INTERNAL STUDY CODE: VV_CC-PT/20D3T1(D)1_877_22_003

Study Report - Version nº 1

ASSESSMENT IN HUMAN OF THE CUTANEOUS COMPATIBILITY OF A COSMETICAL PRODUCT AFTER A SINGLE UNDER PATCH APPLICATION UNDER DERMATOLOGICAL CONTROL

Reception date: August 16th 2022	**Experimental phase end date:** August 25th 2022
Experimental phase start date: August 23rd 2022	**Report date:** August 26th 2022

SPONSOR	JMC COSMETICS INNOVATION LIMITED
Research Center	ZURKO RESEARCH S.L. Avenida de la Osa Mayor, 4. 28023, Madrid (Spain) Tel: (+34) 91.521.15.88
Technical team	Head of In Vivo Safety Department: Jesús González Cuartero Technical team of In Vivo Safety Department Specialist: Javier Pedraz Muñoz, dermatologist
Information provided by the sponsor:	
Tested product	Product name: C-FORCE BIOTECH ANTIBACTERIAL SPRAY Product reference: RTC22ACO004V7 Batch: MFG20220809

Zurko Research S.L. is not responsible for the data provided by the sponsor, included in this table.

REPORT INDEX

1. SYNOPSYS

Internal study code	**VV_CC-PT/20D3T1(D)1_877_22_003**
Panelists	Number of panelists at the beginning: 22 Age range: 18-70 years All skin types (sensitive and non-sensitive skin) Number of panelists at the end: 22
Test area	Upper back
Application	Duration: 3 days Frequency: only once
Test period	August 23rd 2022 - August 25th 2022
Test parameter	Cutaneous evaluation of erythema and edema
Study design	Day 1 (0 hours) – Sample preparation and application Day 3 (48 hours) – Clinical and dermatological evaluation
Evaluation	Cutaneous Mean Irritation Index (M.I.I.)
Results	Under adopted experimental conditions, the product **C-FORCE BIOTECH ANTIBACTERIAL SPRAY**, reference: **RTC22ACO004V7** is **Non irritating (NI)**. In conclusion, it has **Very good cutaneous compatibility.**

2. STUDY OBJECTIVE AND PRINCIPLE

The study was carried out following general conditions in Zurko Research, established for the execution of study project on humans (*Structure and content of clinical study reports from ICH Harmonised Tripartite Guideline Topic E3; Guideline for good clinical practice E6(R2) of June 14th 2017; Regulation (EU) No 536/2014 of the European Parliament and of the council of 16 April 2014*).

This study has as an objective verifying the cutaneous compatibility of a cosmetic product after a single application on the skin under exaggerated experimental conditions.

The product was applied only once over the skin of the back under a patch.

The compatibility of the product with the skin was verified, after 15-30 minutes of removing the patches and by means of visual exam of the experimental area, by the responsible technical expert, as well as by a dermatologist in charge for the study.

The negative control excluded false positives.

3. PANELISTS

3.1. Ethical aspects

Each panelist participating in the study has been informed before about the type and the procedures of the study, signing an Informed Consent Form before the beginning of the study.

3.2. Specific inclusion and exclusion criteria

The specific inclusion criteria, defined in the protocol, were as follow:

- Age: 18-70 years old
- Photo-type (Fitzpatrick): I to IV
- All skin types (sensitive and non-sensitive skin)

The specific exclusion criteria, defined in the protocol, were as follow:

- Cutaneous marks on the experimental area that could interfere with the evaluation of the skin reactions (pigmentation disruptions, scars, excessive hair areas, excessive freckles and moles, solar skin burns, tattoos…).
- Injuries, pathologies or infection in the experimental area.
- Eczematous reaction which has not fully disappeared, scar or pigmentation complications from previous studies in the experimental area.
- Intention to bath in the bath, swimming pool or the sea, or having sauna or Turkish baths during the study.
- Intense sun or UV ray exposure during the study or during the previous month to the study.

