

“We provide trust and faith”



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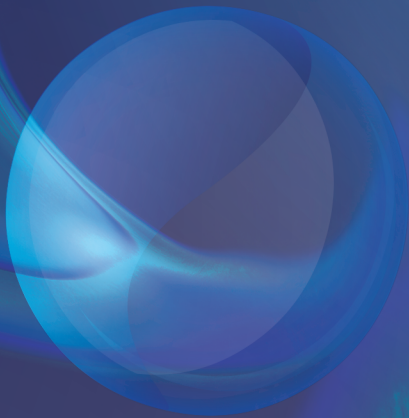
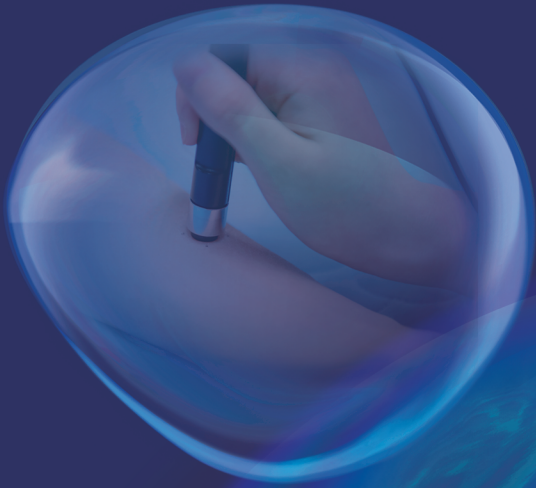
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Ellead

Since 2001

Clinical Evaluation
In vitro test
Skin&Bio Research



Scientific Beauty Substantiation

Global Leader in Asian Cosmetics Clinical Testing

Ellead is a clinical and biotechnology company which is specialized in cosmetics and food supplement. Since 2001, Ellead has been performing clinical studies according to protocols for efficacy, safety, sensory tests of cosmetics, cosmeceuticals and functional food products with accuracy and reliability.

- ISO 9001:2004 certification
- IRB (Institutional Review Board) registration

• **2003**
Approved as the first
clinical R&D center

• **2006**
Certified as a
**technically innovative
(INNO-BIZ) company**

• **2012**
Registered
IRB with
US FDA



• **2001**
Established
Ellead

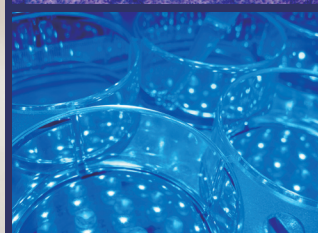
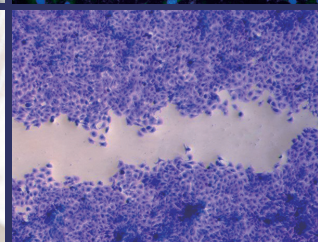
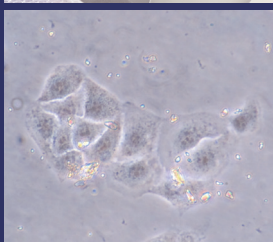
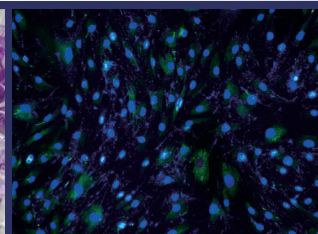
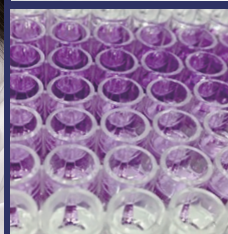
• **2004**
ISO
9001:2000

• **2011**

- Opened second R&D Center
- Registered IRB with US FDA
- **Received Million Dollar Export Award**
- National Skin Characteristics Bank project

