CLINICAL TRIAL REPORT

PNK-16809-BC1R

A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature

Requested by : Cosmetic International Co., Ltd.

September 09, 2016



Authentication

P&K Skin Research Center Co., Ltd. reports test result of "A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature" requested by Cosmetic International Co., Ltd. This clinical test was conducted in accordance with P&K Skin Research Center's SOP.

2016.09.09

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Final Report

	A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for			
	evaluating improvement of skin blood flow rate, hydration on skin surface,			
Title of Study	skin texture, dead skin cells, skin pore decrease(size, number), hydration in			
	deeper skin	layer, elasticity on skin surface, elasticity in deeper skin layer,		
	skin restituti	on, skin calming effect by temperature		
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Duration of Study	August 09,	2016 ~ August 24, 2016		
Date of Report Completion	September 09, 2016			
	Requested Date	July 14, 2016		
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P&K Skin Research Center						
	Conf	ormation of	Reliabilit	y Ass	urance	
No.	Р	NK-16809-BC11	R	V	ersion No.	Ver. 1.0
Study title	A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature Duration August 09, 2016 ~ August 24, 2016					
 Following basic de ■ Study protocol 	ocumentations	stored? (Able	to check r Informed co	nultiple	e) ■ Contra	ct
■ Researcher profile	■ Subject ID	Number	Subject selec	ction rec	ord 📕 Subjec	t registration record
■ Information for subj	ect informed con	sent	Subject com	pensatio	n standard	
Delegation Log	□ Report of SEA □ Blind release					
2. Study summary						
	Subject number Content			ntent		
Planned		20 people			Protocol planned	number
Screened		21 people			Screened and before study initi	selected subject iation
Enrolled/Run-In (Enrolled= Dropped+ Ongoing+Completed)	21 people Enrolled and participated subject with Subject ID number			articipated subject ID number		
Dropped (Total)		0 people			Early dropped su	ıbject
Dropped number by reason	Withdrawn	Follow-up fail	AE/SAE	Etc.	Dropped(Total) Follow-up fail) = Withdrawn+ + AE/SAE + Etc
Completed	21 people Test completed number					
 3. Did the study processed according to the study protocol? ■Yes □ No □ N/A 4. Has any documents been changed? □ Yes ■ No □ N/A (If 'Yes' :) 						
 5. Did the study processed according to the Standard of operation procedures? ■ Yes □ No □ N/A 						

6. Following items of subject	et information reported in	Case Report Form (CRF)?		
■ Subject Initial	■ Date of birth	■ Subject identification number		
Gender	Age			
7. Did all subjects sign and ■ Yes □ No	write date by own in the	e informed consent form?		
8. Any informed consent sig	ned by subject representat	tive?		
□ Yes ■ No (If yes	times)			
* Reason for representa	tive agreement			
 9. Any copy of informed consent provided to subject or subject representative? ■ Yes □ No 10. Any documents such as data and CRF stored separately? ■ Yes □ No 				
11. Any adverse event or sp	becified changes occurred?			
If yes, please summarize and hand in as Appendix. □ Yes ■ No				
12. Any case of subject complain?				
If yes, please summariz □ Yes ■ No	e and hand in as Append	lix.		
<results></results>				
This clinical test was condu-	cted in accordance with P	&K Skin Research Center's SOP.		

Also it has been confirmed by the person in quality assurance and submitted to chief researcher.

Date : September 09, 2016

 Quality assurance : Jin Hee Shin (sign)

 Chief researcher : Beom Joon Kim 2(f(sign))

Summary Report of Clinical Study

	A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for				
	evaluating improvement of skin blood flow rate, hydration on skin surface,				
Subject of Study	skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin laver, elasticity on skin surface, elasticity in deeper skin laver.				
	skin restitution, skin calming effect by temperature				
Research Facility	P&K Skin Research Center Co., Ltd Test Number PNK-16809-BC1R				
Duration of Study	August 09, 2016 ~ August 24, 2016				
Test Product	Raydew HEAL THERAPY DEWY MASK				
Object of Study	This study was conducted to verify the efficacy of Raydew HEAL THERAPY DEWY MASK for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution and skin calming effect by temperature				
Subjects of Study	Females aged 20 to 55 who have included from Selection Criteria of Subjects and excluded from Exclusion Criteria of Subjects				
Number of Subjects	Subjects who participated in this clinical study were total of 21. Since no subject was withdrawn, all 21 subjects terminated the study.				
	Selection criteria are as following:				
Selection Criteria of Subjects	 Females aged 20 to 55. Subjects who have signed consent form voluntarily after being informed well of object of study and all related contents Subjects who do not have acute or chronic disease including skin ailments Subjects who can be observed and traced for all the experiment period 				
	Exclusion criteria are any of as following:				
	1. Subjects who did not want to, or did not fill in Consent form.				
Exclusion	2. Subjects who have mental illness.				
Criteria of	3. Subjects who have infectious skin diseases.				
Subjects	4. Subjects who have had immuno-suppresive treatment within 3 months.				
5	5. Subjects who have had a steroid treatment or light treatment within				
	1 month.				
	6. Subjects who are inappropriate for measurement in the test area.				

	7. Subjects who have atopic dermatitis.8. Subjects who have systemic allergies or hypersensitivity to cosmetics, to drugs, or to sunlight.9. Subjects who have had skin scaling or therapy within 3 months.10. Any Subjects who are considered to be inappropriate to participate in the study by the researcher
	 Method of Study Subjects, who are satisfied with selection criteria and not satisfied with any of exclusion criteria and agreed with study, apply test product for 2 weeks. Test area was measured before, immediately after and 2 weeks after test product use. As test completed, Global assessment of efficacy and product preference were surveyed from subjects. Evaluation lists Equipment evaluations Skin blood flow rate measurement : Laser doppler
Methods of Study	 Hydration measurement on skin surface : Corneometer Skin texture measurement : PRIMOS premium Dead skin cell measurement : Visioscan VC98 Skin pore measurement(size, number) : Visioface Hydration measurement in deeper skin layer : Compact D Elasticity measurement on skin surface : Cutometer Elasticity measurement in deeper skin layer : Dermal Torque Meter Skin restitution measurement : Thermo-graphic camera Global Assessment of Efficacy : From subjects Safety evaluation On each visit, researcher evaluates comprehensively taking into consideration the results of visual evaluation and safety questionnaire.
	 3. Other inquiries Demographic information : Sex, date of birth, age before the clinical study. Vital sign survey : Visual assessment before the clinical study. Medical history : Main symptom, initiation date of disease, test and treatment history. Survey : Product preference was surveyed from subjects.

	 4. Visiting schedule : Visiting Twice Visit 1 : Subject consent form, inclusion and exclusion of subjects, skin measurement before and immediately after test product use, test product distribution. 2) Visit 2 : Adverse event check, skin measurement 2 weeks after test product use, surveys.
Primary outcome measures	Evaluation results of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution and skin calming effect by temperature before and after product use.
Secondary outcome measures	Results of Global Assessment of Efficacy.
Safety Evaluation	Any adverse event occurred after test product use is evaluated.
Results of Study	This clinical study was processed with females who are 20~55 years and satisfied with selection criteria and not satisfied with any of exclusion criteria and agreed with study. Subjects applied test product for 2 weeks. To evaluate skin calming effect of test product, subjects were divided into 2 groups(test, control). Then, skin temperature was measured before, immediately after heating and immediately after test product use. Hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer and skin restitution were measured before and 2 weeks after test product use. Skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore(size, number) were measured before, immediately after and 2 weeks after test product use. After test completion, all subjects were surveyed about test product. 1) All 21 subjects who participated in and finished this clinical study were females and the averaged age was 43.52 years. Since no subject was withdrawn, all 21 subjects terminated study. Selected subjects did not show any adverse effects nor any medical or drug history that might affect the study. 2) As a result of skin blood flow rate measurement, the value significantly increased(<i>p</i> <0.05) at immediately after test product use.
	3) As a result of hydration measurement on skin surface, the value

r

significantly increased(p < 0.05) at immediately after and 2 weeks after test product use.

4) As a result of skin texture measurement, the value significantly decreased(p < 0.05) at immediately after and 2 weeks after test product use.

5) As a result of dead skin cell measurement, the value significantly decreased(p < 0.05) at immediately after and 2 weeks after test product use.

6) As a result of skin pore measurement, the size of skin pore area significantly decreased(p<0.025) at immediately after and 2 weeks after test product use. Additionally, the number of skin pore significantly decreased(p<0.025) at immediately after and 2 weeks after test product use.

7) As a result of hydration measurement in deeper skin layer, the value increased at 2 weeks after test product use.

8) As a result of elasticity measurement on skin surface, the value significantly increased(p<0.05) at 2 weeks after test product use.

9) As a result of elasticity measurement in deeper skin layer, the value significantly increased(p<0.05) at 2 weeks after test product use.

10) As a result of skin restitution measurement, the value significantly increased($p \le 0.05$) at 2 weeks after test product use.

11) As a result of skin calming effect measurement, the value significantly decreased(p < 0.05) at immediately after test product use compared to control group.

12) As a result of Global Assessment of Efficacy, 100% of subjects answered more than 'Moderate' about improvement effect about droopy skin pores, elasticity in deeper skin layer, elasticity on skin surface, skin elasticity of cheek, dead skin cell, skin texture, TEWL(trans-epidermal water loss) and skin calming effect, and skin hydration persistency.

13) There was no report about adverse effect by subjects during the
application period of test product. There was no skin abnormality in
physical examination.
Therefore, the test product "Raydew HEAL THERAPY DEWY MASK"
is considered to help improving
* temporary skin blood flow rate after one application
* hydration on skin surface, skin texture, dead skin cells and skin pore
decrease(size, number) after 2 weeks use including immediate effect
* elasticity on skin surface, elasticity in deeper skin layer and skin
restitution after 2 weeks use
* skin calming effect by temperature after one application

Research on the Actual Condition of Test Facilities

	Name: P&K Skin Research Center Co., Ltd
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Passarah Cantar	National assembly street 62-gil 25, Yeongdeungpo-gu, Seoul, Korea
Research Center	President: Jin O Park signification
	Tel : 2 02-6925-1501~3, (Fax) 02-6925-1504
Object of Establishment	This research center was founded for accomplishing clinical study of cosmetics or quasi-drugs such as safety, moisturizing effect, acne improvement, elimination effect of dead skin cell, whitening effect, wrinkle improvement, and sun protection. Through these scientific evaluations, P&K Skin Research Center provides its clinical study reports and all its related technical information to the requester.
	Efficacy Evaluation & Study of Cosmetics.
Oter las Italia	Safety Test & Study of Cosmetics.
Sludy Item	Efficacy Evaluation & Study of Functional Cosmetics.
	Evaluation & Study of quasi-drugs
Chief Researcher	P&K Skin Research Center Co., Ltd Chung-Ang University Hospital Dermatology Department Beom Joon Kim (sign)
Researcher	Jin Hee Shin, A Reum Kim, Tae Ji Lee, In Ah Kim, Eun Ji Lim, Yoon Hee Kim, Cho Rong Seo, Min Hye Park, Eun Kyung Lee, Go Eun Gu, Eun Seo Beak, Ji Yoon Han, Su Yeon Kim, So Jin Jeon, Ju Hee Kang
Main facilities and Equipments	Multi Probe-Adaptor MPA5, MPA5 Data recorder, Sebumeter SM815, corneometer probe CM825, Skin-pH meter probe PH905, Skin-Thermometer probe ST500, Mexameter MX18, Sensor for Room Condition RHT100, Delfin VapoMeter, Skin Visiometer SV600, Skin Visiometer VC98, Skin Visiometer VD300, Skin Visiometer data recorder, Visoface Quick, Digital clinical thermometer, Digital Moisture Measurement Instruments,, Chromameter CR400, Multiport Solar Simulator 601-300W, Xenon Lamp Power Supply, Adjustable Multiport Column, Electric Lift, Special Chair, Radio meter PMA2100, UVA Detector PMA2113, SUVDetector PMA2103, Micropipette, Chemical Balance, Timer, Whirl pool system, Folliscope 4.0, Digital Camera, Tripod, Face Fixing Frame Set (A), Face Fixing Frame Set (B), Scopeman, Thermo-hygrostat STHC-MB, Photographing System, Whitening Evaluation Lab, Anti-Wrinkle Evaluation Lab, SPF Evaluation Lab, PFA Evaluation Lab, Moisture Evaluation Lab, Hair Evaluation Lab, Cleansing Room, Waterproof System room, Shower room, Fomex D400(SS-B), Canon EOS 550D, SkinScanner-DUB [®]

1. Introduction and the Object of study

This clinical study was processed with adult women who are aged 20~55 years and have informed about test and signed the consent form voluntarily to evaluate safety and efficacy of test product. Test product "Raydew HEAL THERAPY DEWY MASK" was provided by the requester, Cosmetic International Co.,Ltd. Skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution and skin calming effect were measured before and after product use. After study termination, Global Assessment Efficacy and product preference survey were also evaluated.