- Carrying out a treatment containing acid vitamin A or its by-products, during the 3 months previous to the study.
- Carrying out a treatment containing topical corticoids, on the experimental area during the 8 days previous to the beginning of the study.
- Treatment with any medicine for psoriasis, vitiligo, within one month before the study.
- Vaccination prediction during the study period or having had the last vaccine within the 3 weeks previous to the study.
- Being pregnant or breastfeeding.
- Allergies to metals.
- Reactivity to medical tape.
- Participation during the previous 30 days in any study under exaggerated conditions (under a patch).

Information about the panelists is included in Annex I.

4. MATERIALS AND EQUIPMENT

- Finn Chamber Aqua® occlusive patch and/or Curatest® semiocclusive patch
- Pasteur pipettes 1ml, syringes 2 ml
- Sterile container
- Distilled water, sanitary alcohol 70º
- Cotton, tissues
- Wood depressors, tweezers, scissors
- Gloves
- Precision Balance Model: PS 750. R2. Radwag

5. METHODOLOGY

5.1. Application characteristics

Product type: leave on solution.

Product preparation: sample is not diluted.

Applied quantity: 20 µl or mg of product preparation over occlusive patch (Finn Chamber Aqua® occlusive patch).

5.2. Experimental procedure

	D1	D3
Signature of the Informed Consent Form	**X**	
Specific inclusion and exclusion criteria	**X**	
Product application	**X**	
Clinical assessment (individual results in Annex II)		**X**

5.3. Interpretation of Results

The analysis of the results was carried out according to the results obtained under the experimental conditions, for this purpose the Mean Irritation Index (M.I.I.) was calculated. The M.I.I. value was used to classify the product according to Table 1.

$$\mathbf{M.I.I.} = \frac{\sum(\bar{\mathbf{x}}\ \mathbf{erythema\ and\ edema\ grade})}{\mathbf{Number\ of\ panelists}}$$

M.I.I.	Product Classification
M.I.I.=0,000	Non-Irritating (NI)/Very Good Cutaneous Compatibility
M.I.I.<0,200	Non-Irritating (NI)/Good Cutaneous Compatibility
0,200≤M.I.I.<0,500	Slightly Irritating (SI)/Intermediate Cutaneous Compatibility
0,500≤M.I.I.<1,000	Moderately Irritating (NI)/Bad Cutaneous Compatibility
M.I.I.≥1,000	Irritating (I)/Very Bad Cutaneous Compatibility

Table 1. Product classification according its global M.I.I.

6. RESULTS

Next table shows the M.I.I. at 15-30 minutes after patch removal.

M.I.I.	Results	Number of reactive panelists	Reactive panelists %
0,000	Non irritating (NI) / Very good cutaneous compatibility	0	0%

7. CONCLUSIONS

The results obtained in the laboratory and included in this report correspond to the sample analyzed in the laboratory.

Under adopted experimental conditions, the product **C-FORCE BIOTECH ANTIBACTERIAL SPRAY**, reference: **RTC22ACO004V7** is **Non irritating (NI)**. In conclusion, it has **Very good cutaneous compatibility.**

The product can claim: “Dermatologically tested”, “Clinically tested”, “Clinically proven”.

According the experimental study carried out the obtained results can be a support to claim: “Kind to skin”, “Mild for skin” and “Suitable for sensitive skin”.

8. MODIFICATIONS

Version	Description	Date
01	**Report implementation**	August 26th 2022

New report versions replace the previous one.

9. DEVIATIONS

There were no deviations during the study.

10. SAMPLES AND DOCUMENTS TO BE STORED

The documentation related to the study will be stored in the facilities of Zurko Research.

Documents relating to the study are stored for 5 years. After this time the client will be informed to know how to proceed. In case of no response, they will be destroyed.

The tested product will be stored in the Zurko Research sample library for 1 year. After this time, it will be eliminated through the usual waste management procedure for this type of product.

11. BIBLIOGRAPHICAL REFERENCES

1. SCCS (Scientific Committee on Consumer Safety), SCCS Notes of Guidance for the Testing of Cosmetic Ingredients and their Safety Evaluation 11th revision, 30-31 March 2021, SCCS/1628/21.

