

**COREDERM SKIN RESEARCH CENTER**

**STUDY CODE: CDS-2400-006-2**

**PRIMARY SKIN IRRITATION TEST OF  
'PORZELLAN Skin Glazer' ON HUMANS WITH  
SENSITIVE SKIN**

**SPONSOR : ROSELAB. Inc.**

**July 2024**

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**COREDERM INC. Skin Research Center**

## STUDY INFORMATION

Study Title	Primary Skin Irritation Test of 'PORZELLAN Skin Glazer' on Humans with Sensitive Skin		
Study Code	CDS-2400-006-2	Study Period	2024. 4. 30 ~ 5. 3
Study Protocol	2024. 3. 15	Final report	2024. 7. 11
Facility and Faculty	IV. Facility and faculty involved in the study		

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## SUBMISSION

The **COREDERM Inc. Skin Research Center** has unequivocally performed the study, “Primary Skin Irritation Test of ‘PORZELLAN Skin Glazer’ on Humans with Sensitive Skin” as requested by the **ROSELAB. Inc.**

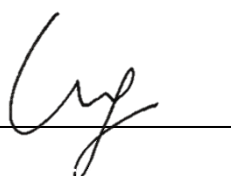
This study was conducted in compliance with ISO 9001:2015 / KS Q ISO 9001:2015, the regulation of the Good Clinical Practice (GCP), Ministry of Food and Drug Safety (MFDS), Personal Care Products Council guideline (PCPC) and the experimental protocol of the **COREDERM Inc. Skin Research Center.**

July 2024

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## QUALITY ASSURANCE CERTIFICATION

- Study Title : Primary Skin Irritation Test of ‘PORZELLAN Skin Glazer’ on Humans with Sensitive Skin
- Study Code : CDS-2400-006-2
- Protocol Code : TPCS-GDGF-058
- IRB number : CDIRB-QR-24-037

This study was planned and conducted in accordance with ISO 9001:2015 / KS Q ISO 9001:2015, the regulation of the Good Clinical Practice (GCP), Ministry of Food and Drug Safety (MFDS), Personal Care Products Council guideline (PCPC) and the experimental protocol of the COREDERM Inc. Skin Research Center. All procedures were checked by quality assurance.

Item	Date	Confirmation of Scientific and Medical director
Study protocol	March 15, 2024	March 15, 2024
IRB review on study plan	April 18, 2024	April 18, 2024
Recruitment	April 22 to 26, 2024	April 22 and 26, 2024
Study period	April 30 to May 3, 2024	April 30 and May 3, 2024
IRB report on study completion	May 3, 2024	May 3, 2024
Draft report	June 12, 2024	June 12, 2024
Final report	July 11, 2024	July 11, 2024

July 11, 2024

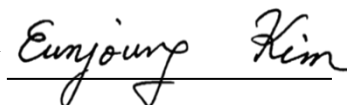
Quality Assurance

Hyeonjeong Jang



Director of  
Research Center

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- III. Result of the subjects stinger test
- IV. Facility and faculty involved in the study

## SUMMARY

Study Title	Primary Skin Irritation Test of 'PORZELLAN Skin Glazer' on Humans with Sensitive Skin														
Study Code	CDS-2400-006-2	Study Period	April 30 to May 3, 2024												
Study Objective	This study is to evaluate primary skin irritation of the test product on humans with sensitive skin.														
Study Methods	<p>[ 48 hrs single patch test ]</p> <ol style="list-style-type: none"> <li>1. Subjects: 30 Korean adult female subjects aged from 20~59 who were selected as stingers by the stinging test.</li> <li>2. Screening test: The test was carried out on preselected individuals in whom a susceptibility to stinging had been demonstrated by exposure to 5% aqueous lactic acid.</li> <li>3. Test area: The back</li> <li>4. Patch duration: 48 hrs occlusive patch</li> <li>5. Observation time: Readings were done at 30 min (day 2) and 24 hrs (day 3) after removal of the strips.</li> <li>6. Evaluation: Skin reactions were recorded according to the modified scale by Frosch &amp; Kligman, ICDRG and PCPC Guideline.</li> </ol>														
Study Results	<ol style="list-style-type: none"> <li>1. The subjects This study was started for 30 Korean adult female subjects who were selected by the subject selection criteria and exclusion criteria. All the subjects completed the study in good faith during the entire process. Their average age was 44.6±8.8 years, with a maximum age of 55 and a minimum age of 23 years.</li> <li>2. Result of skin reaction The test product did not show any skin reaction in all subjects at 30 minutes or 24 hours after patch removal.</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Material No.</th> <th style="text-align: center;">Name of materials</th> <th style="text-align: center;">Mean</th> <th style="text-align: center;">Range</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>PORZELLAN Skin Glazer</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">low</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Squalene (Negative Control)</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">low</td> </tr> </tbody> </table>			Material No.	Name of materials	Mean	Range	1	PORZELLAN Skin Glazer	0.00	low	2	Squalene (Negative Control)	0.00	low
Material No.	Name of materials	Mean	Range												
1	PORZELLAN Skin Glazer	0.00	low												
2	Squalene (Negative Control)	0.00	low												
Conclusion	Based on the results, 'PORZELLAN Skin Glazer' is considered to be low range of the irritation potential in sensitive skin according to the classification criteria.														