• **2013**
Registered
IRB in Korea

Sophistication · Advance · Reliance

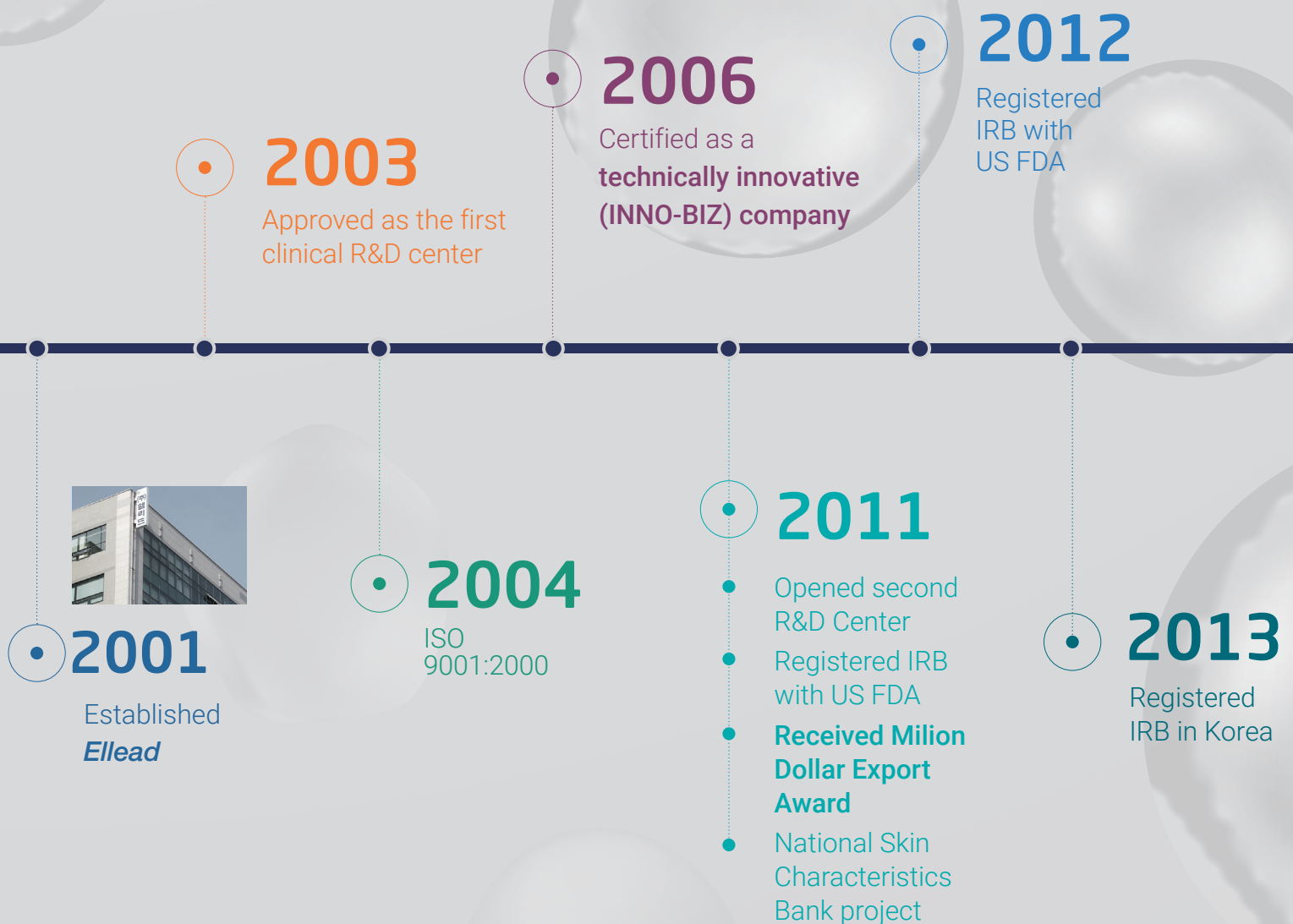


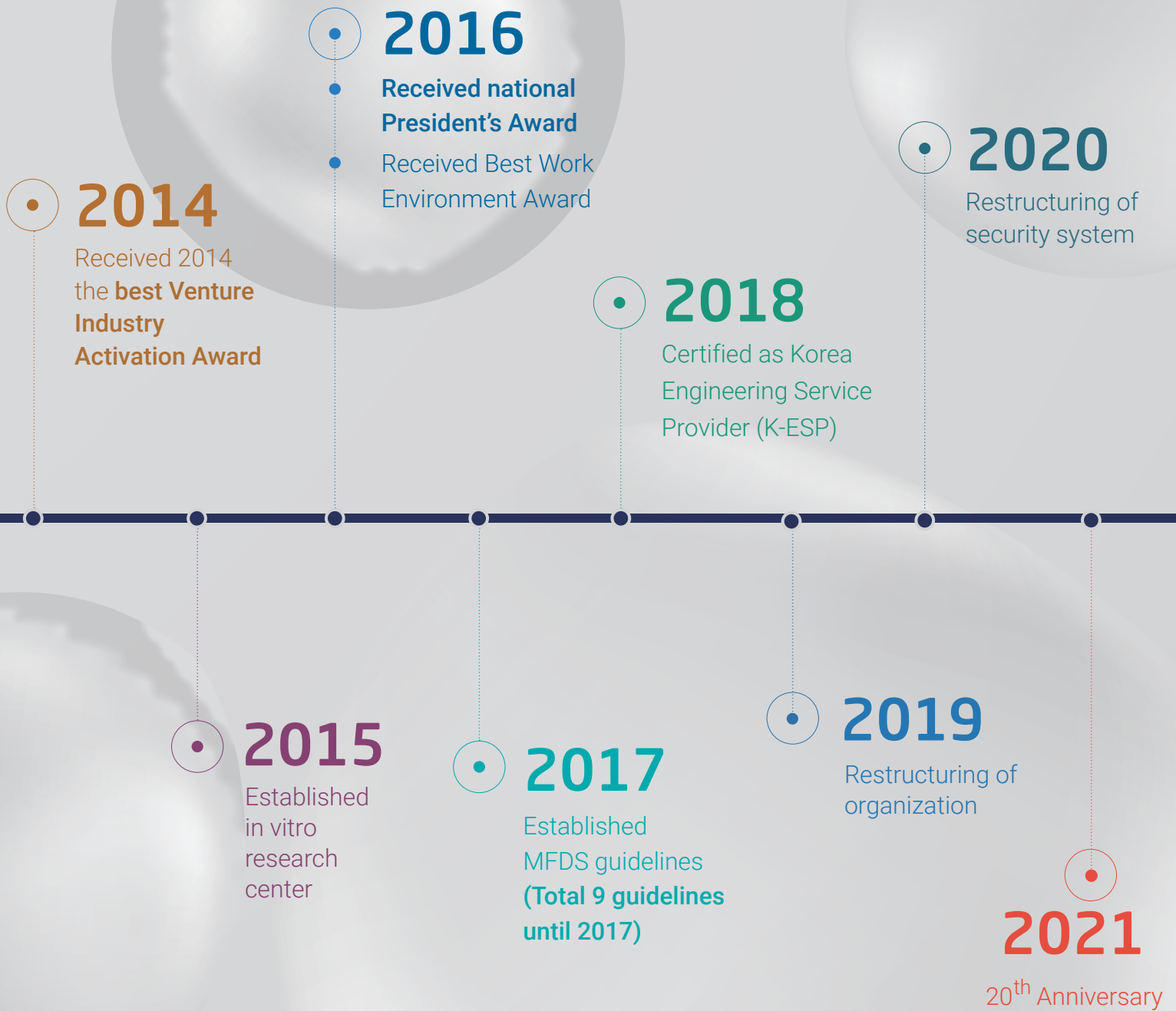
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CORE VALUES

TRUST



Sophistication

Our dermatologists have various clinical experiences and our skilled researchers provide the most suitable testing method to meet the demands of our customers. We perform clinical trials in accordance with Good Clinical Practice (GCP) under the supervision of our dermatologists.

Advance



In order to correspond with the current rapidly changing market, Ellead strives to extend its business spectrum to provide total clinical evaluation service focused on customer satisfaction by building a network with research and development centers and universities. We continue to develop new instruments software and studies to maintain our advanced technologies.

Reliance



Ellead has been acknowledged for producing reliable and accurate results and accredited by the government. Many research results were presented at academic conferences. Now multinational corporations trust our research results and maintain a business partner.

QUALITY MANAGEMENT

- Standard Operating Procedures (SOP) sets to meet various international regulations
- Obtained ISO 9001 certification in 2004
- Studies conducted based on GCP guideline
- Ellead Institutional Review Board (IRB) registered with Korea and US FDA
- Quality Assurance system for high reproducibility and accuracy
- Dermatologist-controlled studies
- Patented scientific photography system
- Multiple instruments to ensure reliability
- Various protocols tailored to each customer's needs



TESTING OVERVIEW

TESTING FOR

- Cosmetic products
- Active ingredients
- Raw materials
- Hair care products
- Toiletries
- Household-products
- Functional foods
- Cosmetic devices



ONE STOP PROCESS

Clinical efficacy study

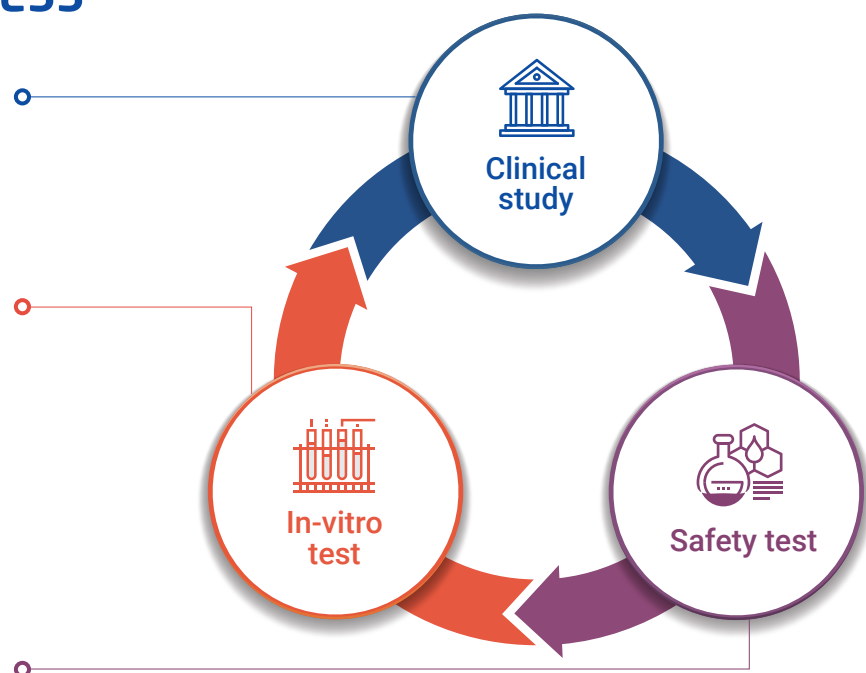
- Functional cosmetics
- Functional food
- Quasi-drugs

In-vitro test for cosmetic ingredients and products

- Cytotoxicity test
- Efficacy evaluation

Clinical test for Safety evaluation

- Primary patch test
- Repeated insult patch test
- Cumulative irritation test



SAFETY TEST

Patch test

A variety of patch test designs are available to test for irritation or sensitization in the product development process.

- Primary irritation test (PIT)
- Repeated insult patch test (RIPT)
- Cumulative irritation test (CIT)



Comedogenicity test

Comedogenic potential is tested by counting the number of comedones.

- Follicular biopsy test on the back
- Home use test with visual assessment



In-use test

In-use test is designed to test your product on the consumer's view and dermatologist examination.

- Self-assessment questionnaires (satisfaction & tolerance)
- Adverse reaction
- Sensitive skin testing available
- Itching skin testing available

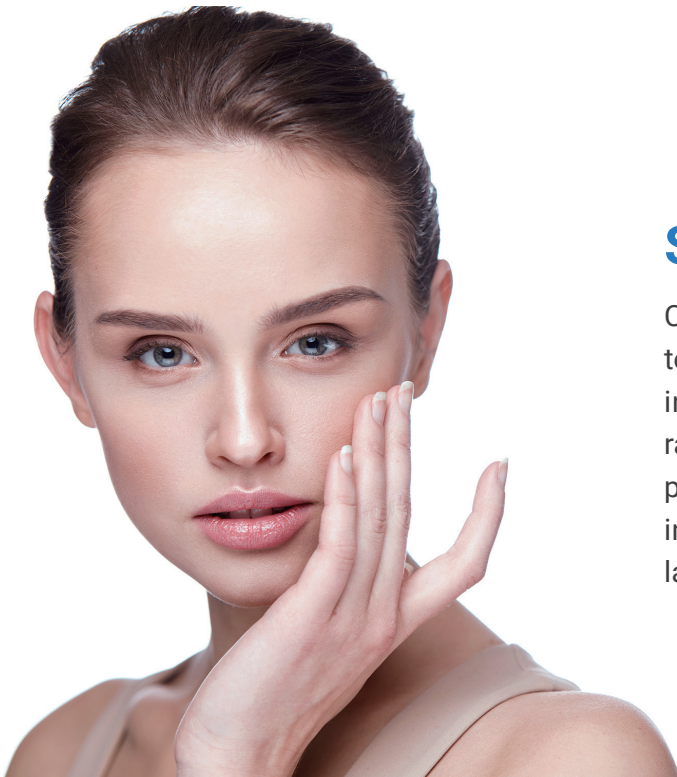


Eye irritation test

Eye irritation test is conducted in collaboration with ophthalmologist and dermatologist to study the level of sting and irritation in the eye that occur from contacting a product.



CLINICAL EFFICACY TEST



Skin care

Clinical efficacy tests are conducted to test and substantiate the product's intended purposes. We offer a wide range of tailored studies to claim your product's efficacy and to maximize its impact in the marketplace using the latest equipment and technology.

Skin care products

- Anti-aging · Anti-wrinkle · Anti-oxidation
- Skin whitening
- Sunscreen (SPF, PA, Waterproof)
- Skin hydration&lasting effect
- Trans-epidermal water loss (TEWL)
- Skin barrier recovery
- Skin elasticity · Dermal density
- Facial lifting
- Eyelid sagging · Cheek sagging
- Skin sebum · Blackhead
- Pore cleansing
- Skin desquamation · turn over
- Skin gloss · Translucency
- Dark circle
- Cellulite · Puffiness · Stretch mark
- Skin temperature · Microcirculation
- Various environment condition test
- Itchiness of dry skin
- Keratin antioxidation

Raman spectroscopy

- Skin penetration of active ingredient
- Water concentration profiles in skin
- Assessment of NMF content of skin

Anti-pollution

- Block for fine-dust
- Fine-dust cleansing effect

EEG test (Electroencephalogram)