2. Levin, C.Y., H.I. Maibach. "Animal, Human, and In Vitro Test Methods for Predicting Skin Irritation". Dermatotoxicology, Chpt. 44; 7th Ed., F.N. Marzulli; H.I. Maibach; Taylor and Frances.

3. Holdiness, M.R., 1989, "A Review of Contact Dermatitis Associated with Transdermal Therapeutic Systems". Contact Dermatitis, 20(1);3-9.

4. North American Contact Dermatitis Group Patch-Test Results, 2001-2002 Study Period. Dermatitis: December 2004. Marks, James G. Jr; Belsito, Donald V.; DeLeo, Vincent A.; Fowler, Joseph F. Jr; Fransway, Anthony F.; Maibach, Howard I.; Mathias, Toby C.G.; Nethercott, James R.; Rietschel, Robert L.; Rosenthal, Lawrence E.; Sherertz, Elizabeth F.; Storrs, Frances J.; Taylor, James S.

5. Nueva Clasificación de tipos piel y sus implicaciones en Dermatología Cosmética. Revisión Dermatología Venezolana. Vol. 43, Nº 4, 2005. Leslie Baumann, Sadegh Amini, Eduardo Weiss.

12. SIGNATURES

The undersigned declare that the study was carried out following general conditions in Zurko Research, established for the execution of study project on humans (*Structure and content of clinical study reports from ICH Harmonised Tripartite Guideline Topic E3; Guideline for good clinical practice E6(R2) of June 14th 2017; Regulation (EU) No 536/2014 of the European Parliament and of the council of 16 April 2014*).

The results here presented reflect accurately and completely the raw data of the study.

Main researcher: Jesús González Cuartero, declare that this study has been carried out under my responsibility.

Jesús González Cuartero

Dermatology Team: Zurko's dermatology team, led by the dermatologist Javier Pedraz (medical license number: 283706434), and Natalia Zawierta, as adjunct dermatologist, declare that this study has been reviewed under their responsibility. In representation,

ZAWIERTA NATALIA MARIA - Y3942816D

Annex I: Information relating to panelists

Panelist	Age	Sex	Skin type	Phototype	Withdrawal/Exclusion
V01	44	F	S	III	No
V02	69	F	S	II	No
V03	66	M	S	III	No
V04	23	F	S	II	No
V05	23	M	S	IV	No
V06	52	F	S	III	No
V07	40	F	S	III	No
V08	48	F	S	III	No
V09	61	M	R	III	No
V10	18	F	R	IV	No
V11	39	F	R	III	No
V12	26	F	R	III	No
V13	50	M	R	IV	No
V14	64	F	R	III	No
V15	34	F	R	III	No
V16	52	F	R	III	No
V17	28	F	S	IV	No
V18	41	F	R	III	No
V19	41	F	R	III	No
V20	32	F	S	II	No
V21	44	F	R	III	No
V22	37	F	S	II	No

F: female; M: male; R: non-sensitive; S: sensitive

Annex II: Individual results at 15-30 minutes after patch removal

Panelist	Erythema result T48	Erythema control T48	Edema result T48	Edema control T48	Other cutaneous reaction (D; DT; T; R)
V01	0	0	0	0	-
V02	0	0	0	0	-
V03	0	0	0	0	-
V04	0	0	0	0	-
V05	0	0	0	0	-
V06	0	0	0	0	-
V07	0	0	0	0	-
V08	0	0	0	0	-
V09	0	0	0	0	-
V10	0	0	0	0	-
V11	0	0	0	0	-
V12	0	0	0	0	-
V13	0	0	0	0	-
V14	0	0	0	0	-
V15	0	0	0	0	-
V16	0	0	0	0	-
V17	0	0	0	0	-
V18	0	0	0	0	-
V19	0	0	0	0	-
V20	0	0	0	0	-
V21	0	0	0	0	-

V22	0	0	0	0	-
M.I.I. diario / daily	**0,000**		**0,000**		

0: non-visible erythema; 0,5: very slight erythema; 1: slight erythema, 2: moderate erythema, 3: intense erythema
D: dryness, DT: detergency, T: thickness, R: reflectivity