## 1. STUDY OBJECTIVE

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This study is to evaluate primary skin irritation of the test product on humans with sensitive skin.

## 2. STUDY PERIODS

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From April 30 to May 3, 2024

## 3. TEST MATERIALS

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Test material provided by the requesting agency was stored with a label containing information such as research code, date and time.

As a negative control, squalene (S3626, Sigma-Aldrich) was used (Table 1).

Table 1. Information of materials

Material No.	Name	Lot. No	Type	Concentration
1	PORZELLAN Skin Glazer	20402001	Liquid	As is
2	Squalene (Negative Control)	MKCQ0973	-	As is

The test materials supplied from the sponsor were kept in the COREDERM Inc. skin research center with test code.

## 4. STUDY METHOD

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### 4-1. Selection of subjects

This study was started for 30 korean adult female subjects who were selected by the subject selection criteria and exclusion criteria.

#### 4-1-1. Selection criteria

- Subjects aged from 20~59 who were selected as stingers by the lactic acid stinging test.
- Subjects who have signed consent form voluntarily after being informed well object of study and all related contents.
- Subjects who can be observed and traced for all the experiment period.

#### 4-1-2. Exclusion criteria

- Subjects who are pregnant and nursing or plans to be pregnant within six months.
- Subjects who have psychiatric or infectious skin diseases.
- Subjects who have chronic and wasting disease (asthma, diabetes, high blood pressure, etc.).
- Subjects who have allergic disorder (food, pollen, etc.) or hypersensitivity or atopic dermatitis.
- Subjects who are inappropriate for measurement in the test area with dots, acne, tattoos, scars, erythema, capillary dilatation, burn marks, etc.
- Subjects who have used a topical product, including steroids to cure skin disease on the testing site for more than one month.
- Subjects who are allergic to cosmetics, medicines or to exposure to sunlight.
- Subjects who are strongly affected by or have allergies to adhesive tape.
- Subjects who have metal allergy.
- Subjects who have used anticonceptive, antihistaminic and anti-inflammatory prescriptions.
- Subjects who have not passed one months since taking part in the same test.
- Subjects who are employed in this clinical research laboratory.
- Any individuals who are considered to be inappropriate to participate in the study by the researcher.

#### 4-1-3. Criteria for calculating the number of subjects

The criteria for calculating the number of subjects in this study selected more than 30 people according to the [Asterisk 1] Toxicity Test Act 7 (1) human patch test method of the regulations on the examination of functional cosmetics, etc.

#### 4-2. Drop-out criteria

Subjects who participated in this study may stop and withdraw their participation at any time. Researcher excluded the study subjects from this study if the following reasons occurred, excluded the test results of the study subjects from the final result calculation and recorded them in the final report and case report form.

- Subjects who are willing to discontinued the study.
- Subjects who are with serious adverse event or who want to discontinue the study because of adverse event such as pruritus, erythema, etc.
- Subjects who do not follow the instructions according to the test product usage method and Protocol.

- Subjects who cannot be observed and traced for all the experiment period.
- Other unavoidable circumstances.

#### 4-3. Compliance of subjects

##### 4-3-1. Restriction

- The subjects were instructed not to use steroids medicine, or external preparation around the test area during the testing period.
- The subjects were instructed not to use antihistaminic or anti-inflammatory drugs, etc.
- Water was not allowed into the test area. Especially avoid saunas, swimming pools, and physical activities which result in excessive sweating.

##### 4-3-2. Duty

- The subjects were required by the investigator to sincerely obey restrictions, and the test schedule.
- The subjects were required to report in detail every symptom that occurred to the subjects in the test period to the investigator.
- In the test period, the subjects were obligated to fill out all data sheets such as the questionnaire or survey, sincerely and honestly.

#### 4-4. Stinging test to select the stingers

To select the stingers, the aqueous solution of 5% lactic acid on a cotton pad was applied on the nasolabial fold and cheek of subjects. The cotton pad with the lactic acid was rubbed to one cheek and Purified Water (P.W.) was to the other cheek. The stinging potential was evaluated immediately after 10 second and then every 1 minute during 9 minutes on a 4-point scale (0=non, 1=slight; 2=moderate; 3=severe) for stinging, burning sensation by subject's self-assessment (Table 2). In this study, subjects with a stinging grade of 0.4 or more were selected as stinger.

Table 2. The criteria on scoring for stinging, burning, itching and eye irritating

Score	Description
0	No stinging
1	Slight stinging
2	Moderate stinging
3	Severe stinging

※ Ref. *J Soc. Cosmet. Chem.*, 1977, 28:197-209.

#### 4-5. Materials to conduct the study

- Van der Bend (Van der bend B.V., Netherlands)
- Microman M100 (Gilson, France)
- Micropore tape (3M/ Medical-Surgical Division)
- Marking pen (Skin marker Slim, Sweden)

#### 4-6. Method of patch and evaluation

The test material was applied as the condition provided by sponsor. The back, which is the test area of subjects, was cleaned with 70% ethanol and dried. After applying 20 µl of the test material on the filter of the chamber, it was attached on the test area. The substance had been patched for 48 hours, and after removing the patch strip and marking the test site with a skin marker. We observed the reaction of the test site under a magnifying lens (SK101-3X, SeKi optical, Korea) at 30 minutes (48 hrs) and 24 hours (72 hrs) after patch removal (Table 3).






Table 3. Time table of the study

Actions	0D (0 hr)	2D (48 hrs)	3D (72 hrs)
Admission of the subject by the investigator	√	-	-
Application of test materials and giving the subjects constraints of the study	√	-	-
Observation of test site after 30 min of the patch removal	-	√	-
Observation of test site after 24 hrs of the patch removal	-	-	√

## 4-6-1. Criteria for evaluating skin reaction

Skin reaction was evaluated according to the criteria (Table 4) reflecting Frosch & Kligman (1979), PCPC guideline (2014) and International Contact Dermatitis Research Group (ICDRG).

Table 4. Scale to score of skin reaction

Score	Mark	Description	Images of skin reaction
0	-	No reaction	-
0.5	±	Barely perceptible erythema, Doubtful or questionable reaction	
1	+	Slight erythema, either spotty or diffuse	
2	++	Moderate uniform erythema	
3	+++	Intense redness with edema	
4	++++	Intense redness with edema & vesicles	

## 4-6-2. Calculation of skin reaction and classification of skin irritation potential

Mean value for the skin reaction of 48 hours or 72 hours was derived by application of the following formula. And the skin irritation potential was classified based on the mean of skin reaction of 48 hours and 72 hours (Table 5).

$$\text{Mean of skin reaction} = \frac{\Sigma (\text{Score} \times \text{No. of Responders})}{4 (\text{Maximum score}) \times N (\text{Total subjects})} \times 100$$

Table 5. Classification of skin irritation potential

Mean score	Range of irritation potential
$0.00 \leq R < 0.87$	Low
$0.87 \leq R < 2.42$	Mild
$2.42 \leq R < 3.44$	Moderate
$3.44 \leq R$	Severe

*Ref: International Journal of Cosmetic Science 2014, 36, 62-67*

## 5. RESULTS

### 5-1. Characteristics of subjects

This study was started for 30 Korean adult female subjects who were selected by the subject selection criteria and exclusion criteria. All the subjects completed the study in good faith during the entire process. Their average age was  $44.6 \pm 8.8$  years, with a maximum age of 55 and a minimum age of 23 years.

The skin characteristics of the subjects were investigated by the survey, and the results of the analysis are as follows: Table 6, Appendix I.

Table 6. The characteristics of the subjects (n=30)

Items	Classification	Frequency (n)	Percentage (%)
Age	20's	2	6.67
	30's	5	16.67
	40's	10	33.33
	50's	13	43.33
Skin type	Dry	18	60.00
	Normal	4	13.33
	Oily	0	0.00
	Combination	8	26.67
	Troubled skin	0	0.00
Skin moisture	Moist	0	0.00
	Normal	13	43.33
	Dry	17	56.67
	Extremely dry	0	0.00
Skin sebum	Glossy	0	0.00
	Normal	17	56.67
	Deficient	13	43.33
Body dryness	Moist	0	0.00
	Normal	12	40.00
	Dry	16	53.33
	Extremely dry	2	6.67

Items	Classification	Frequency (n)	Percentage (%)
Number of showers (1 week)	Less than 1 time	0	0.00
	2~3 times	4	13.33
	4~6 times	9	30.00
	Once a day	15	50.00
	More than twice a day	2	6.67
Using body products	Not use	2	6.67
	Occasionally used	23	76.66
	Always used	5	16.67
UV exposure (daily)	Less than 1hr	5	16.67
	1~3 hrs	22	73.33
	More than 3 hrs	3	10.00
Sleep (daily)	Less than 5 hrs	2	6.67
	5~8 hrs	26	86.66
	More than 8 hrs	2	6.67
Smoking (daily)	No	30	100.00
	Less than 10 cigarettes	0	0.00
	More than 10 cigarettes	0	0.00
	More than a pack of cigarettes	0	0.00
Sensitive skin	Yes	3	10.00
	No	27	90.00
After applying personal care product (sting, itching)	Yes	0	0.00
	No	30	100.00
Experience of adverse reaction to cosmetic	Yes	0	0.00
	No	30	100.00
Change of skin during the menstruation	Yes	1	3.33
	No	24	80.00
	N/A	5	16.67
The current state	A week before menstruation	7	23.33
	Having a menstruation	5	16.67
	Week after menstruation	3	10.00
	Etc.	10	33.33
	N/A	5	16.67

## 5-2. Result of skin reaction

The test product (No.1) did not show any skin reaction in all subjects at 30 minutes or 24 hours after patch removal (Table 7, and Appendix II).

Table 7. The result of skin reaction after patch removal (n=30)

Material No.	No. <sup>1</sup>	30 min. after patch removal (48 hrs)					24 hrs. after patch removal (72 hrs)					Mean <sup>2</sup>		
		0.5±	1+	2+	3+	4+	mean	0.5±	1+	2+	3+		4+	mean
1	0	-	-	-	-	-	0.00	-	-	-	-	-	0.00	0.00
2 <sup>3</sup>	0	-	-	-	-	-	0.00	-	-	-	-	-	0.00	0.00

\* No<sup>1</sup>: Total number of skin responders

\* Mean<sup>2</sup>: (mean value of skin reaction at 48 hrs + mean value of skin reaction at 72 hrs) / 2

\* Negative control<sup>3</sup>: Squalene

## 6. CONCLUSION

Based on the results, 'PORZELLAN Skin Glazer' is considered to be low range of the irritation potential in sensitive skin according to the classification criteria.

## 7. REFERENCES

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## APPENDIX I ~ IV.

## Appendix I. Characteristics of the subjects

Sub. No.	Name	Age	Gender	1.Skin type	2.Skin moisture	3.Skin sebum	4.Body dryness	5.Number of showers (1week)	6.Using Body products (daily)	7.UV exposure (daily)	8.Sleep (daily)	9.Smoking (daily)	10.Sensitive skin	11.Using cosmetic (sting, itching)	12.Adverse reaction	13.Skin problem during the women period	14.The current state
1	O*S	41	F	4	3	2	3	3	2	2	2	1	2	2	2	2	1
2	Y*M	50	F	1	3	3	3	2	2	2	2	1	2	2	2	2	4
3	Y*J	45	F	2	2	2	2	4	3	3	3	1	2	2	2	1	1
4	H*W	41	F	1	3	3	3	4	2	2	2	1	2	2	2	2	1
5	I*J	53	F	4	3	3	3	4	2	2	2	1	2	2	2	3	5
6	C*S	50	F	1	3	2	2	4	2	1	2	1	2	2	2	2	2
7	L*J	52	F	1	3	3	3	3	3	2	2	1	2	2	2	3	5
8	I*O	55	F	1	2	2	2	4	2	2	2	1	2	2	2	3	5
9	K*Y	43	F	4	2	2	2	4	2	1	2	1	2	2	2	2	4
10	Y*H	34	F	4	2	2	2	5	2	1	2	1	2	2	2	2	4
11	L*Y	34	F	4	2	2	2	4	3	3	2	1	1	2	2	2	1
12	J*A	50	F	2	2	2	2	4	2	2	2	1	2	2	2	2	1
13	L*K	36	F	2	3	2	3	2	3	1	2	1	2	2	2	2	3
14	K*E	49	F	1	3	2	3	3	2	2	2	1	2	2	2	2	4
15	H*S	42	F	1	3	3	3	3	2	2	2	1	2	2	2	2	2
16	C*W	53	F	1	3	3	2	3	2	2	3	1	1	2	2	3	5
17	K*H	52	F	1	2	2	3	2	2	2	2	1	2	2	2	2	4
18	G*H	48	F	4	2	2	2	3	2	2	2	1	2	2	2	2	2
19	B*S	48	F	4	2	2	3	3	2	2	2	1	2	2	2	2	3
20	K*K	42	F	1	2	3	3	3	2	2	2	1	2	2	2	2	1
21	L*R	50	F	1	3	3	3	4	3	2	2	1	2	2	2	2	1
22	P*Y	51	F	1	2	2	2	4	2	3	2	1	2	2	2	2	4
23	H*K	54	F	2	3	3	3	4	1	2	2	1	1	2	2	2	4
24	K*A	43	F	1	2	2	2	2	2	1	2	1	2	2	2	2	4
25	J*M	24	F	1	3	3	4	5	2	2	2	1	2	2	2	2	3
26	J*H	32	F	1	3	3	4	4	2	2	2	1	2	2	2	2	4
27	H*R	55	F	1	3	2	3	3	2	2	1	1	2	2	2	3	5
28	K*Y	50	F	4	2	2	2	4	1	2	2	1	2	2	2	2	2
29	Y*J	23	F	1	3	3	3	4	2	2	2	1	2	2	2	2	4
30	L*R	38	F	1	3	3	3	4	2	2	1	1	2	2	2	2	2
*Item	Q1: (1.dry,2.normal,3.oily,4.combination,5.troubled skin), Q2: (1.moist, 2.normal, 3.dry, 4.extremely dry), Q3: (1.glossy,2.normal,3.deficient), Q4: (1.moist, 2.normal, 3.dry, 4.extremely dry), Q5: (1.less than 1time, 2.2-3times 3.4-6times, 4.once a day, 5.more than twice a day), Q6: (1.do not used, 2.occasionally used, 3.always used), Q7: (1.less than 1hr, 2.1-3hrs, 3.more than 3hrs) Q8: (less than 5hrs, 2.5-8hrs, 3.more than 8hrs), Q9: (1.no, 2.less than 10 ciga, 3.more than 10 ciga, 3.more than a pack of ciga), Q10,11,12: (1.yes, 2.no), Q13: (1.yes, 2.no, 3.n/a) Q14: (1.a week before menstruation, 2.having a menstruation, 3.in a week after menstruation, 4.Etc. 5.n/a)																

## Appendix II. Skin reaction results of test materials

Sub.No	Test materials			
	30 minutes after patch removal (48 hrs)		24 hours after patch removal (72 hrs)	
	1	2 (N.C)	1	2 (N.C)
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	-	-	-	-
29	-	-	-	-
30	-	-	-	-

## Appendix III. Result of the subjects stinger test

Sub. No	Skin reactions	Time Lapse																					
		Lactic acid 5%											P.W										
		10 Sec.	1 min.	2 min.	3 min.	4 min.	5 min.	6 min.	7 min.	8 min.	9 min.	SUM	10 Sec.	1 min.	2 min.	3 min.	4 min.	5 min.	6 min.	7 min.	8 min.	9 min.	SUM
1	Stinging		1	1	2	2		1	1		1	9											0
	Burning			1	1			1	1	1		5											0
	Itching											0											0
	Eye irritating											0											0
2	Stinging	1			2	2	3	1	2	2		13		1									1
	Burning		2		3							5											0
	Itching					2	3	2	2			9		1			1	1					3
	Eye irritating											0											0
3	Stinging		2	2	2	3		3	3		3	18											0
	Burning											0											0
	Itching	1					3			3		7											0
	Eye irritating											0											0
4	Stinging	1	1	1	1	1	1					6											0
	Burning	1	1	1								3											0
	Itching											0											0
	Eye irritating											0											0
5	Stinging	1	1	1	1	1	1	1	1	1	1	10											0
	Burning	1	2									3											0
	Itching	1					3	2	3	3	3	15											0
	Eye irritating											0											0
6	Stinging	1	2	2	2	2	2	2	2	2	2	19											0
	Burning		2	2	2	2	2	2	2	2	2	18											0
	Itching											0											0
	Eye irritating											0											0
7	Stinging		1	2	2	1						6											0
	Burning		1	2	2	1						6											0
	Itching		1	2	2	2	2	2	2	2	2	17											0
	Eye irritating											0											0
8	Stinging	2	1									3											0
	Burning	2			1	1	1			1		6											0
	Itching											0											0
	Eye irritating											0											0
9	Stinging		1	1	2	2						6											0
	Burning		1			1	1	1	1	1		6											0
	Itching		1	1	1							3											0
	Eye irritating											0											0
10	Stinging	1	1	1	1	1						5											0
	Burning				1							1											0
	Itching		1	1	1							3											0
	Eye irritating											0											0
11	Stinging											0											0
	Burning											0											0
	Itching						1	1				2											0
	Eye irritating											0											0
12	Stinging	1	1	1	1	1						5											0
	Burning		1	1	1	1	1	1				6											0
	Itching											0											0
	Eye irritating											0											0
13	Stinging		1	1	2	2	2	2	2	2	2	16											0
	Burning								1	1	1	3											0
	Itching				1	2	2	2	2	2	2	13											0
	Eye irritating											0											0
14	Stinging	1	1	2	2	1	2			1		10											0
	Burning								1	2		3											0
	Itching	1		2	2			1	2	3		11											0
	Eye irritating											0											0
15	Stinging				1	1	2	2	1			7											0
	Burning				3	1						4											0
	Itching								1	1		2											0
	Eye irritating											0											0

Sub. No	Skin reactions	Time Lapse																					
		Lactic acid 5%											P.W										
		10 Sec.	1 min.	2 min.	3 min.	4 min.	5 min.	6 min.	7 min.	8 min.	9 min.	SUM	10 Sec.	1 min.	2 min.	3 min.	4 min.	5 min.	6 min.	7 min.	8 min.	9 min.	SUM
16	Stinging	1	1	1	1	1	1	1	1	1	1	10										0	
	Burning					1	1	1	1	1	1	6										0	
	Itching		1									1										0	
	Eye irritating											0										0	
17	Stinging		1	1	1	1						4										0	
	Burning											0										0	
	Itching											0										0	
	Eye irritating											0										0	
18	Stinging				2	2	1	1	1	1		8			1	1	1				1	1	5
	Burning						1					1										0	
	Itching											0					1	1				2	
	Eye irritating			1	1	1	1					4		1			1					2	
19	Stinging	1	1	1	1	1	1					6										0	
	Burning	2	2	3	2	2	2	2	2	1	1	19		1								1	
	Itching						2	2	2	2	2	10		1	1							2	
	Eye irritating											0										0	
20	Stinging	2	2	1	2							7	2	2	1							5	
	Burning	2	2	1	1	1	1		1			9	2	2	1		1		1	1	1	10	
	Itching				2	2	1	2	2	2	2	13				1		1				2	
	Eye irritating											0										0	
21	Stinging	1	2	3	3	3	3	3	3	3	3	27										0	
	Burning		2	3	3	2	2	2	2	2	2	20										0	
	Itching			3	3	3	3	3	3	3	3	24										0	
	Eye irritating											0										0	
22	Stinging			2	3	2	2	2	1	2	1	15										0	
	Burning					1	1	1				3										0	
	Itching		2	2	3	3	3	3	3	3	3	25										0	
	Eye irritating											0										0	
23	Stinging	1	2	2	2	2	1		1	1	1	13										0	
	Burning		1	1	2	1	2					7			1							1	
	Itching				1			1				2				1				1		2	
	Eye irritating											0										0	
24	Stinging		1	2	2	2	2	1		1		11										0	
	Burning			1	1	1				1		4										0	
	Itching			1	1	1						3										0	
	Eye irritating											0										0	
25	Stinging	1	1	1	1	1	1	1	1	1	1	10										0	
	Burning											0										0	
	Itching											0										0	
	Eye irritating											0										0	
26	Stinging				1	1	1	1	1	1	1	7										0	
	Burning		1	1	1	1	1	1	1	1	1	9										0	
	Itching											0										0	
	Eye irritating							1	1	1		3								1	1	2	
27	Stinging			1								1										0	
	Burning		1	2	1	1						5										0	
	Itching			2	2	1	1	1	1	1	1	10										0	
	Eye irritating											0										0	
28	Stinging	2	2	1	1							6	1	1								2	
	Burning											0										0	
	Itching	1	1	1	1	1	1	1	1	1	1	10										0	
	Eye irritating											0										0	
29	Stinging	1	1	1	2	2	2			1		10										0	
	Burning			1	1	1	1					4										0	
	Itching					1	1					2										0	
	Eye irritating											0										0	
30	Stinging	1	1	1	1	1	1	1	1			8										0	
	Burning		1	1	2	1	1			1	1	8										0	
	Itching	1	1									2										0	
	Eye irritating											0										0	

## Appendix IV. Facility and faculty involved in the study

### ■ Information of institution

Name	COREDERM Inc. Skin Research Center		
Address	4F, Kukje Bld, 56, Jungdae-ro, Songpa-gu, Seoul, Republic of Korea.		
The heads of center	Eunjoung Kim / Director of Research Center		
	Boncheol Leo Goo / Medical Director, Dermatologist		
Tel	+82-2-6925-3707	Fax	+82-70-8275-3707
Email address	safety@corederm.co.kr	Home page	www.corederm.co.kr

### ■ Clinical study items

Functional Cosmetics Test	Safety Test
<ul style="list-style-type: none"> <li>➤ Human Skin Wrinkle Improvement Test</li> <li>➤ Human Skin Lightening Effect Test</li> <li>➤ UVA Protection Factor Test</li> <li>➤ Sun Protection Factor(SPF) Test</li> <li>➤ Anti-Hairloss Test</li> <li>➤ Relieving Acne-like Skin Test</li> <li>➤ Improving Itching through Restoring Skin Barrier</li> </ul>	<ul style="list-style-type: none"> <li>➤ Human Skin Primary Irritation Test</li> <li>➤ Cumulative irritation test</li> <li>➤ Human Skin Repeat Insult Patch Test(RIPT)</li> <li>➤ Human Skin Sting Potential Test</li> <li>➤ Human Skin In-Use Test</li> <li>➤ Human Sensitive Skin Suitability Test</li> <li>➤ Human Acne-Prone Skin Suitability Test</li> </ul>
Efficacy Test	
<ul style="list-style-type: none"> <li>➤ Human Skin Lightening Test</li> <li>➤ Human Skin Wrinkle Test</li> <li>➤ Human Skin Hydration Test</li> <li>➤ Human Skin Firming &amp; Sagging Test</li> <li>➤ Human Skin Texture Test</li> <li>➤ Human Skin Scale Test</li> <li>➤ Human Skin Pore Test</li> <li>➤ Human Skin Transparency &amp; Gloss Test</li> <li>➤ Human Skin Temperature Test</li> <li>➤ Human Skin Sebum Control Test</li> </ul>	<ul style="list-style-type: none"> <li>➤ Make-up Effect Test</li> <li>➤ Human Skin Cellulite Test</li> <li>➤ Human Skin Swelling Relieving Test</li> <li>➤ Human Hair Dandruff &amp; Itching Test</li> <li>➤ Human Skin Barrier Improvement Test</li> <li>➤ Human Skin Dark Circle Test</li> <li>➤ Human Skin Cleansing Test</li> <li>➤ Human Skin Blood Flow Test</li> <li>➤ Etc. (customized human test : body, make-up, hair and skin care products )</li> </ul>

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**■ Facilities**


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- Ballistometer
  - Mexameter MX18
  - Spectrophotometer CM2600-d
  - Corneometer CM825
  - DUB SkinScanner
  - VISIA CR 2.2
  - PRIMOS lite
  - Folliscope PS
  - Image Analyzer System
  - pH meters
  - Inbody 270
  - moor FLPI-2™
  - Electronic scale
  - Micro-gloss 60°
  - Hair photo table
  - MoistureMap MM 100
  - Janus Pro
  - Constant temperature&humidity equipment
  - MoistureMeter D
  - Anti-pollution Chamber
  - Antera 3D CS
  - FLIR T620
  - Dry Sauna
  - Cutometer dual MPA 580
  - Cooling Fan
  - Derma-Lamp
  - Ammonia gas detector SKT-9300
  - Epsilon-E100
  - MARK-Vu
  - Visiometer SV700
  - D-Squame D100
  - D-Squame scan 850A
  - Dermalab skin hydration pintype
  - Sebumeter MPA580
  - Micropipette & Pistone pipette tip
  - Moire / F-ray
  - Tewameter TM300
  - Face photo table
  - Nikon D7200, D7500
  - Stereo Microscope SZMN645
  - Cellulite photo frame
  - Magnifier SK103L
  - SOPTOP MDX320
  - Universal Testing Machine
  - Multi Display Devices 4
  - Bath Circulator
  - Translucency Meter TLS850
  - Radioscan™
  - Oral Chroma™
  - VECTRA H2
  - Infrared light Irradiator
  - ASW 300
  - P.T.C Heater
  - Voltex Mixer
  - Treadmill
  - SkinFibroMeter
  - TMS
  - SkinColorCatch
-

## ■ Medical Director

### 1. Boncheol Leo Goo / Medical Director, Dermatologist

Education:	1999	Medical Doctor, College of Medicine, Yonsei University
	2011	Master of Medical Science, College of Medicine, Yonsei University
Career:	2008 ~ 2010	Fellow/Researcher Seoul National University Hospital / Department of Dermatology, College of Medicine, Seoul National University
	2013 ~ 2015	Director / Clinique L Dermatology
	2011 ~ 2019	Principal Director of Clinical Research, R&D Center, Lutronic corporation, Goyang, Korea
	2015 ~	Director / Naeum Dermatology and Aesthetic Clinic, Seoul, Korea
	2015 ~	Medical Director, Skin Research Center COREDERM Inc, Seoul, Korea
	2016 ~	Chief Medical Officer, R&D Center, Speclipse, Seoul, Korea

Professional Societies & Consult Board:	<ul style="list-style-type: none"> <li>▪ Korean Dermatological Association, Association of Korean Dermatologists</li> <li>▪ Korean Society for Laser Medicine and Surgery (Director)</li> <li>▪ American Society for Laser Medicine and Surgery (Fellow)</li> <li>▪ Coexistence Forum for Medical Device, The Ministry of Trade, Industry and Energy, Korea</li> <li>▪ Technical Review Board, Korean Evaluation Institute of Industrial Technology, Korea</li> <li>▪ Korean Health Industry Development Institute Korea Medical Device Industrial Corp. Association</li> </ul>
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## ■ Staff

### 1. Eunjoung Kim / Director of Research Center

Education:	1990.02	Bachelor of Natural Science, Biology, Sogang University
	1992.02	Master of Natural Science, Biology, Sogang Graduate School
	2018.08	Doctor of Natural Science, Biology, Hanyang University Graduate School
Career:	1992.01 ~ 1997.03	Senior Researcher / Amore pacific Co. Ltd. R&D Center
	1998.01 ~ 2000.12	Suwon Women's College Professor
	2001.05 ~ 2006.12	Senior Researcher / Dermapro Co. Ltd. R&D Center
	2004.01 ~ 2006.12	Soekyung University Professor
	2016.02 ~	Research Director / COREDERM Inc., Skin Research Center
	2018.02 ~	CEO / COREDERM Inc., Skin Research Center
	2023.09 ~	CEO, Research Director / COREDERM Inc., Skin Research Center

### 2. Chaeyeon Lee / Subinvestigator

Education:	2024.02	Associate of Science, Food Science & Bio Technology, Shin Ansan University
Career:	2023.06 ~	Researcher / COREDERM Inc., Skin Research Center

### 3. Jihyun Hyun / Subinvestigator

Education:	2021.02	Associate of Science, Food Science & Bio Technology, Shin Ansan University
Career:	2020.09 ~ 2023.06	Researcher / COREDERM Inc., Skin Research Center
	2023.07 ~	Senior Researcher / COREDERM Inc., Skin Research Center

## ■ Quality assurance

### 1. Hyeonjeong Jang

Education:	2019.02	Bachelor of Department of Biomedical Materials, Konyang University
Career:	2019.03 ~ 2021.01 2021.06 ~	Member/ Konyang University's Global Business School Researcher / COREDERM Inc., Skin Research Center Research Support Team
Certificate:	2022.12	ISO 9001:2015 Internal Auditor Course Completed, Korea Standards Association

## ■ R&D Papers

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