2. Test product

2-1. Product used in clinical study

<Table 1. Product information>

Product Name	Product No.	Product Type
Raydew HEAL THERAPY	16800 PC1 S1	Partially coated white mask
DEWY MASK	10009-DC1-51	containing white mucous

2-2. Test product provision

The test product was provided by Cosmetic International Co., Ltd. They were labelled with test number, subject number, product name, manufacturer, and storage method.

2-3. Test product directions to use

- Test product will be used every evening.
- After face wash, apply the mask on face for 15 to 20 minutes.

2-4. Test product storage

The test products are sealed and stored in room temperature.

3. Selection of Subjects

Adults who are satisfied with selection criteria without any of exclusion criteria.

3-1. Inclusion criteria

• Females aged 20 to 55.

- Subjects who have signed consent form voluntarily after being informed well of object of study and all related contents.
- Subjects who do not have acute or chronic disease including skin ailments.
- Subjects who can be observed and traced for all the experiment period.

3-2. Exclusion criteria

- Subjects who did not want to, or did not fill in Consent form.
- Subjects who have mental illness.
- Subjects who have infectious skin diseases.
- Subjects who have had immuno-suppresive treatment within 3 months.
- Subjects who have had a steroid treatment or light treatment within 1 month.
- Subjects who are inappropriate for measurement in the test area.
- Subjects who have atopic dermatitis.
- Subjects who have systemic allergies or hypersensitivity to cosmetics, to drugs, or to sunlight.
- Subjects who have had skin scaling or therapy within 3 months.
- Any individuals who are considered to be inappropriate to participate in the study by the researcher.

3-3. Withdraw criteria

Subjects with any of following cases have withdrawn from the study even after subject agreed to participated.

- Subjects who are willing to discontinue the study.
- Subjects who are with serious adverse effect or who want to discontinue the study because of adverse effect such as erythema.
- Subjects who have hypersensitivity due to the test product.
- Subjects who have to stop using test product due to other disease.
- Other unavoidable circumstances.
- Subjects who do not follow the study processes.
- Subjects who were failed to be traced during study period.

3-4. Number of Subjects

Subjects who participated in this clinical study were total of 21. Since no subject was withdrawn, all 21 subjects terminated the study.

4. Visiting schedules

4-1. Visit 1 (Screening, subject selections and skin measurement)

Subjects, who were informed about study and agreed to sign the agreement, had following processes: demographic survey, checking the inclusion/exclusion criteria, checking medical or treatment history, Measurement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect were performed before and immediately after test product use according to test items.

4-2. Visit 2 (Skin measurement and survey)

Any adverse effects or medical history were checked since Visit 1. Measurement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer and skin restitution were performed 2 weeks after test product. Global assessment of efficacy, safety evaluation and product preference survey were evaluated at the end.

5. Test methods

5-1. Test area and method

Subjects rested in $20 \sim 25$ °C and $40 \sim 60\%$ humidity area for 30 minutes after washing out the test areas. It was to accommodate in atmosphere before the equipment evaluation and as subjects rest the water intake was limited. Only one researcher measured for objective measurement and measured the same area in each measurement time.

5-2. Skin blood flow rate measurement

Skin blood flow was measured as micro blood flow by Laser Doppler Pefusion Imager (PeriScan PIM3, Sweden). The unit is A.U(Arbitrary unit) with higher value meaning as more blood flow rate. The blood flow improvement effect was evaluated before and after product use with measured images and data.

5-3. Hydration measurement on skin surface

Skin hydration level on skin surface was evaluated on cheek using Corneometer CM825 (Courage-Khazaka electronic GmbH, Germany). The Corneometer probe was contacted to skin, measuring through the sensor, 3 times and averaged value

was used as skin hydration data. Corneometer measures the capacitance where the probe contacts to measure water content and present excellent result value in dry skin with small water content. It is possible to measure the water content uniformly 30~40 micrometer under corneum layers where effects of cosmetics or medications are small. The unit is A.U. and the value is proportional to skin hydration amount.

5-4. Skin texture measurement

Skin texture was evaluated as 3D images using PRIMOS Premium (GFMessetechnik GmbH). Skin texture was measured on the same area of cheek, before and after product use. the stored image was analyzed as skin texture parameter Ra(Average roughness). Ra value is disproportional to skin texture improvement.

5-5. Dead skin cell measurement

Dead skin cells are measured from test area using Visioscan VC98 (Courage-Khazaka eletronic GmbH, Germany). Dead skin cells were obtained with special films (Corneofix) first, then image were photographed by Visioscan VC98 to present D.I (Desquamation Index) values for further evaluations.

D.I=
$$\frac{2A + \sum_{n=1}^{5} Tn^{*}(n-1)}{6}$$

D.I : The Desquamation Index (%)

A : The percent area covered by corneocytes

Tn : The percentage of corneocytes in relation to thickness

n : The thickness level (1-5)

5-6. Skin pore measurement

Skin pores were measured in cheek area by Visioface Quick (Courage-Khazaka eletronic GmbH, Germany). The measurement was evaluated based on the photographed pictures and pores counting for further evaluations. From the photographed images, the green marks represent normal sized pores and the red marks represent large sized pores. Therefore, the fewer number and size of red marks mean the number and size reduction of pores.

5-7. Hydration measurement in deeper skin layer

Hydration in deeper skin layer was measured around cheek using MoistureMeter D Compact(Delfin Technologies Ltd, Finland). The evaluation value was measured by laser and the unit is '%'(0~100). The value indicates skin hydration content in topical area and the measured value is proportional to hydration content. MoistureMeter D Compact generalizes high frequency, low power electromagnetic wave(EM wave). This wave can be penetrated into skin tissue and translated into percentages.

5-8. Elasticity measurement on skin surface

The skin elasticity was measured by Cutometer CM580(Courage-Khazaka eletronic GmbH, Germany). Skin was measured once and R2 value (skin re-deformation) was evaluated. R2 value is the general elasticity of skin and as close to 1, the skin is more elastic.

5-9. Elasticity measurement in deeper skin layer

The elasticity in deeper skin layer was measured on the same area of cheek around cheek bone area by Dermal Torque meter. Skin was measured in the same area before and after test product use. It was measured 3 times by contact and the averaged value was used as evaluation data. Ue/Ur was evaluated and used for elasticity evaluation in deeper skin layer.

5-10. Skin restitution measurement

Skin restitution was measured using Ballistometer which evaluates the skin flexibility and resilience of skin. The skin restitution was measured on the same area of cheek around cheek bone, before and after product use. It was measured 3 times by contacting Ballistometer probe directly on skin and the average was evaluated for data analysis. Skin restitution is measured as CoR(Coefficient of Restitution) and as the larger CoR value is, the more skin restitution exists.

5-11. Skin temperature measurement

Skin temperature was measured on the face by thermo-graphic camera T-250(FLIR Systems, USA). To maintain stable skin condition, subjects take a rest for 30 minutes. Then, IR was irradiated for 5 minutes in the distance of 30cm from subject's face. Skin temperature was measured before, immediately after heating and immediately after test product use.

The averaged value of the measured area was used as evaluation data. Thermo-graphic camera (T-250) is high resolution infra-red thermo-graphic camera with 240x180 pixels and 80mk NETD. It can measure wide range of temperature(-20° C $\sim 350^{\circ}$ C). The unit is °C. The measured value is proportionate to skin temperature.

5-12. Global Assessment of Efficacy

Subjects had survey about the improvement effect of test product after test product use. It was evaluated in five stages; Very satisfied (4), Satisfied (3), Moderate (2), Dissatisfied (1), Strongly dissatisfied (0). The efficacy of test product was evaluated by percentages of each answers for subject numbers.

5-13. Safety evaluation

The safety of test product was evaluated more than once from all subjects who have used the test product. Any adverse effects after product use and through out the study period were considered together to find the incidence of adverse events and use as safety evaluation data.

5-14. Adverse event evaluation

Any adverse effects were surveyed on each visit. If any events happen before the next visit they were directed to contact the researchers immediately. If the adverse effect has been occurred, the researcher informed the chief researcher. Then the chief researcher evaluated the degree of symptoms and relationship with test products for further appropriate action and participation option.

6. Criteria of Evaluation

6-1. Primary outcome measures

The primary outcome measures was evaluated based on measurement results of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pores(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution and skin calming effect by temperature before and after product use. before and after test product use.

6-2. Secondary outcome measures

The second outcome measures were evaluated based on Global Assessment of Efficacy about test product.

7. Statistical Analysis

The statistical analysis package SPSS 19.0 was used to evaluate the efficacy of test products for skin cover persistency, anti-darkening persistency, and skin brightness persistency.

The significance level was set as 5% (ie. p-value < 0.05 is statistically significant). To evaluate before-immediately after comparison, the parametric test, Paired samples t-test, and the non-parametric test, Wilcoxon signed rank test were used according to the statistical treatment for analysis.

To evaluate data with repeated measures, The parametric test, repeated measures ANOVA(post hoc: Bonferroni correction), and the non-parametric test, Friedman test(post-hoc: Wilcoxon signed rank test with Bonferroni correction), were used to analyze between population comparison.

8. Regulations and Others

8-1. Safety protection of Subjects

This clinical study is based on the Helsinki declaration for human dignity and interests to prevent any of subject disadvantages. The researcher checked subject health to confirm the study participation before the study begins. Also the researcher was well informed about the test product and did best to guarantee subject safety.

8-2. Subject consent and information for consent

The chief researcher and researchers fully explained about all the study processes to the subjects who are satisfied with selection criteria without any exclusion criteria before the study initiation. Also provided enough chances to understand all the predictable results. The subject agreed contents were recorded as documents and the chief researcher confirmed as signing the subject consent form.

8-3. Confidentiality of Identity

All subject names who participated study have maintained confidentially. The consent form which subjects signed have stored by researcher. Also the lists with subject identification code, subject initials, and subject names have administrated specially by researcher or monitor to use as verification data in further recordings or evaluations.

8-4. Other subject protections

P&K Skin research center is equipped with necessary facilities and experts to follow the study protocols and regulations as ensuring subject safety priority. The researcher was well informed about adverse effects and notifications that were stated in study protocol to notice requester after appropriate treatment of any adverse effects during study. When direct or indirect injury occurs due to this study participation, the chief researcher or researchers will do best to treat them. When any adverse effects or side effects of treatment process occur due to test product usage, the requester Cosmetic International Co., Ltd. will compensate all the inquiries. However, subjects will afford any hospital bills, inspection expenses, consultation fees that are unrelated to this clinical study.

9. Result of Study

9-1. Subject information

The total 21 subjects averaged age of who participated in and finished this study was 43.52 years. 2 people was in 20s, 4 people were in 30s, 8 people were in 40s and 7 people were in 50s. All subjects were females.(Table 2).

Age	Number	%
20-29	2	9.5
30-39	4	19.0
40-49	8	38.1
50-55	7	33.3

<Table 2. Subject age (n=21)>

9-2. Withdrawal

Since no subject was withdrawn out of 21 subjects, all 21 subjects terminated the study.

9-3. Subject skin types

The 21 subjects' skin types were 8 of dry skin, 11 of dry to normal skin, 1 of normal skin and 1 of normal to oily skin(Table 3).

Skin type	Number	%
Dry	8	38.1
Dry to normal	11	52.4
Normal	1	4.8
Normal to oily	1	4.8
Oily	0	0.0

<Table 3. Subjects skin types (n=21)>

All subjects do not have any skin ailments such as skin disease, itching, sting, erythema, adverse effect on cosmetics, adverse effect on drugs, hyper-photosensitiveness, atopic dermatitis and etc.

9-4. Primary outcome measures

9-4-1. Skin blood flow measurement result

To evaluate skin blood flow rate change by test product use, skin blood flow rate was measured before, immediately after and 2 weeks after test product use.

The value was 150.00 ± 39.69 at before, 192.67 ± 39.43 at immediately after and 176.43 ± 45.19 at 2 weeks after test product use.

To evaluate skin blood flow rate change in precise and significant way, repeated measures ANOVA(post hoc:Bonferroni correction), which is a parametric test, was used according to the test of normality for test product. There was significant increase with probability p < 0.05 at immediately after test product use(Table 4).

				(Mean±SD)
				A.U
Before				150.00±39.69
Immediately after			192.67±39.43	
	2 weeks after			176.43±45.19
Within popula tion	Droh		Test of within-subject effects	0.001**
	abili	Post-	Before - Immediately after	0.000**
	ty	hoc	Before - 2 weeks after	0.085

<Table 4. Measurement result of Skin blood flow rate, A.U>

** : p < 0.05 by repeated measures ANOVA, post hoc Bonferroni correction





% Change(%)=(after-before)/before*100

9-4-2. Hydration measurement result on skin surface

To evaluate skin hydration change on skin surface by test product use, hydration content on skin surface was measured before, immediately after and 2 weeks after test product use.

The value was 60.51 ± 11.28 at before, 74.28 ± 10.57 at immediately after and 65.36 ± 8.69 at 2 weeks after test product use.

To evaluate skin hydration change on skin surface in precise and significant way, repeated measures ANOVA(post hoc:Bonferroni correction), which is a parametric test, was used according to the test of normality for test product. There was significant increase with probability p<0.05 at immediately after and 2 weeks after test product use(Table 5).

				(Mean±SD)
				A.U
Before				60.51±11.28
Immediately after			74.28±10.57	
			2 weeks after	65.36±8.69
Within	Duch		Test of within-subject effects	0.000**
popula tion	abili ty	Post-	Before - Immediately after	0.000**
		hoc	Before - 2 weeks after	0.025**

<Table 5. Measurement result of hydration on skin surface, A.U>

** : p < 0.05 by repeated measures ANOVA, post hoc Bonferroni correction





% Change rate(%)=(after-before)/before*100

9-4-3. Skin texture measurement result

To evaluate skin texture change by test product use, skin roughness was measured before, immediately after and 2 weeks after test product use.

The value was 12.29 ± 2.57 at before, 11.04 ± 2.09 at immediately after and 11.12 ± 2.19 at 2 weeks after test product use.

To evaluate skin texture change in precise and significant way, repeated measures ANOVA(post hoc:Bonferroni correction), which is a parametric test, was used according to the test of normality for test product. There was significant decrease with probability p<0.05 at immediately after and 2 weeks after test product use(Table 6).

				(Mean±SD)
				Ra
Before				12.29±2.57
Immediately after			11.04±2.09	
			2 weeks after	11.12±2.19
Within	Duch		Test of within-subject effects	0.000**
popula tion	abili	Post-	Before - Immediately after	0.000**
	ty	hoc	Before - 2 weeks after	0.000**

<Table 6. Measurement result of skin texture, Ra>

** : p < 0.05 by repeated measures ANOVA, post hoc Bonferroni correction





% Change rate(%)=(after-before)/before*100

9-4-4. Dead skin cell measurement result

To evaluate dead skin cell change by test product use, dead skin cell content was measured before, immediately after and 2 weeks after test product use.

The value was 15.66 ± 4.67 at before, 3.16 ± 2.14 at immediately after and 10.20 ± 3.72 at 2 weeks after test product use.

To evaluate dead skin cell change in precise and significant way, repeated measures ANOVA(post hoc:Bonferroni correction), which is a parametric test, was used according to the test of normality for test product. There was significant decrease with probability p<0.05 at immediately after and 2 weeks after test product use(Table 7).

				(Mean±SD)
				%
Before				15.66±4.67
Immediately after			3.16±2.14	
			2 weeks after	10.20±3.72
W/:41-:	D		Test of within-subject effects	0.000**
popula tion	abili	Post-	Before - Immediately after	0.000**
	ty	hoc	Before - 2 weeks after	0.000**

<Table 7. Measurement result of dead skin cell, %>

** : p<0.05 by repeated measures ANOVA, post hoc Bonferroni correction





% Change rate(%)=(after-before)/before*100

9-4-5. Skin pore size measurement result

To evaluate skin pore size change by test product use, the area of skin pore size was measured before, immediately after and 2 weeks after test product use.

The value was 2.85 ± 2.60 at before, 2.41 ± 2.68 at immediately after and 2.36 ± 2.30 at 2 weeks after test product use.

To evaluate skin pore size change in precise and significant way, Friedman test(post hoc: Wilcoxon signed rank test with Bonferroni correction), which is a non-parametric test, was used according to the test of normality for test product. There was significant decrease with probability p<0.025 at immediately after and 2 weeks after test product use(Table 8).

				(Mean±SD)
				%
			Before	2.85±2.60
Immediately after			2.41±2.68	
			2 weeks after	2.36±2.30
XV:41 -	D 1		Test of within-subject effects	0.000#
within popula tion	prob abili ty	Post-	Before - Immediately after	0.022#
		hoc	Before - 2 weeks after	0.000#

<Table 8. Measurement result of the area of skin pore size, %>

: p < 0.025 (= 5%/2) by Friedman test, post hoc Wilcoxon singned rank test with Bonferroni correction



#: p<0.025(=5%/2) by Friedman test, post hoc Wilcoxon singned rank test with Bonferroni correction



% Change rate(%)=(after-before)/before*100

9-4-6. Skin pore number measurement result

31.76±27.33 at 2 weeks after test product use.

To evaluate skin pore number change by test product use, the number of skin pore was measured before, immediately after and 2 weeks after test product use. The value was 38.43 ± 31.03 at before, 31.00 ± 31.33 at immediately after and

To evaluate skin pore number change in precise and significant way, Friedman test(post hoc: Wilcoxon signed rank test with Bonferroni correction), which is a non-parametric test, was used according to the test of normality for test product. There was significant decrease with probability p<0.025 at immediately after and 2 weeks after test product use(Table 9).

_				(Mean±SD)
				ea
			Before	38.43±31.03
Immediately after		31.00±31.33		
			2 weeks after	31.76±27.33
XX7:41 :	D 1		Test of within-subject effects	0.000#
Within popula tion	Prob abili	Post-	Before - Immediately after	0.010#
	ty	hoc	Before – 2 weeks after	0.000#

<Table 9. Measurement result of the area of skin pore number, ea>

: p < 0.025 (= 5%/2) by Friedman test, post hoc Wilcoxon singned rank test with Bonferroni correction



#: p<0.025(=5%/2) by Friedman test, post hoc Wilcoxon singned rank test with Bonferroni correction



% Change rate(%)=(after-before)/before*100

9-4-7. Hydration measurement result in deeper skin layer

To evaluate hydration change in deeper skin layer by test product use, hydration content in deeper skin layer was measured before and 2 weeks after test product use.

The value was 55.57 ± 4.85 at before and 56.19 ± 4.88 at 2 weeks after test product use.

To evaluate hydration change in deeper skin layer in precise and significant way, Paired samples t-test, which is a parametric test, was used according to the test of normality for test product. The value increased at 2 weeks after test product use, however, there was no significant difference.(Table 10).

			(Mean±SD)
			%
		Before	55.57±4.85
		2 weeks after	56.19±4.88
Within popula tion	Prob abili ty	Before – 2 weeks after	0.395

<Table 10. Measurement result of hydration in deeper skin layer, %>



9-4-8. Elasticity measurement result on skin surface

To evaluate elasticity change on skin surface by test product use, skin elasticity value R2 was measured before and 2 weeks after test product use.

The value was 0.65 ± 0.09 at before and 0.69 ± 0.08 at 2 weeks after test product use.

To evaluate elasticity change on skin surface in precise and significant way, Paired samples t-test, which is a parametric test, was used according to the test of normality for test product. There was significant increase with probability p<0.05 at 2 weeks after test product use(Table 11).

			(Mean±SD)
			R2
		Before	0.65±0.09
		2 weeks after	$0.69{\pm}0.08$
Within popula tion	Prob abili ty	Before – 2 weeks after	0.015*

<Table 11. Measurement result of elasticity on skin surface, R2>

* : p<0.05 by Paired samples t-test



* : p<0.05 by Paired samples t-test

Change rate(%)=(after-before)/before*100

9-4-9. Elasticity measurement result in deeper skin layer

To evaluate elasticity change in deeper skin layer by test product use, skin elasticity value Ur/Ue was measured before and 2 weeks after test product use. The value was 0.56 ± 0.06 at before and 0.62 ± 0.04 at 2 weeks after test product use.

To evaluate elasticity change in deeper skin layer in precise and significant way, Paired samples t-test, which is a parametric test, was used according to the test of normality for test product. There was significant increase with probability p<0.05 at 2 weeks after test product use(Table 12).

<Table 12. Measurement result of elasticity in deeper skin layer, Ur/Ue>

			(Mean±SD)
			Ur/Ue
		Before	0.56±0.06
		2 weeks after	0.62±0.04
Within	Prob		
popula	abili	Before – 2 weeks after	0.000*
tion	ty		

* : p<0.05 by Paired samples t-test



change rate(%)=(after-before)/before*100
9-4-10. Skin restitution measurement result

To evaluate skin restitution change by test product use, skin restitution value CoR was measured before and 2 weeks after test product use.

The value was 0.55 ± 0.04 at before and 0.58 ± 0.04 at 2 weeks after test product use.

To evaluate skin restitution change in precise and significant way, Wilcoxon signed rank test, which is a non-parametric test, was used according to the test of normality for test product. There was significant increase with probability p<0.05 at 2 weeks after test product use(Table 13).

<table< th=""><th>13.</th><th>Measurement</th><th>result</th><th>of</th><th>skin</th><th>restitution,</th><th>CoR></th></table<>	13.	Measurement	result	of	skin	restitution,	CoR>
---	-----	-------------	--------	----	------	--------------	------

			(Mean±SD)
			CoR
		Before	0.55±0.04
		2 weeks after	0.58±0.04
Within	Prob		
popula	abili	Before – 2 weeks after	0.000##
tion	ty		

: p<0.05 by Wilcoxon signed rank test



^{## :} p<0.05 by Wilcoxon signed rank test
: Change rate(%)=(after-before)/before*100</pre>

9-4-11. Skin calming effect measurement result

To evaluate skin calming effect by test product use, skin temperature was measured before heating, immediately after heating and immediately after test product use.

In control group, the value was 31.96 ± 0.92 at before heating, 38.36 ± 0.83 at immediately after heating and 36.07 ± 0.73 at immediately after test product use. In test group, the value was 31.90 ± 0.92 at before heating, 38.36 ± 0.63 at immediately after heating and 31.69 ± 0.51 at immediately after test product use. To evaluate skin calming effect in precise and significant way, Paired samples t-test, which is a parametric test, was used according to the test of normality for test product. There was significant decrease with probability p<0.05 at

immediately after test product use compared to control group(Table 14).

				(Mean±SD)
			Control (Un-applied)	Test
		Before heating	31.96±0.92	31.90±0.92
	Imm	nediately after heating	38.36±0.83	38.36±0.63
	Immed	liately after product use	36.07±0.73	31.69±0.51
Within populati on	Proba bility	After heating - After product use	0.000*	0.000*
Between populati ons	Proba bility	After heating - After product use	0.00	00*

<Table 14. Measurement result of skin temperature, \degree >

* : p < 0.05 by Paired sample's T-test



* : There is statistically significant difference compared to after heating.(p<0.05 by Paired samples t-test)



* : There is statistically significant difference.(p<0.05 by Paired samples t-test)

9-5. Secondary outcome measures

9-5-1. Global Assessment of Efficacy

The efficacy of test products was surveyed about improvement effect on droopy skin pores, elasticity in deeper skin layer, elasticity on skin surface, skin elasticity of cheek, dead skin cell, skin texture, TEWL(trans-epidermal water loss) and skin calming effect, and skin hydration persistency. Based on the subject survey, result values were calculated as percentages.(Table 15).

	Number of subjects					Ct. 1. 1	
Improvement	(Percentage, %)				Average	Standard	
	4*	3*	2*	1*	0*	C	deviation
Decementation access	4	12	5	0	0	2.05	0.67
Droopy skin pores	(19.0)	(57.1)	(23.8)	0	0	2.93	0.07
Elasticity in deeper							
skin layer, and	6	14	1	0	0	2.24	0.54
elasticity on skin	(28.6)	(66.7)	(4.8)	0	0	3.24	0.54
surface		· · ·					
	7	14					
Skin elasticity of cheek	(33.3)	(66.7)	0	0	0	3.33	0.48
	7	9	5	0	0	2 10	0.77
Dead skin cell	(33.3)	(42.9)	(23.8)	0	0	3.10	0.77
	6	12	3	0	0	2.14	0.65
Skin texture	(28.6)	(57.1)	(14.3)	0	0	3.14	0.65
TEWL(trans-epidermal							
water loss) and skin	8	13	0	0	0	3.38	0.50
calming effect	(38.1)	(61.9)	0	Ŭ	Ū	0.00	0.00
	10	0	ſ				
Skin hydration	10	יש אר איז	ے (2 5)	0	0	3.38	0.67
persistency	(47.6)	(42.9)	(9.5)				
*4: Very satisfied, 3:	Satisfied,	2: Mod	erate,	1: Dissatisfied,	0:	Strongly d	issatisfied

<Table 15. Result of Global Assessment of Efficacy>

As a result, 100.0% of subjects answered more than 'Moderate' about improvement effect about droopy skin pores, elasticity in deeper skin layer, elasticity on skin surface, skin elasticity of cheek, dead skin cell, skin texture, TEWL(trans-epidermal water loss) and skin calming effect, and skin hydration persistency.

9-5-2. Result of product preference survey

The test product preference such as immediate skin moisturizing, smooth skin texture and skin glossiness, adherence, absorptiveness, fragrance, hydration and overall usability were surveyed. The results of each items were indicated as percentages.(Table 16).

<Table 16. Result of Product preference>

	Number of subjects				Standar		
		(Percentage,	%)		Averag	d
	4*	3*	2*	1*	0*	e	deviatio
							n
Immediate skin	8	13	0	0	0	2 20	0.50
moisturizing	(38.1)	(61.9)	0	0	0	3.38	0.30
Smooth skin texture	8	12	1	<u>_</u>	0		0.50
and skin glossiness	(38.1)	(57.1)	(4.8)	0	0	3.33	0.58
	9	12		0	0 3.43		
Adherence	(42.9)	(57.1)	0			3.43	0.51
	6	12	3				
Absorptiveness	(28.6)	(57.1)	(14.3)	0	0	3.14	0.65
	4	11	6				
Fragrance	(19.0)	(52.4)	(28.6)	0	0	2.90	0.70
	0	11	1				
Hydration	<i>y</i>	11	1	0	0	3.38	0.59
	(42.9)	(52.4)	(4.8)				
Overall usability	6	14	1	0	0	3 24	0 54
Gveran usability	(28.6)	(66.7)	(4.8)	U	U	<i>J.2</i> T	0.54
*4: Very satisfied, 3:	Satisfied,	2: Mode	rate, 1: I	Dissatisfied,	0: Str	ongly dis	satisfied

As a result, 100.0% of subjects answered more than 'Moderate' about immediate skin moisturizing, smooth skin texture and skin glossiness, adherence, fragrance, hydration and overall usability. 95.2% of subjects answered more than 'Moderate' about absorptiveness.

10. Conclusion

This clinical study was processed with females who are 20~55 years and satisfied with selection criteria and not satisfied with any of exclusion criteria and agreed with study. Subjects applied test product for 2 weeks.

To evaluate skin calming effect of test product, subjects were divided into 2 groups(test, control). Then, skin temperature was measured before, immediately after heating and immediately after test product use. Hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer and skin restitution were measured before and 2 weeks after test product use. Skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore(size, number) were measured before, immediately after and 2 weeks after test product use.

After test completion, all subjects were surveyed about test product.

1) All 21 subjects who participated in and finished this clinical study were females and the averaged age was 43.52 years. Since no subject was withdrawn, all 21 subjects terminated study. Selected subjects did not show any adverse effects nor any medical or drug history that might affect the study.

2) As a result of skin blood flow rate measurement, the value significantly increased(p < 0.05) at immediately after test product use.

3) As a result of hydration measurement on skin surface, the value significantly increased(p < 0.05) at immediately after and 2 weeks after test product use.

4) As a result of skin texture measurement, the value significantly decreased(p < 0.05) at immediately after and 2 weeks after test product use.

5) As a result of dead skin cell measurement, the value significantly decreased(p < 0.05) at immediately after and 2 weeks after test product use.

6) As a result of skin pore measurement, the size of skin pore area significantly decreased(p<0.025) at immediately after and 2 weeks after test product use. Additionally, the number of skin pore significantly decreased(p<0.025) at immediately after and 2 weeks after test product use.

7) As a result of hydration measurement in deeper skin layer, the value increased at

2 weeks after test product use.

8) As a result of elasticity measurement on skin surface, the value significantly increased(p < 0.05) at 2 weeks after test product use.

9) As a result of elasticity measurement in deeper skin layer, the value significantly increased(p < 0.05) at 2 weeks after test product use.

10) As a result of skin restitution measurement, the value significantly increased(p < 0.05) at 2 weeks after test product use.

11) As a result of skin calming effect measurement, the value significantly decreased(p < 0.05) at immediately after test product use compared to control group.

12) As a result of Global Assessment of Efficacy, 100% of subjects answered more than 'Moderate' about improvement effect about droopy skin pores, elasticity in deeper skin layer, elasticity on skin surface, skin elasticity of cheek, dead skin cell, skin texture, TEWL(trans-epidermal water loss) and skin calming effect, and skin hydration persistency.

13) There was no report about adverse effect by subjects during the application period of test product. There was no skin abnormality in physical examination.

Therefore, the test product "Raydew HEAL THERAPY DEWY MASK" is considered to help improving

* temporary skin blood flow rate after one application

* hydration on skin surface, skin texture, dead skin cells and skin pore decrease(size, number) after 2 weeks use including immediate effect

* elasticity on skin surface, elasticity in deeper skin layer and skin restitution after 2 weeks use

* skin calming effect by temperature after one application

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Appendix 1. Information for Subject Consent form

A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature

We request you to participate in this clinical study. However, it is important that you understand why this study should be done and what procedure would be performed, before deciding participation in this clinical study. We have prepared information for agreement about your role when you participate in this study. Please read this information for subject's agreement carefully and discuss about this with your family and other people. If you have any question, please ask to chief researcher or other researchers.

1. Purpose of Clinical study

P&K Skin Research Center is going to perform the Clinical study of 'A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature' requested by Cosmetic International Co., Ltd.

- ① This clinical study is conducted to healthy females aged 20 to 55, evaluating the effect of testing product.
- ② The test product is applied for 2 weeks.
- ③ The study is performed to evaluate improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect before, immediately after and 2 weeks after test product use.

2. Method of clinical study

① Number of subjects and period of study

Number of subjects that we require is over 20 people. If you are appropriate to participate in clinical study and you or your representative sign on agreement, you will participate in this clinical study for 2 weeks according to study process.

② Selection of subject

This study targets females ranging in age from 20 to 55. You can participate in this study if you satisfy all the inclusion criteria and do not have any exclusion criteria.

③ Test product

- Test product will be used every evening.
- After face wash, apply the mask on face for 15 to 20 minutes.

4 Visiting schedule

If you participate this study it will be 2 visits and it may require about 1 hour and 30 minutes.

3. Forecasted allergy and side effect

We expect that allergy or other side effects are not occurred, because the samples are made with cosmetic materials accordance of KFDA. However, in subjects who have sensitive skin, severe itching, rash, sting and eruption may occur. Therefore, we will inform you any new information about safety during the clinical study.

4. Appropriate contraception method for female

If you are pregnant or are doing breast-feeding or have a plan to be pregnant or do not agree with following suggested appropriate contraception method, you cannot participate in this study.

- 1 Hormonal contraception : Oral contraceptive drug etc.
- ② Intrauterine Device : Loop etc.
- ③ Barrier method : Femidom, Spermicide etc.

5. Benefits in respect of participation of clinical study

All the testing product and required processes are provided. If you finish the appointed study, some transportation expenses will be provided.

6. Compensation and treatment in case of any side effects

During study period, researcher will perform the study with taking subject's safety as the highest priority. When side effects are occurred by using the test product, you can receive needed examination and treatment. And we will do a follow-up until the side effects resolved. If you have any side effect by using the clinical test product, Cosmetic International Co., Ltd. will take charge for all the following treatment cost.

7. Withdrawal of participation after agreement

Participating in this study depends on your voluntary intention. Even if you agreed to participate in this study, you can discontinue the participation at any time. Even though you discontinue the study, you can receive treatment for side effects related with the study and you will not have any disadvantages. If you want to discontinue the study, please contact to the person in charge of the P&K Skin Research Center.

8. Confidentiality of Identity

Your personal data which has gained during the progress of study, is protected not to be opened to others. Even though the results of study are published, your personal information is kept in secret. In addition, photographs taken in study could be used to article, book, periodical publication, report and the broad cast media.

9. Duty of Subject

You should follow the below list to protect yourself and to perform study correctly.

- ① You should keep using the test product and follow examination schedule.
- ⁽²⁾ If any adverse effects are presented, contact the researcher immediately and follow the instruction. If you are said to be required the extra examination please do so.
- ③ Please specifically report to chief researcher or person in charge in case of using other product or medicines.
- ④ Please do not use any other cosmetics of products which have similar efficacy to test

product.

(5) Please avoid heavy drinking or exercise before each visit.

10. Signature

If you want to participate in this study after informed about this study, please sign on participation agreement sheet.

11. Inquiry

If you want to know more about this study or have any side effects related to this study or need to contact to the chief research and other researchers for medical consultation, you can contact any time to following contact number and consult the person in charge.

	Name	Belongs to	Tel.
Chief December	Reom Joon Kim	Chung-Ang University Hospital	+82 2 6025 1501
	Beolii Jooli Kiili	Dermatology Department	+82-2-0923-1301
	Jin Hee Shin		
	A Reum Kim		
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	Yoon Hee Kim		
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Researcher	Min Hye Park	P&K Skin Research Center Co., Ltd.	
	Eun Kyung Lee		+82-2-0923-1303
	Go Eun Gu		
	Eun Seo Beak		
	Ji Yoon Han		
	Su Yeon Kim		
	So Jin Jeon		
	Ju Hee Kang		

P&K Skin Research Center Co., Ltd.

Appendix 2.

A Clinical study of 'Raydew HEAL THERAPY DEWY MASK' for evaluating improvement of skin blood flow rate, hydration on skin surface, skin texture, dead skin cells, skin pore decrease(size, number), hydration in deeper skin layer, elasticity on skin surface, elasticity in deeper skin layer, skin restitution, skin calming effect by temperature

I received a satisfactory explanations about study purpose, method, expected effects and side effects, benefits of participation, progress of the study. I received explanations about compensation and treatment when physical, psychological, social and economical damages occur. I also received explanations about collecting personal information by research center from chief researcher or person in charge of the study.

Agreement for collection and use of personal information

Personal Information	Purpose	Duration
Name, Date of birth, Contact number, Address,	Participation in clinical study, Article, Book,	5 years
Photographs with portrait rights	Periodical publication, Report, Broad cast media	from agreement

You have a right to refuse agreement for collection and use of personal information. However, if you disagree with the agreement, you not be participated in this clinical study. can Subject: (signature)

I received an explanation that it does not become a problem that I disagree to participate in the study, and I can discontinue at any time even though I agreed to participate the study. I do not have any disadvantage after withdrawal of agreement and personal imformation will be offered to the third party. All data related to the study will be kept in secret.

Agreement for providing personal information to the third party						
Third party	Personal Information	Purpose	Duration			
Cosmetic International Co., Ltd.	Name, Date of birth, Contact number, Address, Photographs with portrait rights	Article, Book, Periodical publication, Report, Broad cast media	5 years from agreement			
You have a rig disagree with	ht to refuse agreement for collection an the agreement, you can not	d use of personal information be participated in this Subject:	. However, if you clinical study. (signature)			
So, I agree to participate in this clinical study with my own free will.						
1. Subject/Represe	ntative					
Subject:	(sign)	(Date)	,,			
Representative:	(sign)	(Date),,	(Relationship)			
Date of birth:	yearmonth	date (age) Tel:_				

to discontinue the study immediately if the progress of clinical study adversely affects the health of subject.

2. Researcher/Person in charge of the study

P&K Skin Research Center Co., Ltd.

Appendix 3. Subject information

Subject ID No.	Name	Date of birth	Age	Skin type	Gender
16809-BC1-01	HHY	1968-03-27	48	Dry	F
16809-BC1-02	PDJ	1985-03-15	31	Dry to normal	F
16809-BC1-03	KYS	1962-09-10	53	Dry	F
16809-BC1-04	HEJ	1973-11-12	42	Dry to normal	F
16809-BC1-05	JJH	1981-07-31	35	Dry to normal	F
16809-BC1-06	KSY	1987-10-14	28	Normal to oily	F
16809-BC1-07	ОНК	1975-10-14	40	Dry	F
16809-BC1-08	ODH	1980-09-08	35	Dry to normal	F
16809-BC1-09	РЈН	1970-05-24	46	Dry	F
16809-BC1-10	PEH	1984-04-06	32	Dry to normal	F
16809-BC1-11	LMS	1968-06-28	48	Dry	F
16809-BC1-12	CEM	1964-12-23	51	Dry to normal	F
16809-BC1-13	LJY	1993-04-11	23	Dry to normal	F
16809-BC1-14	LKO	1962-08-25	53	Dry	F
16809-BC1-15	KSB	1970-10-20	45	Dry to normal	F
16809-BC1-16	КСҮ	1963-08-10	53	Dry	F
16809-BC1-17	JSM	1961-01-13	55	Dry	F
16809-BC1-18	LJJ	1965-04-15	51	Dry to normal	F
16809-BC1-19	SKS	1973-04-16	43	Dry to normal	F
16809-BC1-20	HEH	1967-09-16	48	Normal	F
16809-BC1-21	KMS	1961-09-11	54	Dry to normal	F

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	209	185	127
16809-BC1-02	243	176	163
16809-BC1-03	178	252	161
16809-BC1-04	128	210	214
16809-BC1-05	164	204	209
16809-BC1-06	134	170	189
16809-BC1-07	131	194	202
16809-BC1-08	165	179	192
16809-BC1-09	161	189	243
16809-BC1-10	109	124	118
16809-BC1-11	133	178	268
16809-BC1-12	157	188	196
16809-BC1-13	175	213	212
16809-BC1-14	129	188	159
16809-BC1-15	69	106	101
16809-BC1-16	171	274	149
16809-BC1-17	108	178	121
16809-BC1-18	174	233	235
16809-BC1-19	107	219	131
16809-BC1-20	116	148	141
16809-BC1-21	189	238	174

Appendix 4. Measurement result of skin blood flow rate (A.U)

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	50.50	81.47	54.70
16809-BC1-02	59.33	55.90	63.53
16809-BC1-03	70.77	76.73	72.60
16809-BC1-04	54.40	76.30	66.50
16809-BC1-05	66.30	83.40	68.53
16809-BC1-06	67.00	68.80	71.50
16809-BC1-07	55.17	58.67	63.63
16809-BC1-08	39.13	67.53	49.80
16809-BC1-09	58.30	60.43	51.40
16809-BC1-10	69.47	79.87	67.70
16809-BC1-11	61.20	87.50	55.17
16809-BC1-12	71.27	77.37	72.67
16809-BC1-13	41.67	54.27	53.70
16809-BC1-14	42.07	79.03	60.30
16809-BC1-15	72.30	84.60	81.50
16809-BC1-16	69.97	74.13	69.73
16809-BC1-17	67.33	85.23	70.10
16809-BC1-18	49.60	62.50	60.73
16809-BC1-19	74.63	77.23	75.17
16809-BC1-20	55.00	81.33	75.43
16809-BC1-21	75.37	87.67	68.17

Appendix 5. Measurement result of hydration on skin surface (A.U)

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	8.03	7.28	7.61
16809-BC1-02	12.01	11.94	10.52
16809-BC1-03	9.09	8.30	8.86
16809-BC1-04	15.00	14.57	14.16
16809-BC1-05	14.39	12.71	12.19
16809-BC1-06	11.72	10.72	10.62
16809-BC1-07	10.06	9.87	9.33
16809-BC1-08	13.05	10.84	11.75
16809-BC1-09	13.75	12.75	12.74
16809-BC1-10	16.00	14.40	12.78
16809-BC1-11	7.76	6.86	5.81
16809-BC1-12	16.28	12.69	13.88
16809-BC1-13	13.83	11.89	12.91
16809-BC1-14	14.68	13.00	11.72
16809-BC1-15	8.45	9.87	9.96
16809-BC1-16	12.74	11.66	11.31
16809-BC1-17	11.10	10.61	10.18
16809-BC1-18	14.55	10.60	13.29
16809-BC1-19	12.16	11.39	12.54
16809-BC1-20	10.47	8.52	8.52
16809-BC1-21	13.03	11.34	12.92

Appendix 6. Measurement result of skin texture (Ra)

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	19.99	1.31	9.74
16809-BC1-02	17.55	2.06	8.46
16809-BC1-03	13.82	1.39	6.24
16809-BC1-04	13.11	0.84	8.71
16809-BC1-05	14.87	1.20	9.98
16809-BC1-06	24.71	2.30	14.75
16809-BC1-07	13.44	6.06	9.99
16809-BC1-08	12.94	5.01	8.11
16809-BC1-09	8.20	2.19	5.36
16809-BC1-10	22.76	5.87	15.49
16809-BC1-11	17.10	8.74	12.33
16809-BC1-12	18.21	1.85	12.82
16809-BC1-13	6.34	2.38	4.63
16809-BC1-14	11.07	3.16	8.84
16809-BC1-15	12.17	1.20	5.86
16809-BC1-16	12.35	1.16	7.48
16809-BC1-17	15.83	5.74	8.12
16809-BC1-18	19.01	4.32	17.17
16809-BC1-19	14.21	1.59	10.99
16809-BC1-20	20.44	4.46	11.58
16809-BC1-21	20.84	3.59	17.46

Appendix 7. Measurement result of dead skin cells (%)

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	1.40	1.16	1.28
16809-BC1-02	1.52	1.26	1.16
16809-BC1-03	4.18	3.46	3.77
16809-BC1-04	1.72	2.59	1.85
16809-BC1-05	1.35	2.10	1.31
16809-BC1-06	5.57	4.21	5.17
16809-BC1-07	0.68	0.83	0.35
16809-BC1-08	7.80	10.37	5.24
16809-BC1-09	3.07	3.06	2.15
16809-BC1-10	0.51	0.40	0.48
16809-BC1-11	1.79	0.34	0.55
16809-BC1-12	10.38	9.04	9.89
16809-BC1-13	1.00	0.57	0.88
16809-BC1-14	0.63	0.39	0.44
16809-BC1-15	1.03	0.46	1.02
16809-BC1-16	3.04	1.97	2.93
16809-BC1-17	2.39	1.91	2.26
16809-BC1-18	0.42	0.27	0.39
16809-BC1-19	1.83	1.06	1.48
16809-BC1-20	4.33	2.71	4.25
16809-BC1-21	5.20	2.43	2.66

Appendix 8. Measurement result of the size of skin pore area (%)

Subject ID No.	Before	Immediately after	2 weeks after
16809-BC1-01	20	16	18
16809-BC1-02	22	18	18
16809-BC1-03	56	43	51
16809-BC1-04	23	31	22
16809-BC1-05	20	28	19
16809-BC1-06	80	62	78
16809-BC1-07	10	10	5
16809-BC1-08	103	125	72
16809-BC1-09	48	46	33
16809-BC1-10	6	5	5
16809-BC1-11	28	6	9
16809-BC1-12	111	98	107
16809-BC1-13	16	8	13
16809-BC1-14	9	5	7
16809-BC1-15	17	7	16
16809-BC1-16	44	28	43
16809-BC1-17	31	25	30
16809-BC1-18	8	5	7
16809-BC1-19	26	14	21
16809-BC1-20	55	34	52
16809-BC1-21	74	37	41

Appendix 9. Measurement result of the number of skin pores (ea)

Subject ID No.	Before	2 weeks after
16809-BC1-01	54	59
16809-BC1-02	55	58
16809-BC1-03	46	51
16809-BC1-04	54	53
16809-BC1-05	66	65
16809-BC1-06	56	60
16809-BC1-07	54	50
16809-BC1-08	60	61
16809-BC1-09	53	48
16809-BC1-10	52	53
16809-BC1-11	60	56
16809-BC1-12	55	56
16809-BC1-13	64	64
16809-BC1-14	52	48
16809-BC1-15	53	55
16809-BC1-16	56	61
16809-BC1-17	57	56
16809-BC1-18	53	53
16809-BC1-19	52	55
16809-BC1-20	51	56
16809-BC1-21	64	62

Appendix 10. Measurement result of hydration in deeper skin layer (%)

Subject ID No.	Before	2 weeks after
16809-BC1-01	0.5257	0.5728
16809-BC1-02	0.7492	0.8229
16809-BC1-03	0.5455	0.5971
16809-BC1-04	0.6481	0.7913
16809-BC1-05	0.5175	0.5908
16809-BC1-06	0.5968	0.6914
16809-BC1-07	0.6093	0.6361
16809-BC1-08	0.4845	0.6595
16809-BC1-09	0.7330	0.6545
16809-BC1-10	0.7635	0.8221
16809-BC1-11	0.7088	0.6429
16809-BC1-12	0.6850	0.6682
16809-BC1-13	0.8108	0.7919
16809-BC1-14	0.7421	0.6920
16809-BC1-15	0.6437	0.6832
16809-BC1-16	0.6650	0.7871
16809-BC1-17	0.6450	0.7825
16809-BC1-18	0.6903	0.7026
16809-BC1-19	0.6519	0.6420
16809-BC1-20	0.5342	0.6069
16809-BC1-21	0.6215	0.5968

Appendix 11. Measurement result of elasticity on skin surface (R2)

Subject ID No.	Before	2 weeks after
16809-BC1-01	0.55	0.61
16809-BC1-02	0.64	0.64
16809-BC1-03	0.49	0.57
16809-BC1-04	0.56	0.61
16809-BC1-05	0.56	0.66
16809-BC1-06	0.49	0.65
16809-BC1-07	0.58	0.62
16809-BC1-08	0.54	0.60
16809-BC1-09	0.56	0.68
16809-BC1-10	0.55	0.59
16809-BC1-11	0.52	0.60
16809-BC1-12	0.53	0.57
16809-BC1-13	0.55	0.66
16809-BC1-14	0.54	0.60
16809-BC1-15	0.56	0.61
16809-BC1-16	0.63	0.65
16809-BC1-17	0.61	0.63
16809-BC1-18	0.58	0.61
16809-BC1-19	0.67	0.69
16809-BC1-20	0.38	0.55
16809-BC1-21	0.59	0.65

Appendix 12. Measurement result of elasticity in deeper skin layer (Ur/Ue)

Subject ID No.	Before	2 weeks after
16809-BC1-01	0.52	0.55
16809-BC1-02	0.59	0.62
16809-BC1-03	0.58	0.63
16809-BC1-04	0.58	0.61
16809-BC1-05	0.50	0.57
16809-BC1-06	0.57	0.58
16809-BC1-07	0.54	0.57
16809-BC1-08	0.50	0.51
16809-BC1-09	0.56	0.59
16809-BC1-10	0.59	0.62
16809-BC1-11	0.54	0.56
16809-BC1-12	0.50	0.54
16809-BC1-13	0.61	0.63
16809-BC1-14	0.61	0.63
16809-BC1-15	0.50	0.52
16809-BC1-16	0.59	0.61
16809-BC1-17	0.51	0.58
16809-BC1-18	0.53	0.55
16809-BC1-19	0.56	0.58
16809-BC1-20	0.52	0.55
16809-BC1-21	0.54	0.58

Appendix 13. Measurement result of skin restitution (CoR)

	Before heating		Immediately after		Immediately after		
Subject ID No.		0	heating	3	product	use	
	Control	Test	Control	Test	Control	Test	
	(Un-applied)		(Un-applied)	1050	(Un-applied)		
16809-BC1-01	30.8	30.8	38.3	38.3	36.2	32.3	
16809-BC1-02	31.8	31.4	38.2	38.4	35.9	31.5	
16809-BC1-03	32.1	32.4	39.0	39.3	36.4	32.6	
16809-BC1-04	31.2	30.9	39.0	38.8	36.3	32.1	
16809-BC1-05	32.7	33.0	37.8	37.4	36.0	31.2	
16809-BC1-06	32.7	32.8	38.4	38.5	36.6	31.9	
16809-BC1-07	33.0	32.8	40.3	39.6	36.9	32.6	
16809-BC1-08	32.8	32.4	37.9	37.8	35.8	30.7	
16809-BC1-09	32.6	32.3	38.4	37.9	36.4	31.5	
16809-BC1-10	32.3	32.0	37.8	37.7	35.5	31.2	
16809-BC1-11	31.4	31.4	38.5	38.6	36.3	31.8	
16809-BC1-12	30.0	30.4	37.6	38.3	36.1	31.5	
16809-BC1-13	31.7	31.6	39.6	38.5	37.0	32.0	
16809-BC1-14	30.3	30.7	37.7	38.4	35.0	31.2	
16809-BC1-15	30.9	31.4	37.9	38.1	35.2	31.7	
16809-BC1-16	32.1	31.5	37.4	37.5	35.8	31.5	
16809-BC1-17	31.7	31.6	36.7	36.8	35.1	30.9	
16809-BC1-18	33.1	32.6	38.2	38.1	34.6	31.6	
16809-BC1-19	32.9	32.2	38.4	38.0	36.3	31.8	
16809-BC1-20	31.9	31.7	38.7	38.5	36.3	31.6	
16809-BC1-21	33.1	33.9	39.7	38.7	37.8	32.2	

Appendix 14. Measurement result of skin calming effect (°C)

		Elasticity in		
Subject ID No.	Droopy skin	deeper skin	Skin elasticity	Dead skin
Subject ID No.	pore	area/on skin	of cheek	cells
		surface		
16809-BC1-01	3	3	3	2
16809-BC1-02	4	4	4	4
16809-BC1-03	2	3	3	2
16809-BC1-04	3	3	4	3
16809-BC1-05	4	4	4	2
16809-BC1-06	2	4	4	3
16809-BC1-07	3	3	3	3
16809-BC1-08	3	3	3	4
16809-BC1-09	3	3	3	4
16809-BC1-10	3	3	3	3
16809-BC1-11	3	3	3	3
16809-BC1-12	3	3	3	3
16809-BC1-13	2	2	3	4
16809-BC1-14	3	4	4	2
16809-BC1-15	2	3	3	3
16809-BC1-16	4	4	4	4
16809-BC1-17	4	4	4	4
16809-BC1-18	2	3	3	3
16809-BC1-19	3	3	3	2
16809-BC1-20	3	3	3	4
16809-BC1-21	3	3	3	3

Appendix 15. Result of Global Assessment of Efficacy

Subject ID No.	Skin texture	TEWL and Skin calming effect	Skin hydration persistency
16809-BC1-01	2	3	3
16809-BC1-02	4	4	4
16809-BC1-03	3	3	3
16809-BC1-04	4	3	4
16809-BC1-05	2	3	3
16809-BC1-06	3	3	4
16809-BC1-07	3	3	3
16809-BC1-08	3	3	4
16809-BC1-09	3	3	3
16809-BC1-10	4	4	4
16809-BC1-11	3	3	3
16809-BC1-12	3	4	4
16809-BC1-13	3	4	4
16809-BC1-14	3	4	3
16809-BC1-15	3	3	3
16809-BC1-16	4	4	4
16809-BC1-17	4	4	4
16809-BC1-18	2	3	3
16809-BC1-19	3	3	2
16809-BC1-20	4	4	4
16809-BC1-21	3	3	2

Subject ID No.	Immediate skin	Smooth skin texture and skin	Adherence	Absorptiveness
	moisturizing	glossiness		
16809-BC1-01	3	3	3	3
16809-BC1-02	4	4	4	3
16809-BC1-03	3	3	3	3
16809-BC1-04	4	4	4	4
16809-BC1-05	4	3	4	3
16809-BC1-06	4	4	3	3
16809-BC1-07	3	3	3	3
16809-BC1-08	3	4	4	3
16809-BC1-09	3	3	3	4
16809-BC1-10	4	4	4	4
16809-BC1-11	4	3	3	3
16809-BC1-12	3	3	3	3
16809-BC1-13	3	3	3	2
16809-BC1-14	3	4	4	3
16809-BC1-15	3	3	3	3
16809-BC1-16	4	4	4	4
16809-BC1-17	4	4	4	4
16809-BC1-18	3	3	3	3
16809-BC1-19	3	2	3	2
16809-BC1-20	3	3	4	4
16809-BC1-21	3	3	3	2

Appendix 16. Result of Product preference survey

Subject ID No.	Fragrance	Hydration	Overall usability
16809-BC1-01	3	3	3
16809-BC1-02	3	3	4
16809-BC1-03	3	3	3
16809-BC1-04	3	4	3
16809-BC1-05	2	4	4
16809-BC1-06	2	3	3
16809-BC1-07	2	3	3
16809-BC1-08	3	3	3
16809-BC1-09	3	3	3
16809-BC1-10	3	4	4
16809-BC1-11	3	3	3
16809-BC1-12	3	4	3
16809-BC1-13	4	4	3
16809-BC1-14	3	4	4
16809-BC1-15	3	3	3
16809-BC1-16	4	4	4
16809-BC1-17	4	4	4
16809-BC1-18	2	2	3
16809-BC1-19	2	3	2
16809-BC1-20	4	4	3
16809-BC1-21	2	3	3

Appendix 17. Pictures of skin blood flow rate (Laser doppler)

	Before	Immediately after	2 weeks after
16809 -BC1 -01	0 300	0 300	0 300
16809 -BC1 -02	0 300	0 300	0 300
16809 -BC1 -03	0 300	0 300	0 300
16809 -BC1 -04	0 300	0 300	0 0 0
16809 -BC1 -05	0. 300	0 300	0 300





	Before	Immediately after	2 weeks after
16809 -BC1 -16	0 300	0 300	0. 300
16809 -BC1 -17	0 300	0 300	0 300
16809 -BC1 -18	0 300	0 300	0 300
16809 -BC1 -19	0 0 0 0 0 0	0 300	0 300
16809 -BC1 -20	0 300	0. 300	0 300

	Before	Immediately after	2 weeks after
16809 -BC1 -21	0 300	0 300	0 300

Appendix 18. Pictures of skin texture (PRIMOS Premium)




	Before	Immediately after	2 weeks after
16809 -BC1 -07			
16809 -BC1 -08			
16809 -BC1 -09			



	Before	Immediately after	2 weeks after
16809 -BC1 -13			
16809 -BC1 -14			
16809 -BC1 -15			

	Before	Immediately after	2 weeks after
16809 -BC1 -16			
16809 -BC1 -17			
16809 -BC1 -18			



Appendix 19. Pictures of Dead skin cells (Visioscan VC98)

	Before	Immediately after	2 weeks after
16809- BC1-01			
16809- BC1-02			
16809- BC1-03			
16809- BC1-04			
16809- BC1-05			

	Before	Immediately after	2 weeks after
16809- BC1-06			
16809- BC1-07			
16809- BC1-08			
16809- BC1-09		6	
16809- BC1-10			

	Before	Immediately after	2 weeks after
16809- BC1-11			
16809- BC1-12			
16809- BC1-13			
16809- BC1-14			
16809- BC1-15			

	Before	Immediately after	2 weeks after
16809- BC1-16			
16809- BC1-17			
16809- BC1-18			
16809- BC1-19			
16809- BC1-20			

	Before	Immediately after	2 weeks after
16809- BC1-21			

Appendix 20. Pictures of Skin pores (Visioface)

	Before	Immediately after	2 weeks after
16809 -BR1 -01			
16809 -BR1 -02	1		
16809 -BR1 -03			
16809 -BR1 -04			

	Before	Immediately after	2 weeks after
16809 -BR1 -05			
16809 -BR1 -06			
16809 -BR1 -07		· · · · · · · · · · · · · · · · · · ·	
16809 -BR1 -08			

	Before	Immediately after	2 weeks after
16809 -BR1 -09			
16809 -BR1 -10	0 0 0 0	5 0 0 0	• • •
16809 -BR1 -11			• • • •
16809 -BR1 -12			

	Before	Immediately after	2 weeks after
16809 -BR1 -13	e e e e e e e e e e e e e e e e e e e	• • • • •	8 0 6 0 0 8 0 8 0 8 0 0
16809 -BR1 -14	· · · · · · · · · · · · · · · · · · ·		
16809 -BR1 -15			
16809 -BR1 -16			

	Before	Immediately after	2 weeks after
16809 -BR1 -17			
16809 -BR1 -18		a 0	
16809 -BR1 -19		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
16809 -BR1 -20			

	Before	Immediately after	2 weeks after
16809 -BR1 -21			

Appendix 21. Pictures of Skin calming effect (Thermo-graphic camera)

			Immedia	tely after
	Before heating	Immediately after heating	produ Control	ct use Test
16809 -BC1 -01	35.0 °C			
16809 -BC1 -02				
16809 -BC1 -03				
16809 -BC1 -04				
16809 -BC1 -05				

			Immedia	tely after
	Before heating	Immediately after heating	Control	Test
16809 -BC1 -06				20.0 %
16809 -BC1 -07				
16809 -BC1 -08	ELMAG ELANG			55.0°C
16809 -BC1 -09				
16809 -BC1 -10				30.070

			Immedia	tely after
	Before heating	Immediately after heating	Control	Test
16809 -BC1 -11				
16809 -BC1 -12	37.6.CE			
16809 -BC1 -13	30.0 *C			STORE STORE
16809 -BC1 -14				30.0×C
16809 -BC1 -15	Shore Large			

			Immedia	tely after
	Before heating	Immediately after heating	produ	ct use
16809 -BC1 -16			Control	Test
16809 -BC1 -17				
16809 -BC1 -18				
16809 -BC1 -19				
16809 -BC1 -20				

	Before heating	Immediately after heating	Immedia produ	tely after ct use
			Control	Test
16809 -BC1 -21				

Researcher Profile

1. Researcher in charge

[Personal data]

Name : Beomjoon Kim, M.D. PhD. and Dermatologist Present : Head of Professor & Chairman, Department of Dermatology, Chung-Ang University College of Medicine, Seoul, Korea Tel : +82-2-6299-1525

Fax : +82-2-798-9573 Mobile phone : +82-10-5310-2419 E-mail : beomjoon74@gmail.com License number : 71628

[Education]

2000	Graduated College of Medicine, Chung-Ang University, Korea
2000-2001	Internship, Chung-Ang University Hospital, Korea
2001-2005	Resident, Chung-Ang University Hospital, Korea
2003	Master of Science, Graduate school of Chung-Ang University, Korea
2007	Doctorate of Philosophy, Dermatology, Chung-Ang University, Korea

[Professional Career]

2005-2015	-Invited reviewer of 'British Journal of Dermatology'	
	-Reviewer of 'Journal of American Academy of Dermatology'	
	-Reviewer of 'International Journal of Dermatology	
2007-2015	-Invited reviewer, Clinical and experimental dermatology, Dermatologic Surgery, Pediatric dermatology	
2007-present	-Editorial board, Chung-Ang Journal of Medicine	
2010-present	-Editorial board, Asian Aesthetic Guide	
2011-2014 -Clinical specialist of medical equipment, National Institute of Food and I		
	Evaluation	
2011-present	-Committee member of Medical Equipment Board, Ministry of Food and Drug Safety	
2012	-Vice president, Aesthetics Asia 2012	
2012-present	-Editorial board, Journal of Cosmetics, Dermatological Sciences and Applications	
	-Editorial board, Annals of Dermatology	
2013-2015	-Committee member of Self-regulatory Boards, Ministry of food and drug safety	
2013-present	-Professor, Department of Dermatology, Chung-Ang University Hospital, Korea	
	-Editorial board, Dermatology Aspects	

	-Committee member of Korea Institute of Planning & Evaluation for Technology in Food, Agriculture Forestry and Fisheries
	-Project Manager board member, Ministry of food and drug safety
2014	-Organizing committee member for 3rd Eastern Asia Dermatology Congress
2014-present	-The chief instructor of Dermatology, Chung-Ang University Hospital, Korea
	-Educational board, The Korean Academy of Asthma, Allergy and Clinical Immunology
	-Editorial board, Plastic and Aesthetic Research
	-Editorial board, Allergy Asthma & Respiratory Disease
	-Editorial board, International Journal of Dermatology Research and Therapy
	-Expert, Central Pharmaceutical Advisory Committee, Ministry of food and drug safety
	-Advisory panel, National Institute of Food and Drug Safety Evaluation
2015-present	-Editorial board, Investigative Dermatology and Venereology Research
	-Editorial board, Journal of Cosmetology & Trichology
	-Editorial board, Journal of Procedural Dermatology
	-Specialized examination commissioner, National Court Administration
2016-present	-Editorial board, World Journal of Methodology
	-Director of Biomedical Research Institute, Chung-Ang University Hospital, Korea
	-Professional advisor of Korean Industrial Standards, Ministry of food and drug safety
	-Review board of medical device adverse event, Medical Device Information
	and Technology Assistance center
	-Editorial board, Journal of Dermatology and Plastic Surgery
	-Editorial board, Source Journal of Investigative Dermatology
	-Editorial board, Journal of the Society of Cosmetic Scientists of Korea
	-Editorial board, Current Updates in Dermatology Research
	-Editorial board, Journal of Case Reports & Imaging
	-Committee member of Policy Advisory Board, Ministry of food and drug safety
	-Committee member of Communication Advisory Board, Ministry of food and drug safety

[Awards]

2003	-Scholarship, The Korean Society for Investigative Dermatology
	-Novartis award, Korean Society for Medical Mycology
2006	-Best Paper, Symposium of Korea Information Processing Society
2007 -Dr. Paul Janssen Award, Korean Dermatological Association	
	-International Health Professional of the Year 2007, International Biographical Center, Cambridge, England
	-Best Poster, Symposium of Korean Dermatological Association
2008	-Scholarship, The American Academy of Dermatology, USA
2009	-Academy award, Chung-Ang University, Korea

2010	-Outstanding book, 'Aesthetic Dermatology', Ministry of Culture, Sports and Tourism, Korea
2011	-Chungsan Academic Award, Korean Academy of Asthma, Allergy and Clinical Immunology
	-Excellent assessor of R&D projects, National Research Foundation of Korea, Ministry of Educational Science and Technology, Korea
2012	- Dong-Ah academy award, Korean Dermatological Association
	-Excellent professor of Industrial Academic Cooperation Foundation, Chung-Ang University Industrial Academic Cooperation Foundation, Korea
2013	-Academic Contribution Award, Chung-Ang University Hospital, Korea
	-Citation of Textbook Compliation Committee of Dermatology 6th edition, Korean Dermatological Association
	-BRIC "Korea's Honorable People " Records
2014	-Citation of President, Science and Technology Promotion Merit
2015	-Excellent Author of Science and Technology Journal, Korean Federation of Science and Technology Societies

[Societies]

Korean Medical Association, Committee of Public Information (2000 - present) Korean Dermatological Association (2001 - present) Committee member of The Korean Society for Investigative Dermatology (2001 - present) Committee member of The American academy of dermatology (2006 - present) Committee member of Education, Korean Dermatological Association(2007-2011) Committee member of Korean Society for Medical Mycology (2009-present) Reviewer, Annals of Dermatology (2009-present) Reviewer, Korean journal of Dermatological Association (2009-present) Committee member of Text compilation, Korean Dermatological Association (2011-2013) Committee member of Publication, Korean Dermatological Association (2011-present) Director of the Korean Society of Pigment Cell Research (2011-present) Committee member of Korean Society Hair Restoration Treatment (2012-present) Director of the Korean Society for Aesthetic and Dermatologic Surgery (2013-2014) Committee member of the Korean Atopic Dermatitis Association (2013-present) Director of the Korean Hair Research Society (2014-present) Review Board, Division of Basic research of Medical and Pharmaceutical Sciences, National Research Foundation of Korea (2014-present) Committee member of External Relations, Korean Dermatological Association (2014-present) Assistant administrator, Committee of Finance, Korean Dermatological Association (2014-present) Committee member of Information and Communications, Korean Dermatological Association (2014-present) Director of planning, Korean Society for Anti-Aging Dermatology (2015-present) Committee member of Legislation Department, Korean Academy of Asthma, Allergy and Clinical Immunology (2015-present)

2. Quality assurance

[Personal data]

Name : Jin Hee Shin

Gender : Female

Date of birth : January 03rd, 1977

[Education]

1995.03 \sim 1999.02 Bachelor's degree in Genetic Engineering, Kyung Hee University, Korea 2003.03 \sim 2008.02 Master's degree in Neurology, Graduate school of Medicine, A Jou University, Korea

[Career]

2007. \sim 2012. Senior Researcher/Project manager, Central research institute, GNT pharma Co., Ltd.

2012. \sim 2015. Chief researcher/Researcher professor, Samsung Advanced Institute for Health Sciences & Technology, Samsung Seoul Hospital

2015. \sim 2015. Research instructor, Microbiology class, Graduate school of A Jou University, Korea

2016. ~ Present Chief researcher, P&K Skin Research Center

3. Researcher

[Personal data]

Name : A Reum Kim

Gender : Female

Date of birth : January 22nd, 1988

[Education]

2006.03 ~ 2011.02 Bachelor's degree in Cosmetic pharmacology, Daegu Haany University

 $2011.03 \sim 2013.02$ Master's degree in Fine Chemistry, Graduate School of Industry, Seoul national university of science and technology

[Career]

2013.04 ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Tae Ji Lee Gender : Female Date of birth : July 24th, 1987 [Education] 2009.03 ~ 2012.02 Bachelor's degree in Life science, Korea University

[Career] 2013.10 ~ Present : Researcher, P&K Skin Research center

[Personal data] Name : In Ah Kim Gender : Female Date of birth : April 14th, 1988 [Education] 2007.03 ~ 2012.02 Bachelor's degree in Life science, Sungshin women's University [Career] 2013.10 ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Eun Ji Lim Gender : Female Date of birth : December 17, 1989

[Education]

2008.03 ~ 2011.08 Bachelor's degree in Department of Food&nutrition, Yeungnam University

 $2011.09 \sim 2013.02$ Master's degree in Clinical nutrition, Department of Food&nutrition Yeungnam University

[Career]

2014. \sim 2016. : Researcher, The Clinical Trial Center for Bio-industry at Semyung University 2016. \sim Present : Researcher, P&K Skin Research center

[Personal data]

Name : Yun Hee Kim Gender : Female Date of birth : February 23rd, 1989 [Education] 2007.03 ~ 2013.08 Bachelor's degree in Applied Mathematics, Dankook University [Career] 2014.03 ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Cho Rong Seo Gender : Female Date of birth : December 15th, 1988 [Education] 2010.03 ~ 2012.08 Bachelor's degree in Food and biotechnology, Sungkyunkwan University 2012.09 ~ 2014.08 Master's degree in Biotechnology, Kyunghee University [Career] 2015.05 ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Min Hye park Gender : Female Date of birth : January 25, 1992

[Education]

 $2011.03 \sim 2016.02$ Bachelor's degree in Bio Technology, Suwon University, Prospective graduate

[Career]

2015. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Eun Kyung Lee Gender : Female

Date of birth : April 21, 1993

[Education]

 $2012.03 \sim 2016.02$ Bachelor's degree in Life science, Dongkook University, Prospective graduate

[Career] 2015. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Go Eun Gu Gender : Female

Date of birth : June 01, 1991

[Education]

2010.03 ~ 2014.02 Bachelor's degree in Microbiology, Gyeongsang University

 $2014.03 \sim 2016.02$ Master's degree in Biochemistry, Graduate School of medicine, Chungang university

[Career]

2016. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Eun Seo Baek Gender : Female Date of birth : July 06, 1993 [Education] 2012.03 ~ 2016.02 Bachelor's degree in applied biochemistry, Konkuk University [Career] 2016. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Ji Yoon Han Gender : Female

Date of birth : February 27, 1990

[Education]

2009.03 ~ 2015.02 Bachelor's degree in applied Chemistry, Sejong University

[Career]

2016. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : So Jin Jeon Gender : Female Date of birth : September 23, 1990

[Education]

2012.03 ~ 2015.08 Bachelor's degree in Chemistry, Sungkyunkwan University

[Career] 2016. ~ Present : Researcher, P&K Skin Research center

[Personal data]

Name : Su Yeon Kim Gender : Female

Date of birth : February 01, 1991

[Education]

2012.03 ~ 2016.02 Bachelor's degree in Chemistry, Soonchunhyang University

[Career]

2016. ~ Present : Researcher, P&K Skin Research center

4. Research Assistant
[Personal data]
Name : Ju Hee Kang
Gender : Female
Date of birth : August 30th, 1990
[Career]

2015. ~ Present : Researcher, P&K Skin Research center

Accomplishment of Chief Researcher

	Title	Journal
	Ethnical characteristics of the eyelashes : a comparative analysis in	Br J Dermatol
1	Asian and Caucasian females	2006:155(6):1170-6
2	Alopecia areata associated with basal cell carcinoma developing within	Br J Dermatol
	a naevus sebaceus	2006:155(5):1090-1
		Int J Dermatol
3	Cutaneous Schwannoma treated by tumescent suction technique	2006;45(10):1267-8
4	Clinical observation of cellular phone dermatitis in Korea	Kor J Dermatol
		2006; 44(1):35-9
5	A case of congenital cutis laxa with growth retardation	Kor J Dermatol
		2006;44(3):387-9
6	Dermatosis in human immunodeficiency virus infected patients in	Kor J Dermatol
	Korea	2006;44(4):420-4
7		Kor J Dermatol
	A case of nail-patella syndrome	2006;44(4):492-4
	Incontinentia pigmenti in a male infant	Kor J Dermatol
8		2006;44(5):624-6
0	A clinical analysis of 29 cases of centipede bite	Kor J Dermatol
9		2006;44(9):1037-43
		Int J Dermatol
10	Hair cuticle differences between Asian and Caucasian	2006;45(12):1435-7
11	Non invasive evaluation of hair interior morphology by X-ray	J Dermatol
11	microscope	2006;33(11):759-64
10	Androgenetic alopecia in adolecents: A report of 43 cases	J Dermatol
12		2006;33(10):696-9
12	Study of causative organisms in pitted keratolysis	Kor J Med Mycol 2006;
15		11(4):172-6
14	Two cases of green nail syndrome	Kor J Med Mycol 2006;
17		11(3):163-5
15	A clinical analysis of 133 cases of pitted keratolysis	Kor J Dermatol
15		2006;44(10):1165-70
16	Photoepilation:a potential threat to wound healing in a mouse	J Cosmet Dermatol
10		2006;5(2):115-20
17	Incontinentia pigmenti clinical observation of 40 Korean cases	J Korean Med Sci
1,		2006;21(3):474-7
18	Eosinophilic pustular folliculitis : successful treatment with topical	Clin Exp Dermatol
10	pimecrolimus	2006;32(1):108-9
19	A case of black hairy tongue following the use of psychotropic	Korean J Dermatol
	agents	2007;45(1):107-9
20	The analysis of the expression of TGF- β in human hair follicles in	Korean J Dermatol
	vivo	2007;45(4):321-6
21	In vitro phototoxicity test using artificial skin with melanocytes	Photodermatol
		Photoimmunol Photomed

		2007;23(2-3):73-80
22	The long term efficacy and relapse rate of itraconazole pulse therapy versus terbinafine continuous therapy for toenail onychomycosis - a 96-week follow-up study -	Kor J Med Mycol 2007;12(3):139-47
23	Clinical observation of sarcoidosis	Korean J Dermatol
24	Two cases of pellagra in alcoholics	Korean J Dermatol
25	Clinical analysis of Ramsay Hunt syndrome	Korean J Dermatol
26	The effects of Physiogel®cream on the allergic contact dermatitis	Korean J Dermatol
27	A case of anal erosion treated with chamomile and myrrh extracts	2007;45(11):1139-43 Korean J Dermatol
28	A case of reactivation of herpes simplex virus in foot dorsum	2007;45(11):11/0-72 Korean J Dermatol
29	Two cases of onychomycosis treated with electric nail grinder and	2007;45(11):1119-201 Kor J Med Mycol 2007;
30	Clinical effects of shark cartilage extracts on erythematotelangiectatic	12(4):198-202 Korean J Dermatol
31	A case of graphite foreign body misdiagnosed as blue nevus	2007;45(12):1253-7 Ann Dermatol
32	A case of tufted hair folliculitis	2007;19(4):166-9 Ann Dermatol 2007;19(4):189-92
33	Treatment of lipomasassisted with tumescent liposuction	J Eur Acad Dermatol Venereol 2007;21(2):243-6
34	Infantile perianal pyramidal protrusion treated by topical steroid application	J Eur Acad Dermatol Venereol 2007;21(2):263-4
35	An efficient method of preparing dressing materials for laser procedure	J Cosmet Dermatol 2007;6(4):272-4
36	Development of open comedones: a rare complication of surgery for axillary hyperhidrosis and osmidrosis	J Eur Acad Dermatol Venereol 2008;22(3):401-2
37	Dermal fibrosis in male pattern hair loss : a suggestive implication of mast cells	Arch Dermatol Res 2008:300(3):147-52
38	The efficacy of electric nail grinding with nail lacquer in the	Korean J Dermatol
39	Fractional photothermolysis for the treatment of striae distensae in	Am J Clin Dermatol
40	A corynebacterial triad: Prevalence of erythrasma and trichomycosis axillaris in soldiers with pitted keratolysis	J Am Acad Dermatol 2008;58(2 Suppl):S57-8

41	Comparative study of 20% aluminum chloride solution and botulinum toxin A injection in the treatment of patients with primary palmar hyperhidrosis	Korean J Dermatol 2008;46(3):334-40
42	Development of a non-invasive measure system to the thickness of the subcutaneous adipose tissue layer	Exp Dermatol 2008;17(6):537-41
43	Expression of neuropeptides and their receptors in melasma	Korean J Dermatol 2008;46(5):627-32
44	A case of milia en plaque induced by physical stress	Korean J Dermatol 2008;46(5):707-9
45	A clinical study of androgenetic alopecia (VI)	Korean J Dermatol 2008;46(6):729-35
46	A case of actinic cheilitis treated by topical photodynamic Therapy with methyl aminolevulinate	Korean J Dermatol 2008;46(6):835-8
47	Two cases of basal cell carcinomas Treated by topical photodynamic therapy with methyl aminolevulinate	Korean J Dermatol 2008;46(6):796-9
48	Combination therapy of cyclosporine and methylprednisolone on severe alopecia areata	J Dermatolog Treat 2008:19(4):216-20
49	Topical immunomodulators are effective for treatment of vitiligo	J Dermatol 2008:35(8):503-7
50	A case of cutaneous Hodgkin's disease presented with a maculopapular rash	Korean J Dermatol 2008;46(9):1262-5
51	A case of plaque-type blue nevus on the scalp	Korean J Dermatol 2008;46(9):1299-301
52	A case of pseudolymphoma on the left ear lobe after ear piercing	Korean J Dermatol 2008;46(10):1424-6
53	Multicenter survey of the efficacy and compliance with using topical pimecrolimus by patients with atopic dermatitis	Korean J Dermatol 2008;46(10):1357-61
54	An epidemiologic study on patch test positivities for patients with allergic contact dermatitis	Korean J Dermatol 2008;46(10):1362-8
55	Keratitis-ichthyosis-deafness syndrome with unusual hypopigmentation	J Dermatol 2008;35(12):798-800
56	Two cases of doughnut-shaped warts following cryosurgery	Korean J Dermatol 2008;46(12):1651-3
57	The use of dynamic ultrasonography for the confirmation of lower leg muscle herniation	Ann Dermatol 2008;20(4):190-2
58	The clinical study of linea nigra in pregnancy	Korean J Obstet Gynecol 2008;51(3):290-6
59	Prevention of thyroidectomy scar using a new 1,550-nm fractional erbium-glass laser	Dermatol Surg 2009:35(8):1199-205
60	Pilot study on photodynamic therapy for acne using indocyanine green and diode laser	J Dermatol 2009:36(1):17-21
61	Angioimmunoblastic T cell lymphomas: frequent cutaneous skin	Ann Dermatol
	lesions and absence of human herpes viruses	2009;21(1):1-5
----	---	--
62	A case of diffuse neurofibroms of scale	Ann Dermatol
62	A case of diffuse neuronoroma of scalp	2009;21(1):46-8
63	Case of congenital esophageal stricture by ganglioneuroma and acro-flexural pigmentation: A coincidence?	J Dermatol 2009;36(3):159-62
64	Clinical efficacies of topical agents for the treatment of seborrheic dermatitis of the scalp : A comparative study	J Dermatol 2009;36(3):131-7
65	Herpes zoster duplex bilateralis in a patient with breast cancer	Cancer Res Treat 2009;41(1):50-2
66	A case of generalized fixed drug eruption due to a piroxicam plaster	Clin Exp Dermatol 2009;35(2):204-5
67	Differential display analysis of 2,3,7,8-tetrachlorodibenzo-p-dioxin identified induction of ras-related nuclear protein binding protein2 (RanBP2) gene	Toxicol Res 2009;25(1):35-40
68	Development of an imaging system for use in diagnosing dermatologic diseases	Korean J Dermatol 2009;47(3):303-8
69	A case of atopic dermatitis treated by phototherapy with full spectrum light	Korean J Asthma Allergy Clin Immunol 2009;29(1):60-3
70	Optimal culture condition for antifungal susceptibility tests of Malassezia globosa	Kor J MedMycol 2009;14(4):182-9
71	Skin care for atopic dermatitis	Korean J Dermatol 2009;47(5):531-8
72	Parvovirus B19 infection associated with acute hepatitis in infant	Pediatr Infect Dis J 2009;28(7):667
73	Potent inhibition of human cytochrome P450 1B1 by tetramethoxystilbene	Toxicol Lett 2009;189(1):84-9
74	Treatment of striae distensae with fractional photothermolysis	Dermatol Surg 2009;35(8):1215-20
75	A clinical study of androgenic alopecia (VII)	Korean J Dermatol 200947(7):765-771
76	Muire-Torre syndrome: A case of sebaceous epithelioma with thyroid cancer	Korean J Med 2009;77:S179-82
77	Clinical and histopathologic review on 28 cases of nodular fasciitis	Korean J Dermatol 2009;47(6):649-57
78	Efficacy of high-energy copper bromide laser (511 and 578 with for deep infantile haemangioma	Clin Exp Dermatol 2009;34(7):e451-2
79	Clinical efficacy for 1% zinc pyrithione shampoo for the treatment of dandruff	Korean J Dermatol 2009;47(8):875-83
80	Successful treatment of depressed scars of the forehead secondary to herpes zoster using subdermal minimal surgery technology	Dermatol Surg 2009;35(9):1439-40

		Korean J Asthma Allergy
81	A case of drug eruption induced by various cephalosporin antibiotics	Clin Immunol
		2009;29(3):212-6
82	A case of faun tail naevus treated by intense pulsed light	Ann Dermatol
02	The case of future and futures frequence by intense pursed right	2009;21(2):147-9
83	A case of pilar sheath acanthomas on the both cheeks	Korean J Dermatol
		2009;47(9):1077-9
84	Enhanced efficacy of photodynamic therapy with methyl 5-aminolevulinic acid in recalcitrant periungual warts after ablative carbon dioxide fractional laser: a pilot study	Dermatol Surg 2009;35(12):1927-32
85	Laser lipolysis with pulsed 1064 nm Nd:YAG laser for the treatment	Int J Dermatol
0.5	of gynecomastia	2009;48(12):1353-9
86	Increased expression of nerve growth factor receptor and neural endopeptidase in the lesional skin of melasma	Dermatol Surg 2009;35(8):1244-50
	Potent inhibition of human cytochrome P450 1B1 by	Toxicology letters
87	tetramethovystilhene	2000.180(1).84-0
	Effects of vitamin C vs. multivitamin on melanogenesis; comparative	Int J Dermatol
88	study in vitro and in vivo	2010:49(2):218-26
	Photodynamic therapy: new treatment for recalcitrant malassezia	Lasers Surg Med
89	folliculitis	2010;42(2):192-6
00	A study on the quality of life and the economic burden of Korean	Korean J Dermatol
90	patients with viral warts	2010;48(1):33-8
	The effect of the extracts of Taraxacum platycarpum (AF-343) in	Korean J Asthma Allergy
91	atopio dermatitis	Clin Immunol
		2010;30(1):36-42
92	A study onthe antimicrobial effect of bamboo (Phyllosrachys bambusoides) essential oil on Malassezia	Kor J Med Mycol 2010; 15(1): 1-11
	The effect of full spectrum light phototherapy for patients with tinea	Kor J Med Mycol 2010;
93	pedis	15(1):12-7
94	Photodynamictherapy with methyl 5-aminolevulinate acid might be ineffective in recalcitrant alopecia totalis regardless of using a microneedle roller to increase skin penetration	Dermatol Surg 2010;36(5):618-22
95	Synthesis of benzoxazole amides as novel antifungal agents against Malassezia Furfur	Bull Korean Chem Soc 201031(5):1270-4
96	Photodynamic therapy with methyl 5-aminolevulinate acid combined with microneedle treatment in patients with extensive alopecia areata	Clin Exp Dermatol 2010;35(5):548-9
97	Anti-inflammatory and anti-oxidant Effects of Sophora flavescens root extraction in lipopolysaccharide-activated raw 264.7 cells	Kor J Med Mycol 2010;15(2):39-50

98	The development and evaluation of multiplex PCR technique for identification of Malassezia yeast	Kor J Med Mycol 2010;15(2):51-60
99	Effect of anti-inflammation and skin hydration of AF-343 on macrophage raw 264.7 cells and NC/Nga mice with atopic dermatitis	Kor J Med Mycol 2010;15(2): 61-76
100	Expression of neuropeptides and their degrading enzymes in ACD	Clin Exp Dermatol 2010;35(3):318-23
101	Clinicopathologic efficacy of copper bromide plus/yellow laser (578 nm with 511 nm) for treatment of melasma in Asian patients	Dermatol Surg 2010;36(6):885-93
102	Treatment of acne scars using subdermal minimal surgery technology	Dermatol Surg 2010;36(8):1281-7
103	Evaluation of free oxygen radical and antioxidant capacity in alopecia areata	J Dermatol 2010:37(8):762-4
104	Treatment of alopecia areata with fractional photothermolysis laser	Int J Dermatol 2010;49(7):845-7
105	Treatment of two cases of acne vulgaris with Rubus coreanus miquel	Kor J Med Mycol
106	The stability of the disk-type microneedle in Skh-hairless-1 (Albino) mice	Korean J Asthma Allergy Clin Immunol
107	Objective measurements using the skin prick test in allergic rhinitis	2010;30(3):222-7 Arch Otolaryngol Head Neck Surg 2010:136(11):1104-6
108	Effects of alcohol intake on the skin physiology	Korean J Dermatol 201048(11):948-54
109	KAAACI work group report on the treatment of severe/recalcitrant atopic dermatitis	Korean J Asthma Allergy Clin Immunol 2010;30(4):255-70
110	Role of CD4+CD25high+FOXP3+ regulatory T Cells in psoriasis	Ann Dermatol 2010:22(4):397-403
111	Treatment of periorbital wrinkles using a 2,790-nm Yttrium Scandium Gallium Garnet laser	Dermatol Surg 2010:36(9):1382-9
112	Objective evaluation of photoepilation by phototrichogram	J Dermatol
113	Cloning and Expression in Pichia pastoris of a New Cytochrome P450 Gene from a Dandruff-causing Malassezia globosa	Toxicol Res 2010;26(1):47-52
114	The effect of calcipotriol on the expression of human β defensin-2 and LL-37 in cultured human keratinocytes	Clin Dev Immunol 2010 Feb 22
115	Fractional photothermolysis laser treatment of male pattern hair loss	Dermatol Surg 2011:37(1):41-51
116	A novel function of Siglec-9 A391C polymorphism on T cell receptor	Int Arch Allergy Immunol

	signaling	2011;154(2):111-8
117	Sorafenib(Nexavar, BAY 43-9006)-induced hand-foot skin reaction	Ann dermatol
11/	with facial erythema	2011;23(1):119-22
110	The many symptotic of antimal nervon distance in LEDa	Korean J Dermatol
118	The measurement of optimal power distance in LEDs	2011;49(2):125-30
110	A study of potential application of Rubus coreanus miquel extract for	Kor J Med Mycol
119	seborrheic dermatitis treatment	2011;16(1):1-8
120	A case of ingrown toenail associated with tinea unguium treated with	Kor J Med Mycol
120	K-D® wire	2011;16(1):31-4
	Topical photodynamic therapy with methyl aminolevulinate may be an	Int I Dermatol
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