1
	Product	22533.3	
<i>S. capitis</i>	Control	1080	3
	Product	70	
<i>S. epidermidis</i>	Control	1220	3
	Product	0	
<i>S. hominis</i>	Control	510	3
	Product	0	
Overall rating:			2.1

Results – MOIST SKIN –

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

The influence of the product on the growth of each individual key organism of the specific body region is investigated and the ratio of the cfu in the presence of the product is calculated in % relative to the control sample (PBS). Product contact with microorganisms is direct.

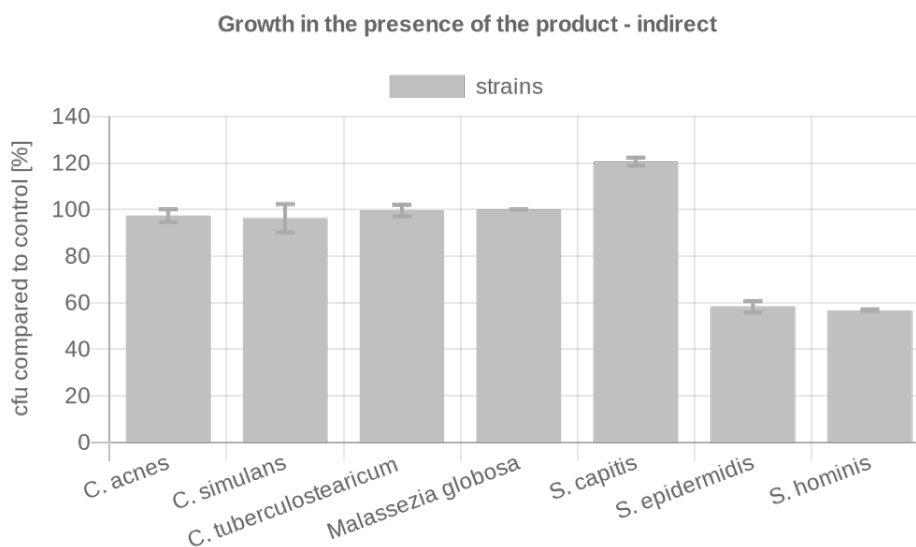


Key-Microbe	cfu/ml		Rating
<i>C. acnes</i>	Control	232.5	1
	Product	244	
<i>C. simulans</i>	Control	443.3	1
	Product	536.5	
<i>C. tuberculostearicum</i>	Control	2699.7	1
	Product	2748.7	
<i>Malassezia globosa</i>	Control	100	1
	Product	100	
<i>S. capitis</i>	Control	541.7	2
	Product	691.7	
<i>S. epidermidis</i>	Control	828.7	3
	Product	326	
<i>S. hominis</i>	Control	393	3
	Product	30	
Overall rating:			1.7

Results – MOIST 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 key organism of the specific body region is investigated and the ratio of the cfu in the presence of the product is calculated in % relative to the control sample (PBS). Product contact with microorganisms is indirect.

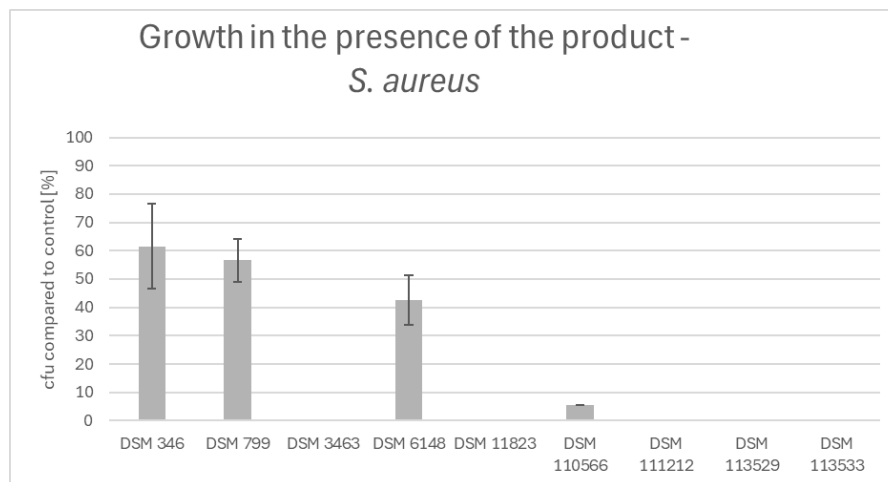


Key-Microbe	cfu/ml		Rating
	Control	Product	
C. acnes	Control	199.3	1
	Product	194	
C. simulans	Control	422.7	1
	Product	407	
C. tuberculostearicum	Control	2298.3	1
	Product	2288	
Malassezia globosa	Control	100	1
	Product	100	
S. capitis	Control	773.7	1
	Product	933.3	
S. epidermidis	Control	956	3
	Product	556.5	
S. hominis	Control	385.3	3
	Product	218.5	
Overall rating:			1.6

Results – Reduction *S. aureus* –

The influence of the product on the growth behavior of *S. aureus* strains.

The product must specifically reduce the strain which triggers inflammation, *S. aureus*. Therefore nine *S. aureus* strains are brought into direct contact with the product and their growth is observed. The ratio of the cfu in the presence of the product is calculated in % relative to the control sample (PBS).



<i>S. aureus</i> strain	cfu /Plate		Rating
DSM 346	Control	32.5	3
	Product	20.0	
DSM 799	Control	120.7	3
	Product	68.3	
DSM 3463	Control	129.3	1
	Product	0.0	
DSM 6148	Control	174.7	3
	Product	74.3	
DSM 11823	Control	178.3	1
	Product	0.0	
DSM 110566	Control	89.0	1
	Product	5.0	
DSM 111212	Control	41.0	1
	Product	0.0	
DSM 113529	Control	180.3	1
	Product	0.0	
DSM 113533	Control	10.3	1
	Product	0.0	
Overall rating:			1.7

Results

The results are evaluated with grades from 1 (one) to 3 (three).

The product has passed if it obtains a grade between 1.0 and 2.0 in the reduction of *S. aureus* in the balance, reduction of *S. aureus* in the contact and if the grade of the remaining overall tests Balance (ratio product/control), Diversity and direct and indirect contact.

1.0 – 2.0 = Microbiome-friendly | 2.1 – 3.0 = Microbiome-influencing

Test	Grade
Balance of the skin microbiome	3
Reduction <i>S. aureus</i> balance	1
Diversity Sebaceous Skin Strains (2x)	2.4
Direct Contact Sebaceous Skin Strains (2x)	1.9
Indirect Contact Sebaceous Skin Strains	1.9
Diversity Moist Skin Strains (2x)	2.1
Direct Contact Moist Skin Strains (2x)	1.7
Indirect Contact Moist Skin Strains	1.6
<i>S. aureus</i> reduction	1.7
Overall grade	2.0

With an overall grade of 2.0 and a significant reduction of *S. aureus* in the balance and the *S. aureus* reduction test the **product achieves the “Microbiome-friendly” certification according to Standard 27.10 – Eczema Adult.**

Place, Date: Hauptwil, 11 June 2025

Responsible person: Dr. Kristin Neumann

Signature:

