

EL-210421193

Clinical Trial Report

First market

**Clinical evaluation of the efficacy of
Kocostar Premium Foot Peeling Pack
in improving foot desquamation**

June 09, 2021

Ellead Co., Ltd.



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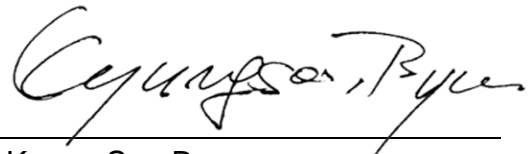
Authentication

This clinical study requested by First market for the evaluation of the efficacy of Kocostar Premium Foot Peeling Pack in improving foot desquamation was conducted in accordance with Standard Operating Procedures (EL-P-7400) of Ellead Co., Ltd. after the approval based on standard operating procedures of Ellead IRB.

June 09, 2021

Research organization: Ellead Co., Ltd.

Representative director:



Kyung Soo Byun
President

Research director:



Tae Kee Moon, M.D.
Dermatologist

Ellead IRB Notice of Approval

Applicant	Sponsor (Requester)	First market (You Ri Kim)		
	Research director	Tae Kee Moon		
IRB No.	IRB-210428T001	Study No.	EL-210421193	
Study title	Clinical evaluation of efficacy of M-210421193 in improving foot desquamation			

Review type	<input checked="" type="checkbox"/> New <input type="checkbox"/> Revision (re-review) <input type="checkbox"/> Conditional approval			
Review type	<input checked="" type="checkbox"/> Full board <input type="checkbox"/> Expedited <input type="checkbox"/> Urgent			
Submission date	April 30, 2021			
Review date	May 03, 2021			
Review result	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Conditionally approved <input type="checkbox"/> Requires revision (re-review) <input type="checkbox"/> Rejected <input type="checkbox"/> Suspension <input type="checkbox"/> Hold			
	The clinical study (IRB-210428T001) has been approved by Ellead Institutional Review Board.			
Date of approval	May 03, 2021			
Period of approval validity	May 03, 2021 – May 30, 2022			
Continuing review eligibility	<input type="checkbox"/> Yes (Continuing review period: / Submission deadline:) <input checked="" type="checkbox"/> No			
Outcome/ Comments	The design of the study protocol and the case report form (CRF) for the volunteers were reviewed, and it is confirmed that no further changes or submission of documents are required. Therefore, the study is approved.			
Document reviewed	1. Study protocol 2. Case report form (CRF) 3. Safety data of the test product			

Ellead Institutional Review Board

- ※ Ellead Institutional Review Board acknowledges that the details of the above presented notice of approval are in accord with the records of Ellead Institutional Review Board.
- ※ Ellead Institutional Review Board complies with the relevant laws and regulations such as KGCP, Cosmetics Act, and Bioethics and Safety Act.
- ※ Any IRB members with conflict of interest were excluded from the review process.

Quality assurance certification

Study title: Clinical evaluation of efficacy of Kocostar Premium Foot Peeling Pack in improving foot desquamation

Study number: EL-210421193

This study was inspected by the quality assurance director, and the report was submitted to the research director in accordance with standard operating procedures, as follows:

<u>Phase</u>	<u>Date</u>
Approval of study protocol	April 30, 2021
Approval by Institutional Review Board	May 03, 2021
Product testing	May 03, 2021 – May 27, 2021
Data audit	May 27, 2021
Final report review	May 31, 2021
Approval by research director	June 09, 2021

This study was conducted in compliance with Ellead Standard Operating Procedures (EL-P-7400). It has been confirmed that the reported results closely reflect the experiment data.

June 09, 2021

Quality assurance director: _____



Sun Hwa Lee, M.S.



Summary of clinical study

Study title	Clinical evaluation of the efficacy of Kocostar Premium Foot Peeling Pack in improving foot desquamation
Study number	EL-210421193
Requestor	First market 53, Yulgok-ro, Jongno-gu, Seoul, Republic of Korea
Research organization	Ellead Co., Ltd. 7&8 fl., 325, Hwangsaoul-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea
Duration of the study	May 03, 2021 – June 09, 2021
Name of test product (test product code)	Kocostar Premium Foot Peeling Pack (M-210421193)
Method	<ol style="list-style-type: none"> 1. Number of volunteers: 21 (Final 21 volunteers, average 48.76 ± 8.07 years old, female) 2. Study period: 1 week (Measurement points: baseline, after 1 week of the test product application) 3. Test site: Foot 4. Method of test product application: Cleanse your foot and put it in the pack (test product) while still wet. After about 60 minutes, remove the pack and rinse the foot with lukewarm water. 5. Evaluation details <ol style="list-style-type: none"> 1) Assessment of skin desquamation on the foot by DSLR photography and image analysis 2) Self-assessment by volunteers 3) Assessment of adverse skin reactions by researcher and volunteers
Results	<p>The results of assessment of skin desquamation on the foot by DSLR photography and image analysis showed a decrease in skin desquamation (pixel) after 1 week of the test product application compared to baseline with statistical significance ($p < 0.001$) and the rate of decrease was 64.786%.</p> <p>Therefore, Kocostar Premium Foot Peeling Pack was proven to help improve foot desquamation after 1 week of the test product application.</p> <p>The test product did not show any symptoms of adverse skin reaction during the test period.</p>

Date of report issue	June 09, 2021
Research director	Tae Kee Moon, M.D.
Quality assurance director	Sun Hwa Lee, M.S.
Researcher	Ho Young Jung, M.S. / Ha Young Kim, B.S. / Yong-Hoon Jung, M.S. / Hyun-Soo Bae, M.S. / Eun Hye Park, B.S
Sample management staff	So Young Yoon

Study contents

1. Objective

The purpose of this clinical study was to evaluate the efficacy of Kocostar Premium Foot Peeling Pack in improving foot desquamation.

2. Duration of study

May 03, 2021 – June 09, 2021

(Test period: May 03, 2021 – May 27, 2021)

3. Research organization

Ellead Co., Ltd.

Address : 7&8 fl., 325, Hwangsaoul-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea

E-mail : hoyoung0410@ellead.co.kr Homepage : www.ellead.com

Tel : +82-31-709-9070 (#401) Fax : +82-31-703-9071

Researcher : Ho Young Jung

4. Requestor

First market

Address : 53, Yulgok-ro, Jongno-gu, Seoul, Republic of Korea

E-mail : you@kocostar.com Homepage : www.kocostar.co.kr

Tel : +82-2-743-9432 Fax : +82-2-743-9433

Requester : You Ri Kim

5. Information of test product

1) Test product code, name of test product and formulation

Test product code	Name of test product	Formulation
M-210421193	Kocostar Premium Foot Peeling Pack	Liquid

2) Test product handling

Upon arrival at Ellead, the test products are numbered by the sample allocator. Recipient, date, code number and sponsor are recorded in test product management card. All test products provided to the volunteers will be retrieved after the completion of the study. The standard product will be retained for a period of 3 years.

3) Safety and specification

The requesting company was responsible for the properties and safety of the testing substances.

4) Ingredient: Attachment 8.

Method

1. Volunteers selection

1) Volunteer selection method

(1) Inclusion criteria

- 20 – 60 years old females who is judged to have high level of foot desquamation.
- Those who fully understand the objective and contents of the study and voluntarily decide to participate.
- Those who understand the possible adverse reactions and sign the informed consent form.
- Those who do not have acute or chronic diseases including skin diseases which can affect the study (severe infections or eczematous skin diseases including atopic dermatitis).
- Those who are available for observations throughout the entire study.
- Those who are able to visit the laboratory according to set schedules and follow the study instructions.

(2) Exclusion criteria

- Those who have allergic body constitution (e.g. allergic to medicine, cosmetics, food, pollens, UV light).
- Those who are pregnant, breast feeding or planning pregnancy.
- Those who have prominent nutrition disorder.
- Those who are drug addict or alcoholic.
- Those who have moles, acne, tattoo, scars, red spots, telangiectasis, burns, etc. which may affect the test results.

- Those who have participated in the same clinical evaluation within 1 month.
- Those who have been using steroid or retinoid for treatment of skin disease more than 1 month or are taking medicines which can affect the skin (e.g. anti-histamines, immunosuppressants).
- Those who have used cosmetics or medicine that have similar efficacy to the test product within 3 months before the start of the study.
- Those who have undergone toenail-related treatment such as pedicure before the start of the study.
- Those who are participating in clinical study/studies involving the same test area conducted by Ellead or other clinical testing body/bodies.
- Those who have otherwise been judged by the research director to be unsuitable for enrollment in this clinical trial.

2) Volunteer restrictions

- Use and store the test product in accordance with the instructions.
- Do not engage in activities that may damage the test area, such as massage or esthetic, specific skin treatments (including laser treatment), sauna and use of peeling products.
- After using the product, do not peel off the skin of the test area manually by hands or tools.
- If skin irritation or redness occurs while using the test product, discontinued the application and inform the laboratory immediately.
- Do not use any cosmetic products on the test site 12 hours prior to visit.

3) Volunteer withdrawal criteria

- Those who fail to comply with the study instructions/restrictions or schedules.

- Those who experience serious adverse reactions or request to withdraw due to adverse reactions.
- Those who cannot continue with the study due to an occurrence of skin disease (pruritus, erythema, etc.)
- Those who request to withdraw from the study or cannot be followed up due to personal circumstances.
- Those who have taken medicines which can affect the test results during test period.
- Research director judges that continued participation is inappropriate or is not in the volunteer's best interest.

2) Volunteer selection

The final 21 volunteers who met inclusion criteria and did not meet exclusion/withdrawal criteria and complied with restrictions were assessed for the clinical efficacy of the test product in improving foot desquamation.

2. Confidentiality of the information

- 1) Volunteers' identities are guaranteed by the confidentiality regulation. For research purposes they can be released preserving the volunteers' anonymity.
- 2) Volunteers must keep confidential about information gained from the test.
- 3) Each volunteer is required to fill in the informed consent form honestly, and their personal information is kept confidential. The signed consent forms are available for inspection on the premises of Ellead Co., Ltd.

3. Test procedure and outline

During the test period, the volunteers visited Ellead 2 times (Baseline, after 1 week of the test product application). All volunteers stopped using cosmetics, quasi-drugs, and therapeutic products that aim skin exfoliation, receiving medical treatments or physical exfoliation that could affect the study result 2 weeks before the beginning of the study. The volunteers were not allowed to use any cosmetics 12 hours prior to the visit. On the day of the first visit, the volunteers were briefed carefully and precisely on the study objectives, outline, method, potential risks. Those who voluntarily decided to participate in the study signed informed consent form and provided their basic personal information by filling out case report forms.

The volunteers washed their foot using lukewarm water and stood by for at least 30 minutes in a controlled room at constant temperature and humidity (20 – 24 °C, 40 – 60% RH).

The assessment was conducted as follows:

1) Baseline

- Image acquisition of the foot desquamation by DSLR
- Distribution of the test product and product use diary
 - Method of test product application: Cleanse your foot and put it in the pack (test product) while still wet. After about 60 minutes, remove the pack and rinse the foot with lukewarm water.

2) After 1 week

- Image acquisition of the foot desquamation by DSLR
- Self-assessment by volunteers
- Assessment of adverse skin reactions by researcher and volunteers

- Retrieval of the test product and product use diary

3) After clinical trial

- Analysis of skin desquamation on the foot by image analysis program

4. Efficacy evaluation

1) Assessment of skin desquamation on the foot by DSLR photography and image analysis

(1) Image acquisition by DSLR

The images of foot were photographed by DSLR camera under consistent illumination condition. The photographs were taken by the same researcher, and the photography conditions such as shooting distance and angle were fixed throughout the study for consistency.

(2) Assessment of skin desquamation on the foot by image analysis program

To assess the skin desquamation of the product, the images of the foot taken by DSLR camera was converted to grayscale, and the pixel value of the area of interest (AOI) within the set brightness range was analyzed using image analysis program (Image-Pro Plus, USA). A decrease in the pixel value after 1 week of test product application compared with the baseline indicates a decrease in the skin desquamation. The rate of decrease was calculated as follows.

- Rate of decrease (%)

$$= \frac{\text{Measurement before product use} - \text{Measurement after product use}}{\text{Measurement before product use}} \times 100$$

2) Evaluation of percentage of volunteers who showed a decrease in values

The percentage of volunteers who showed a decrease in the measurement values were calculated as follows:

- Percentage of volunteers who showed a decrease in skin desquamationon (%)

$$= \frac{\text{The number of volunteers who showed a decrease}}{\text{Total number of volunteers}} \times 100$$

5. Self-assessment by volunteers

Volunteers filled out questionnaires regarding their subjective assessment of the general review (usability), efficacy and adverse reactions regarding the test product after 1 week of application, and the responses to each question were expressed as percentages (%)

6. Data statistical analysis

1) Statistical software of IBM SPSS statistics version 25.0 (SPSS, Chicago, IL, USA) was used.

2) Level of significance (α) was set as 0.05 (95% confidence level).

3) Statistical analysis set was defined Per Protocol in which a subset of the volunteers in the full analysis set who completed the study in accordance with the study protocol without major violations is selected. The criteria for selection were as follows:

(1) Those who did not violate major specifications of the protocol including the inclusion criteria.

(2) Those who completed the application of the test product within the specified duration.

4) Test of normality: Kolmogorov-Smirnov test was used.

5) Comparison between before and after the application: Paired t-test was used.

7. Assessment of adverse skin reactions

The test area was closely observed and examined for adverse reactions such as erythema, edema, scaling, itching, stinging, burning, tightness, and prickling sensations. In case any of these occurred, the symptoms were rated 0 for none, 1 for mild, 2 for moderate, and 3 for severe, and further assessment was carried out by the dermatologist in accordance with Ellead adverse reactions regulation.

	None (0)	Mild (1)	Moderate (2)	Severe (3)
Erythema				
Edema				
Scaling				
Itching				
Stinging				
Burning				
Tightness				
Prickling				

8. Archiving

All original samples, raw data, technician's notebooks, correspondence files, copies of final reports, and remaining specimens are maintained on the premises of Ellead Co., Ltd.

Results

1. Volunteers

The final 21 volunteers completed the study, and the information and age grouping of the volunteers are shown below (Table 1, 2 / Figure 1).

Table 1. The information of volunteers

No. of volunteers enrolled (n)	21
No. of volunteers dropped out (n)	0
No. of volunteers completing the study (n)	21
Average of age (Stdev.)	48.76 (8.07)
Sex	Female

Table 2. Age distribution of volunteers

Age	20s	30s	40s	50s	60s	Total
No.(%)	1 (4.76)	2 (9.52)	8 (38.10)	9 (42.86)	1 (4.76)	21 (100.00)

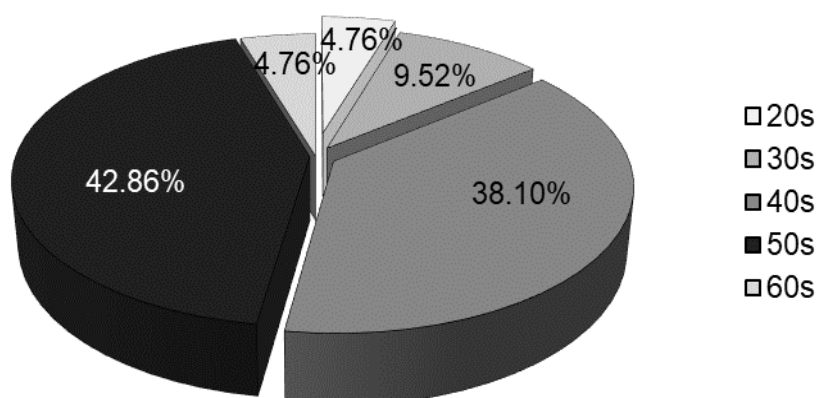


Figure 1. Age groupings of the volunteers

2. Effectiveness

1) Assessment of skin desquamation on the foot by DSLR photography and image analysis

The results of skin desquamation on the foot assessed by DSLR camera and image analysis, statistical analysis and rate of decrease are shown below (Table 3 – 5 / Figure 2).

Table 3. The results of foot desquamation (pixel) and statistical analysis
(baseline vs. after)

	Baseline	After 1 week
Mean ± S.D.	85674.762 ± 29806.058	30275.667 ± 29500.065
p-value	-	< 0.001 ***

*Probability p (Paired t-test, Significant: ***p<0.001)

Table 4. The rate of decrease in foot desquamation (%)

	After 1 week
%	64.786

The results of skin desquamation on the foot showed a decrease after 1 week of the test product application compared to baseline with statistical significance ($p<0.001$) and the rate of decrease was 64.786% (Table 3, 4 / Figure 2).

The results of assessment of skin desquamation on the foot by DSLR photography and image analysis are shown in Table 6, 7 of Attachment 1.

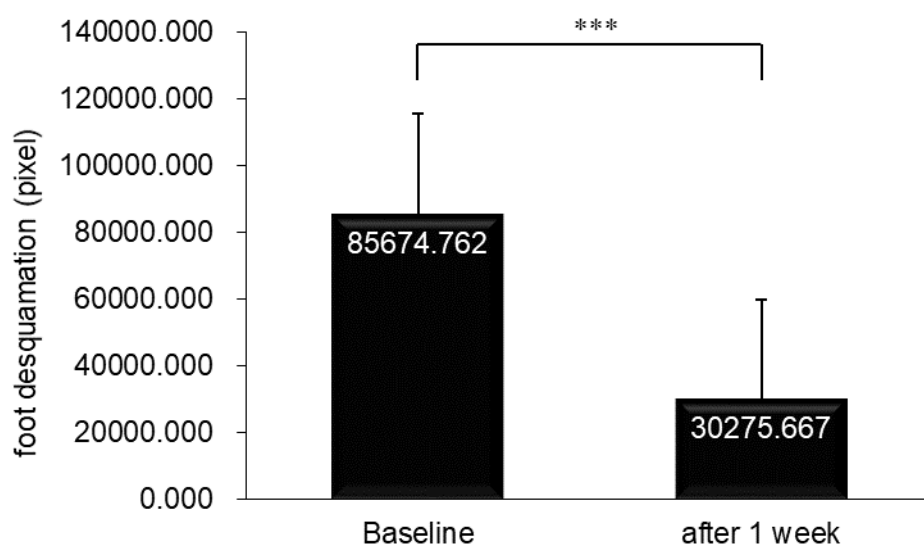


Figure 2. Result of skin desquamation measurement

Probability p (Paired t-test, Significant: *p<0.001)*

Table 5. The percentage of volunteers who showed a decrease in skin desquamation (%)

	After 1 week
pixel	100.000

The percentages of volunteers who showed a decrease in skin desquamation (pixel) after 1 week of the test product application was 100.000% (Table 5).

3. Assessment of adverse skin reactions

1) Adverse reactions evaluation by the researcher

No special symptom related to skin adverse reactions was reported by the researcher.

2) Adverse reactions evaluation by the volunteers

No special symptom related to skin adverse reactions was observed by the volunteers.

Conclusion

This clinical study requested by First market for the evaluation of the efficacy of Kocostar Premium Foot Peeling Pack in improving foot desquamation was conducted at Ellead Co., Ltd. with 21 volunteers.

The results of assessment of skin desquamation on the foot by DSLR photography and image analysis showed a decrease in skin desquamation (pixel) after 1 week of the test product application compared to baseline with statistical significance ($p < 0.001$) and the rate of decrease was 64.786%.

Therefore, Kocostar Premium Foot Peeling Pack was proven to help improve foot desquamation after 1 week of the test product application.

The test product did not show any symptoms of adverse skin reaction during the test period.

This study was inspected in accordance with the standard operating procedures of Ellead. To assure compliance with the study protocol, the quality assurance unit completed an audit of the study results and final report.

Attachment 1. Raw data

1. Instrumental assessment

- 1) The results of assessment of skin desquamation on the foot by DSLR photography and image analysis and the individual rate of decrease.

Table 6. The results of skin desquamation (pixel)

No.	Baseline	After 1 week
1	140361.000	88609.000
2	76025.000	1305.000
3	92389.000	74238.000
4	103954.000	21516.000
5	82796.000	20913.000
6	116681.000	15289.000
7	43485.000	19621.000
8	46461.000	496.000
9	101559.000	24878.000
10	69666.000	21531.000
11	80313.000	22147.000
12	77490.000	67.000
13	152249.000	5166.000
14	47411.000	12541.000
15	103481.000	67143.000
16	81972.000	9085.000
17	71170.000	60696.000
18	82832.000	0.000
19	37040.000	19995.000
20	109931.000	73601.000
21	81904.000	76952.000
Mean	85674.762	30275.667
S.D	29806.058	29500.065

Table 7. The individual rate of decrease in skin desquamation (%)

No.	After 1 week
1	36.871
2	98.283
3	19.646
4	79.302
5	74.742
6	86.897
7	54.879
8	98.932
9	75.504
10	69.094
11	72.424
12	99.914
13	96.607
14	73.548
15	35.116
16	88.917
17	14.717
18	100.000
19	46.018
20	33.048
21	6.046
Mean	64.786
S.D	30.444

2. Self-assessment by volunteers

1) Assessment of compliance and adverse skin reaction

Q1. Did you fully understand and comply with the volunteer restrictions?

No.	Item	After 1 week	
		N	%
1	Yes	21	100.00
	No	0	0.00
	Total	21	100.00

Q2. Did you experience any discomfort or adverse reactions while using this product?

No.	Item	After 1 week	
		N	%
2	Yes	0	0.00
	No	21	100.00
	Total	21	100.00

2) Self-assessment questionnaire

Q1) Please answer the questions after applying the test product.

(1) Overall, are you satisfied with the test product you used?

No.	Item	After 1 week	
		N	%
1-1	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	1	4.76
	Somewhat agree	1	4.76
	Agree	10	47.62
	Strongly agree	9	42.86
	Total	21	100.00

(2) Do you feel improvement in skin desquamation on the foot area after using the test product?

No.	Item	After 1 week	
		N	%
1-2	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	1	4.76
	Somewhat agree	1	4.76
	Agree	9	42.86
	Strongly agree	10	47.62
	Total	21	100.00

(3) Do you feel the foot softened after using the test product?

No.	Item	After 1 week	
		N	%
1-3	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	1	4.76
	Somewhat agree	1	4.76
	Agree	8	38.10
	Strongly agree	11	52.38
	Total	21	100.00

(4) Is this product more effective than the one you normally use?

No.	Item	After 1 week	
		N	%
1-4	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	2	9.52
	Somewhat agree	0	0.00
	Agree	9	42.86
	Strongly agree	10	47.62
	Total	21	100.00

(5) Would you recommend this product to others?

No.	Item	After 1 week	
		N	%
1-5	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	1	4.76
	Somewhat agree	1	4.76
	Agree	9	42.86
	Strongly agree	10	47.62
	Total	21	100.00

(6) Are you willing to purchase this product, if the product is released?

No.	Item	After 1 week	
		N	%
1-6	Strongly disagree	0	0.00
	Disagree	0	0.00
	Somewhat disagree	2	9.52
	Somewhat agree	1	4.76
	Agree	6	28.57
	Strongly agree	12	57.14
	Total	21	100.00

Attachment 2. Career of research director

Tae Kee Moon

1. Academic career

- 1982.03 – 1989.02 B.M. in College of Medicine, Yonsei University
1995.03 – 1997.06 M.S. in College of Medicine, Graduate School of Yonsei University
1998.03 – 2003.02 Ph.D. in Medical Science, College of Medicine, Graduate School of Yonsei University

2. Career

- 1989.03 Licensed Doctor (License No. ; 38101)
1992.04 – 1993.02 Intern, Sinchon Severance Hospital affiliated to College of Medicine, Yonsei University
1993.03 – 1997.02 Residency, Department of Dermatology, College of Medicine, Yonsei University
1997.03 – 1998.02 Instructor, Department of Dermatology, College of Medicine, Yonsei University
1997 Clinical Fellowship, Dermatopathology Laboratory, Kawasaki Medical University
1997.03 Qualified Dermatology Specialist (Qualification No. ; 903)
1998.03 – 1999.12 Professor, Department of Dermatology, College of Medicine, Kwandong University
2000.01 – present Director, Yonsei Monet Dermatologic Clinic Adjunct Assistant Professor
Department of Dermatology, College of Medicine, Yonsei University Adjunct Associated Professor
Department of Dermatology, College of Medicine, Ajou University Adjunct Associated Professor
Department of Dermatology, College of Medicine, Pochon Cha University
2001.02 – present Research Director, Ellead Co., Ltd.

3. Academic activity

The Regular Member of Korean Dermatological Association

The Regular Member of the Korean Society for investigative Dermatology

The Regular Member of Korean Dermatopathology Association

The Regular Member of International Society for Dermatologic Surgery

4. Research experience

1) Published articles

- (1) Tae Kee Moon, Beom Joo Lee, Seung Hun Lee, Seong Koo Ahn, Won Soo Lee. Leukemic Macrocheilia Associated with Chronic Lymphocytic Leukemia. Kor J Dermatol 1994; 32(6): 114-118.
- (2) Tae Kee Moon, Juho Yoon, Kwang Hoon Lee. Two Cases of Pigmentary Demarcation Lines Associated with Pregnancy. Kor J Dermatol 1994; 32(5): 903-906.
- (3) Tae Kee Moon, Sung Nam Chang, Soo Chan Kim. Skin Rash in a Patient with Infectious Mononucleosis after the Intake of Ampicillin. Kor J Dermatol 1994; 32(6): 1095-1098.
- (4) Juho Yoon, Tae Kee Moon, Kwang Hoon Lee, Soo Chan Kim. Fetal vascular involvement in SLE following epidermolysis bullosa acquisita. Acta Derm Venereol 1995; 75: 143-146.
- (5) Tae Kee Moon, Hee Sung Kim, Min Geol Lee. Frey's Syndrome in a Child without Definite Causes. Kor J Dermatol 1995; 33(4): 733-737.
- (6) Tae Kee Moon, Sung Bin Yim, Seung Kyung Hann, Sung Whan Cho, Yoon Kee Park. The Effect of Small Doses of Oral Corticosteroids in Vitiligo Patients. Kor J Dermatol 1995; 33(5): 880-885.
- (7) Myung Soo Cha, Tae Kee Moon, Ewn So Lee, Won Hyoung Kang, Sunghack Lee. Spindle cell lipoma of the palm. Kor J Dermatol 1996; 34(5): 847-850.
- (8) Han Seung Lee, Tae Kee Moon, Kwang Hoon Lee, Dongsik Bang. Variations of serum-soluble E-selectin and soluble ICAMI in patients with Behcet's

- disease. *Kor J Dermatol* 1996; 34(5): 847-850.
- (9) Tae Kee Moon, Seung Kyung Hann, Yoon Kee Park, Han Seung Lee. Differences in Expression of HLA Antigens among Subtypes of Vitiligo. *Korean J Dermatol* 1998; 36(6): 981-989.
- (10) Sang Ju Lee, Tae Kee Moon, Seung Kyung Hann. Two cases of cutaneous larva migrans. *Annals of Dermatology* 1998; 10: 61-63.
- (11) Mira Yoon, Seung Kyung Hann, Tae Kee Moon, Min Geol Lee. Acantholytic dyskeratotic epidermal nevus induced by ultraviolet B radiation. *JAAD* 1998; 39: 301-4.
- (12) Yun Seong Jeon, Tae Kee Moon, Min Geol Lee, Kyung Il Im. *Loiasis*. *Yonsei Med J* 1998; 39: 184-188.
- (13) Jung Hoan Yoo, Woo Taek Chun, Eun Young Oh, Tae Kee Moon, Soo Min Kim, Seung Kyung Hann, Woo Taek Chun. The Relationship between Coping Mechanisms and Psychological Symptoms in Vitiligo Patients. *Korean J Dermatol* 1998; 36(6): 990-996.
- (14) Ho Jung Lee, Tae Kee Moon, Min Geol Lee, Jung Bock Lee. Histopathologic Finding and Modulation of Expression of The Cell Surface Molecules in The Primary Syphilitic Lesions of a Rabbit Infected with *Treponema pallidum*. *Korean J Dermatol* 1999; 37(8): 1038-1046.
- (15) Kyung Jin Moon, So Un Kim, Ju Hee Moon, Su Jin Kim, A Young Kim, Tae Kee Moon, Nam Soo Kim. Study on the Sun Protection Factor (SPF) Test Method for Sun Product Water Resistance. *Society of Cosmetic Scientists of Korea* 2008; 34(1): 63-66.
- (16) Suh Hee Choi, Hyun Ju Kim, Bum Chun Lee, Tae Kee Moon, Nam Soo Kim. Clinical Evaluation of Residual Effectiveness of Antibacterial Agents. *Society of Cosmetic Scientists of Korea* 2013; 39(2): 133-140.
- (17) Sun Hwa Lee, Jung Im Lee, Yoo-Ri Kim, Bum Chun Lee, Min Ji Kang, Kwang Seong Choi, Tae Kee Moon. Use of Oil Red O Staining Method in Non-Comedogenic Test for Cosmetics. *Society of Cosmetic Scientists of Korea*

2013; 39(3): 215-224.

- (18) Mi Seon Woo, Kyung Jin Moon, Ho Young Jung, Sae Rom Park, Tae Kee Moon, Nam Soo Kim, Bum Chun Lee. Comparison of skin elasticity test results from the Ballistometer® and Cutometer®. *Skin Res Technol* 2014; 20: 422-428.
- (19) Eun Jeong Song, Jung A Lee, Jung Jun Park, Hyun Ju Kim, Nam Soo Kim, Kyung Soo Byun, Gwang Seong Choi, Tae Kee Moon. A study on seasonal variation of skin parameters in Korean males. *International Journal of Cosmetic Science* 2014, 1-6, doi:10.1111/ics.12174
- (20) Hye Kyong Park, Nam Soo Kim, Tae Kee Moon, Bora Kim, Ho Young Jung, A Comparison Study between Image Analysis and Conventional Methods in the Evaluation of Asian Skin Color, *Society of Cosmetic Scientists of Korea* 2015;41(2):97-103
- (21) Sae Rom Park, Hyun Ju Kim, Hye Kyong Park, Ju Yeon Kim, Nam Soo Kim, Kyung Soo Byun, Tae Kee Moon, Ji Won Byun, Jong Hyuk Moon, Gwang Seong Choi. Classification by causes of dark circles and appropriate evaluation method of dark circles. *Skin Res Technol* 2016; 22(3): 276-283.
- (22) Sung Hae Bae, Jung Jun Park, Eun Jeung Song, Jung Ah Lee, Kyung Soo Byun, Nam Soo Kim, Tae Kee Moon. The comparison of the melanin content and UV exposure affecting aging process: seven countries in Asia. *J Cosmet Dermatol*, 2016; 15(4):335-342.
- (23) Jung Ah Lee, Eun Jeung Song, Jung Jun Park, Hyun Ju Kim, Sin Hae Kim, Nam Soo Kim, Tae Kee Moon. The Comparison of Skin Physical Parameters in Asian Women. *Journal of the Society of Cosmetic Scientists of Korean* 2017; 43(4); 297-307.
- (24) Sun Hwa Lee, Jung Ah Lee, Sun Mi Park, Younghee Kim, Yoon Jung Jang, Bora Kim, Nam Soo Kim, Tae Kee Moon. Digitization of Adjectives that Describe Facial Complexion to Evaluate Various Expressions of Skin Tone in Korean. *Journal of the Society of Cosmetic Scientists of Korean* 2017; 43(4); 349-355.

Attachment 3. Career of quality assurance director

Sun Hwa Lee

1. Academic career

- 2002.03 – 2006.02 B.S. in Department of chemistry, College of natural science, Inha University
- 2006.03 – 2009.02 M.S. in Molecular genomic medicine College of medicine, Seoul National University

2. Career

- 2009.01 – present Senior Researcher, Ellead Co., Ltd.
- 2016.04 – 2017.02 Quality Assurance Manager of GLP, Ellead Co., Ltd.
- 2017.03 – 2018.08 Quality Assurance Director of GLP, Ellead Co., Ltd.
- 2019.03 – present Quality Assurance Director, Ellead Co., Ltd.

3. Research experience

1) Published articles

- (1) Sun Hwa Lee et al. Role of Transglutaminase 2 in Melanogenesis (2009).
- (2) Jang GY, Jeon JH, Cho SY, Shin DM, Kim CW, Jeong EM, Bae HC, Kim TW, Lee SH, Choi Y, Lee DS, Park SC, Kim IG. Transglutaminase 2 suppresses apoptosis by modulating caspase 3 and NF-kappaB activity in hypoxic tumor cells. *Oncogene* 2010; 29(3): 356-367.
- (3) Sun Hwa Lee, Jung Im Lee, Yoo-Ri Kim, Bum Chun Lee, Min Ji Kang, Kwang Seong Choi, Tae Kee Moon. Use of Oil Red O Staining Method in Non-Comedogenic Test for Cosmetics. *Society of Cosmetic Scientists of Korea* 2013; 39(3): 215-224.
- (4) Jung Ah Lee, Ju Yeon Kim, Sun Hwa Lee, Bora Kim, Nam Soo Kim, and Tae Kee Moon. Use of Redness Assessment in Melasma Lesions in Skin Whitening Evaluation *Journal of the Society of Cosmetic Scientists of Korea* 2016; 42(4); 337-342.
- (5) Sun Hwa Lee, Jung Ah Lee, Sun Mi Park, Younghee Kim, YoonJung Jang,

Bora Kim, Nam Soo Kim and Tae Kee Moon. Digitization of Adjectives that Describe Facial Complexion to Evaluate Various Expressions of Skin Tone in Korean, J.Soc.Cosmet. Sci. Korea 2017; Vol. 43; No. 4.

- (6) Hye-ji Lee, YoonJung Jang, Bora Kim, Tae Kee Moon, Nam Soo Kim and Sun Hwa Lee. The Differentiation Criteria between Greasiness and Shininess on The Face Using Mechanical Evaluation and Image, J.Soc.Cosmet. Sci. Korea 2018; Vol. 44; No.3.

Attachment 4. Career of researcher

Ho Young Jung

1. Academic career

- 2003.03 – 2007.02 B.S. in Department of food & nutrition, College of Applied natural science, Yongin University
- 2007.03 – 2009.02 M.S. in functional food, College of Domestic science, Han Yang University

2. Career

- 2009.02 – 2009.10 Intern Researcher, Department of functional food, National Agriculture Academy of Sciences in Korea
- 2009.10 – present Senior Researcher, Ellead Co., Ltd.

3. Research experience

1) Published articles

- (1) Young Min Lee, Ji Hyun Bae, Ho Young Jung, Jae Hyun Kim, Dong Sik Park. Antioxidant Activity in water and Methanol Extracts from Korean Edible Wild Plants. J Korean Soc Food Sci Nutr 2011; 40: 29-36.
- (2) Ho Young Jung, In Young Bae, Suroung Lee, Hyeon Gyu Lee. Effect of the degree of sulfation on the physicochemical and biological Properties of pleurotus eryngii polysaccharides. Food Hydrocolloids 2011; 25: 1291-1295.
- (3) Mi Seon Woo, Kyung Jin Moon, Ho Young Jung, Sae Rom Park, Tae Kee Moon, Nam Soo Kim, Bum Chun Lee. Comparison of skin elasticity test results from the Ballistometer® and Cutometer®. Skin Res Technol 2014; 20: 422-428.
- (4) Hye Kyong Park, Ho Young Jung, Bora Kim, Nam Soo Kim and Tae Kee Moon. A Comparison Study between Image Analysis and Conventional Methods in the Evaluation of Asian Skin Color, Society of Cosmetic Scientists of Korea 2014; 41(2): 97-103.

Ha Young Kim

1. Academic career

2006.03 – 2010.02 B.S. in department of Life Sciences, College of Natural Sciences, Suwon University

2. Career

2011.07 – present Senior Researcher, Ellead Co., Ltd.

Yong-Hoon Jung

1. Academic career

2007.03 – 2014.02 B.S. in department of Applied biology, College of Natural science, Dong-A University

2014.03 – 2016.02 M.S in department of Applied bioscience, College of Natural science, Graduate school of Dong-A University

2. Career

2016.01 – present Senior Researcher, Ellead Co., Ltd

3. Research experience

1) Published articles

- (1) Eun Joo Jung, Hae Jin Joo, Soo Yeon Choi, Seung Yeup Lee, Yong-Hoon Jung, Myung Hwan Lee and Seon-Woo Lee. Resistance Evaluation of Tomato Germplasm against Bacterial Wilt by *Ralstonia solanacearum*. Research in Plant Disease, 2014, 20(4): 253-258.
- (2) Raees Khan, Myung Hwan Lee, Haejin Joo, Yong-Hoon Jung, Shabir Ahmad, Jinhee Choi, and Seon-Woo Lee. Triclosan Resistance in a Bacterial Fish Pathogen, *Aeromonas salmonicida* subsp. *salmonicida*, is Mediated by an Enoyl Reductase, FabV. J Microbiol Biotechnol, 2015, 25: 511-520.
- (3) Yong-Hoon Jung. Master's Thesis Dissertation, Dong-a Univ., Busan, Korea (2015).
- (4) Raees Khan, Hyun Gi Kong, Yong-Hoon Jung, Jinhee Choi, Kwang-Yeal

Baek, Eul Chul Hwang and Seon-Woo Lee. Triclosan Resistome from Metagenome Reveals Diverse Enoyl Acyl Carrier Protein Reductases and Selective Enrichment of Triclosan Resistance Genes. Scientific Reports, 2016, 6: 32322.

Hyun-Soo Bae

1. Academic career

2007.03 – 2013.02 B.S. in Department of Life Chemistry & Natural Science Research Institute, Catholic University of Daegu, Gyeongsan

2013.03 – 2015.02 M.S. in Department of Chemistry & Natural Science Research Institute, Catholic University of Daegu, Gyeongsan

2. Career

2016.07 – present Senior Researcher, Ellead Co., Ltd.

3. Research experience

1) Published articles

(1) Hyun-Soo Bae, Hoon Hwang and In-Yong Eom. Argentometric Titration Apparatus with a Light Emitting Diode-based Nephelometric Detection System Bull. Korean Chem. Soc. 2015; 36; 2725–2729.

Eun Hye Park

1. Academic career

2011.03 – 2016.02 B.S. in Herbal Cosmetic science, College of Natural science, Hoseo University

2. Career

2019.06 – present Researcher, Ellead Co., Ltd.

Attachment 5. Career of sample management staff

So Young Yoon

1. Career

2016.05 – present Assistant manager, Ellead Co., Ltd.

Attachment 6. Research facilities

[Clinical Test Facilities]

Skin hydration measuring device: Epidermis, Dermis
Skin hydration imaging device
Transepidermal water loss (TEWL) measuring device
Skin sebum measuring device
Skin color measuring device
Skin elasticity measuring device: face, body, local region (e.g. eyelid, lip etc.)
Microcirculation measuring device
Skin pH meter
Skin ultrasonographic imaging device: Dermis, Subcutaneous fat layer
Skin wrinkle, roughness, texture measuring device
2D skin imaging device
3D skin imaging device: face, body
Foot desquamation measuring device
Skin surface imaging device, Skin surface imaging device with magnification
Skin translucency measuring device
Skin gloss measuring device
Facial topography imaging system
High resolution facial imaging system
High resolution wrinkle imaging system: crow's feet, neck, nasolabial region, glabella, forehead
Image analysis program
Skin temperature measuring device
Solar UV simulator: Multiport simulator, Pre-irradiation Solar Simulator
UV detector: UVA, UVB
Hair tensile strength & frictional force measuring device
Hair gloss imaging system
High resolution hair imaging system: crown, hair line, eyebrow
High resolution hair microscope & analysis program
Body fat analyzer, hematomanometer
Specialized clean bench for anti-microbial test (with sink)
Raman confocal microspectroscopy
Microplate reader, Digital Scale, CO₂ incubator, pH meter, Autoclave, Drying Oven, Water bath, Pass box, Thermo-hygrostat and diffuser controller, Thermo-hygrometer, Digital shaker, Clean bench, Fume hood

Quality Assurance Room, IRB Room, Safety Lab, Hydration Lab, Anti-Wrinkle Lab, Whitening Lab, SPF Lab, PA Lab, Clinic Lab, Functional Food Lab, Microbial Lab, Obesity Lab, Hair Lab, Microcirculation Lab, Exercise Room, Studios, Cleansing Room, Waterproof System Room, Buffer Room, Archives

[*In vitro* Test Facilities]

Ultra-Fast high-performance liquid chromatography

Franz diffusion cell system

ELISA reader

UV-VIS Spectrophotometer

Microtome

Drying Oven

Water bath

CO₂ incubator

Incubator for microbe

Shaking incubator

Clean bench

Microscope

Centrifuge

Deep freezer

Liquid nitrogen tank

Mupid-One electrophoresis system

SDS-PAGE electrophoresis system

UV irradiation system

pH meter

Autoclave

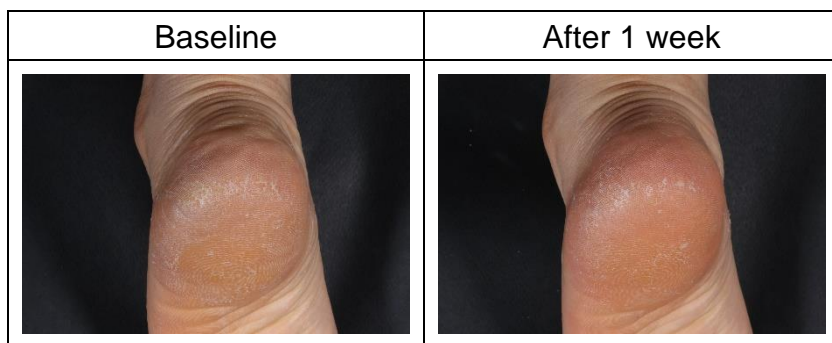
Desiccator

Analytical Lab, *in vitro* Lab, Microbial Lab, Cell Culture Lab, Tissue Culture Lab,
Microscope Room, Darkroom, Archives, Sample preprocessing room

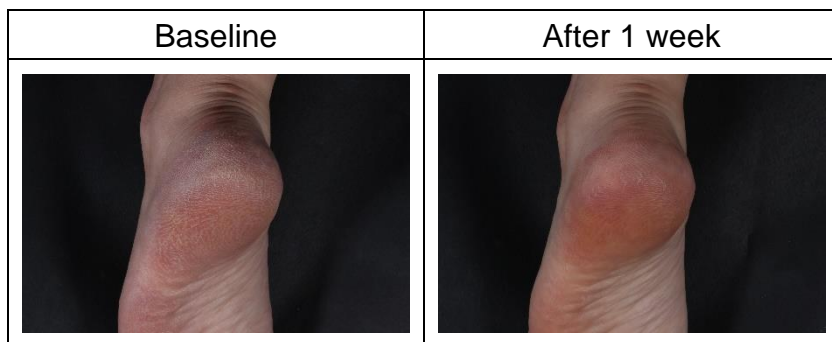
Attachment 7. Image data

1. Acquisition of image by DSLR

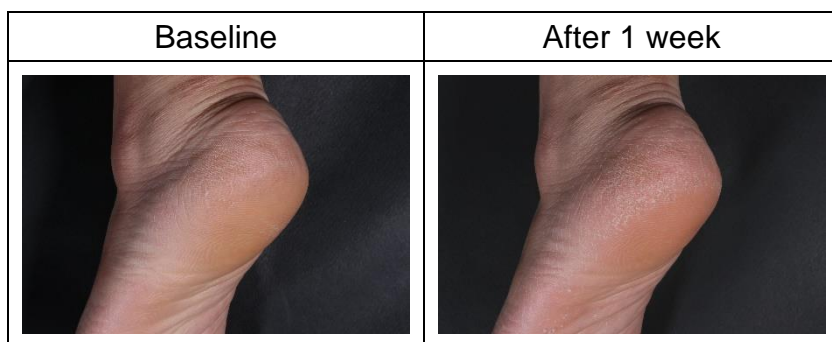
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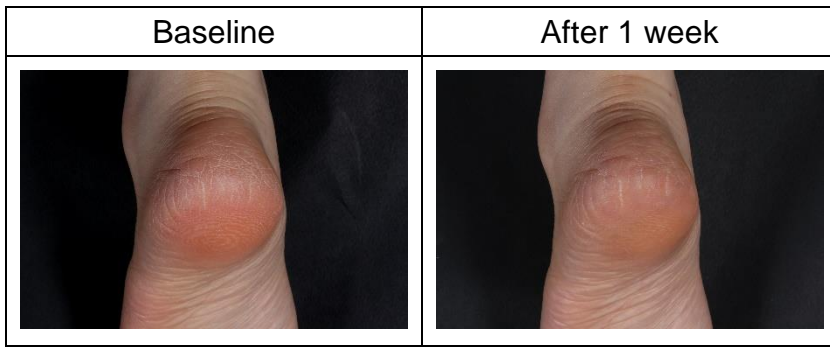
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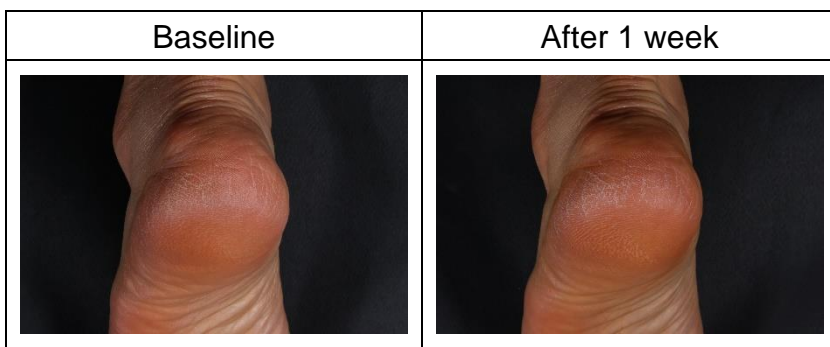
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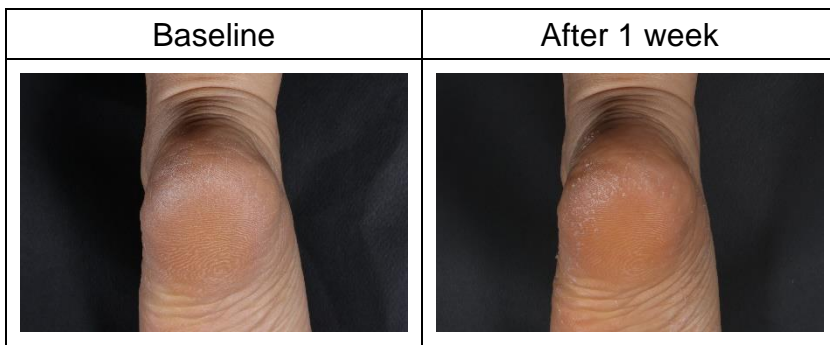
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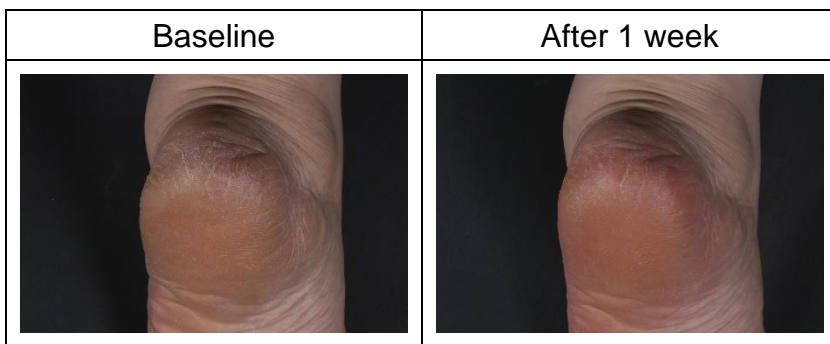
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Volunteer #6



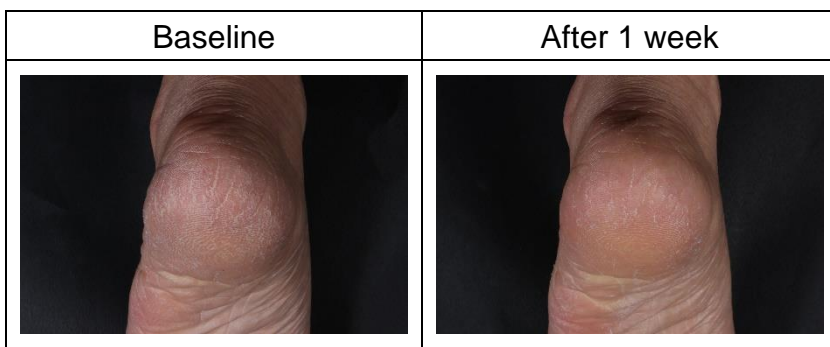
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Volunteer #8



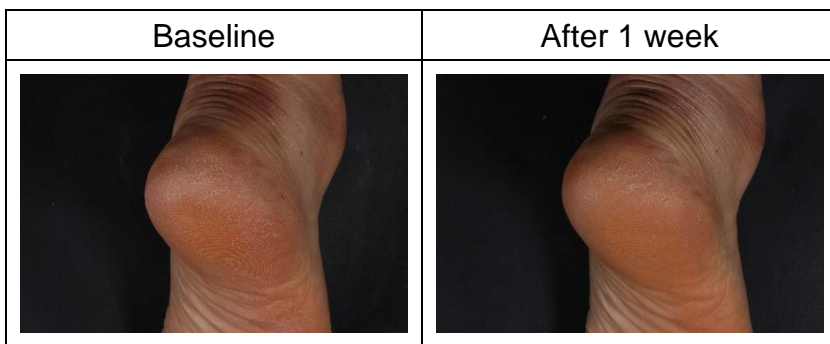
Volunteer #9



Volunteer #10



Volunteer #11



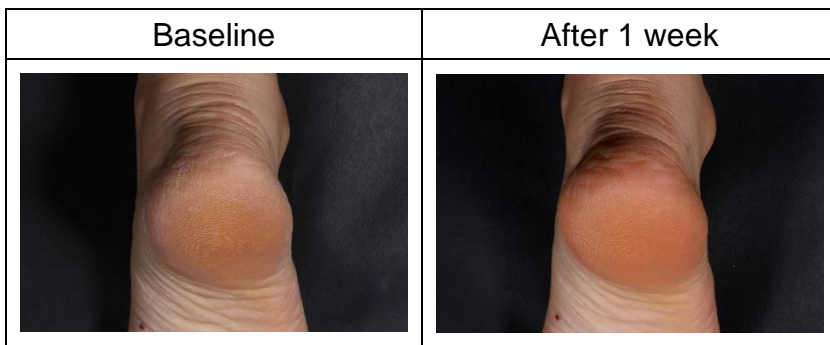
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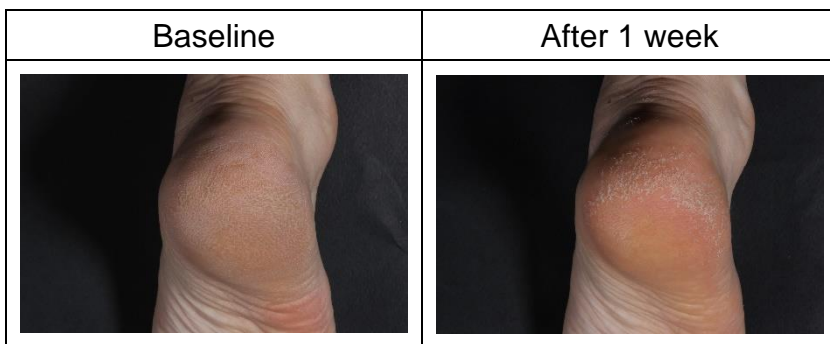
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Volunteer #14



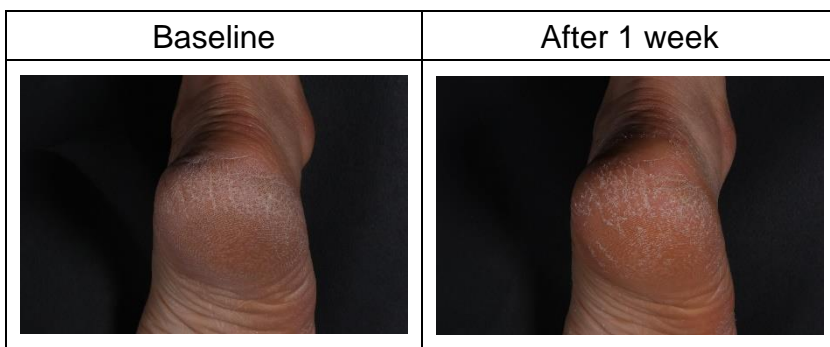
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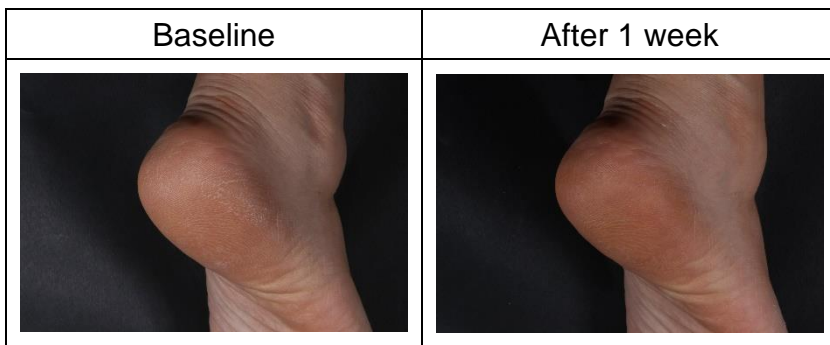
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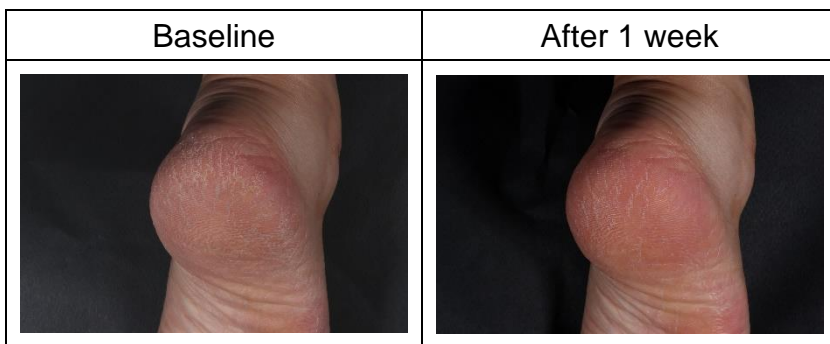
Volunteer #17





Volunteer #18





Volunteer #19



Volunteer #20

Baseline	After 1 week
	

Volunteer #21

Baseline	After 1 week
	

Attachment 8. Ingredients

- Kocostar Premium Foot Peeling Pack

No.	Ingredients
1	Water/Aqua
2	Alcohol Denat.
3	Lactic Acid
4	Glycolic Acid
5	Butylene Glycol
6	Glycerin
7	Arginine
8	Potassium Hydroxide
9	Hydroxyethylcellulose
10	Polyglyceryl-10 Laurate
11	1,2-Hexanediol
12	Caprylyl Glycol
13	Fragrance/Parfum
14	Sodium Citrate
15	Illicium Verum (Anise) Fruit Extract
16	Carica Papaya (Papaya) Fruit Extract
17	Prunus Mume Fruit Extract
18	Salicylic Acid
19	Diethylhexyl Sodium Sulfosuccinate
20	Bambusa Vulgaris Extract
21	Polysorbate 60
22	Disodium Phosphate
23	Chamaecyparis Obtusa Leaf Extract
24	Dipropylene Glycol
25	Althaea Officinalis Root Extract
26	Mentha Rotundifolia Leaf Extract

27	Persea Gratissima (Avocado) Fruit Extract
28	Garcinia Mangostana Peel Extract
29	Angelica Gigas Root Extract
30	Glycyrrhiza Glabra (Licorice) Root Extract
31	Paeonia Lactiflora Root Extract
32	Phellinus Linteus Extract
33	Polygonum Multiflorum Root Extract
34	Scutellaria Baicalensis Root Extract
35	Sesamum Indicum (Sesame) Seed Extract
36	Sophora Flavescens Root Extract
37	Cimicifuga Racemosa Root Extract
38	Morus Alba Bark Extract
39	Sodium Phosphate
40	Thuja Orientalis Extract