- Brain relaxation

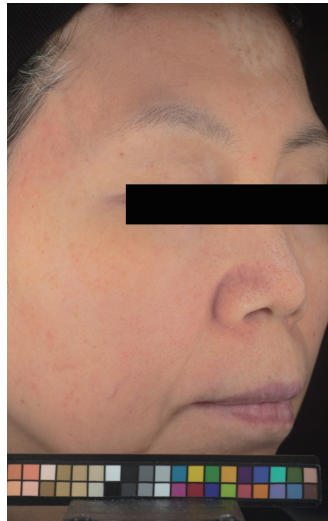
Blue light

- Blue light protection test

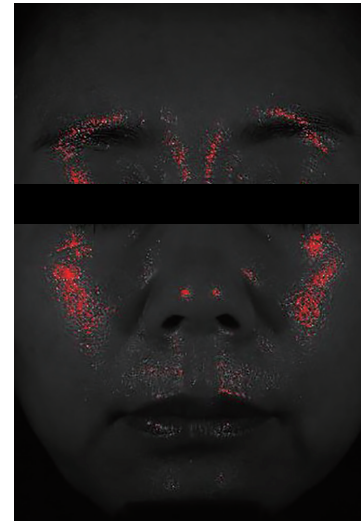
Various test areas



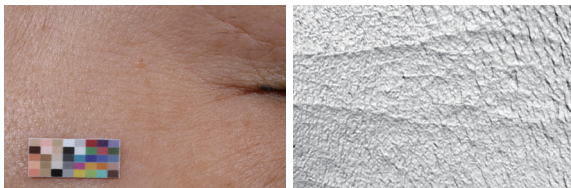
Whitening



Face light reflection



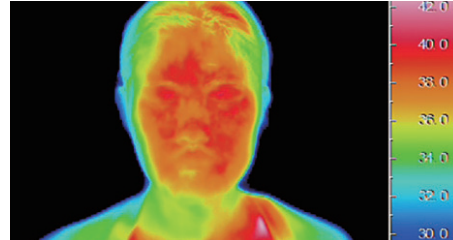
Anti-wrinkle



In-vivo Raman spectroscope



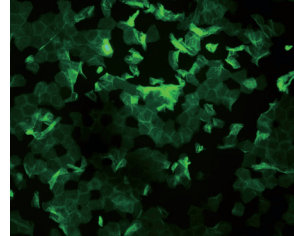
Skin temperature



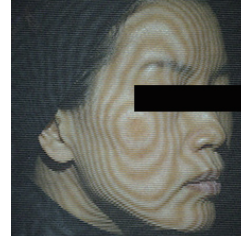
Block for fine-dust



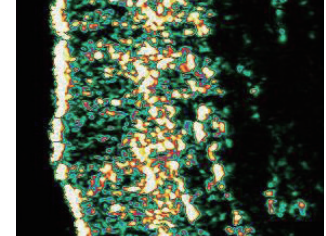
In-vivo anti-oxidation



Facial lifting



Dermal density



PRIMOS High resolution



VISIA-CR



CLINICAL EFFICACY TEST



Make-up

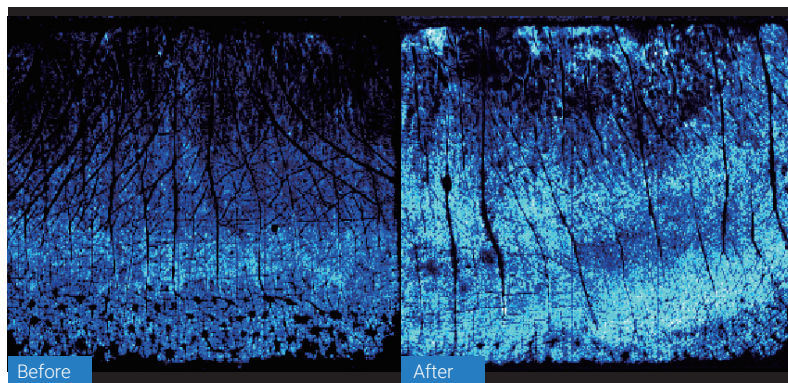
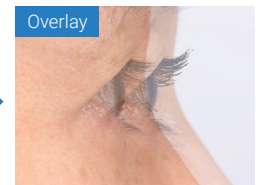
A variety of makeup products from foundations to eye makeup products can be tested to prove their efficacies on improving skin tone and lightening as well as for long lasting coverage, waterproof, curling and volumizing effect.

- Makeup color lasting effect·Homogeneity
- Makeup coverage & lasting effect
- Mascara & eyeliner waterproof effect
- Eyelash curling & volume
- Nail color lasting effect

Color durability and homogeneity



Eyelash curling

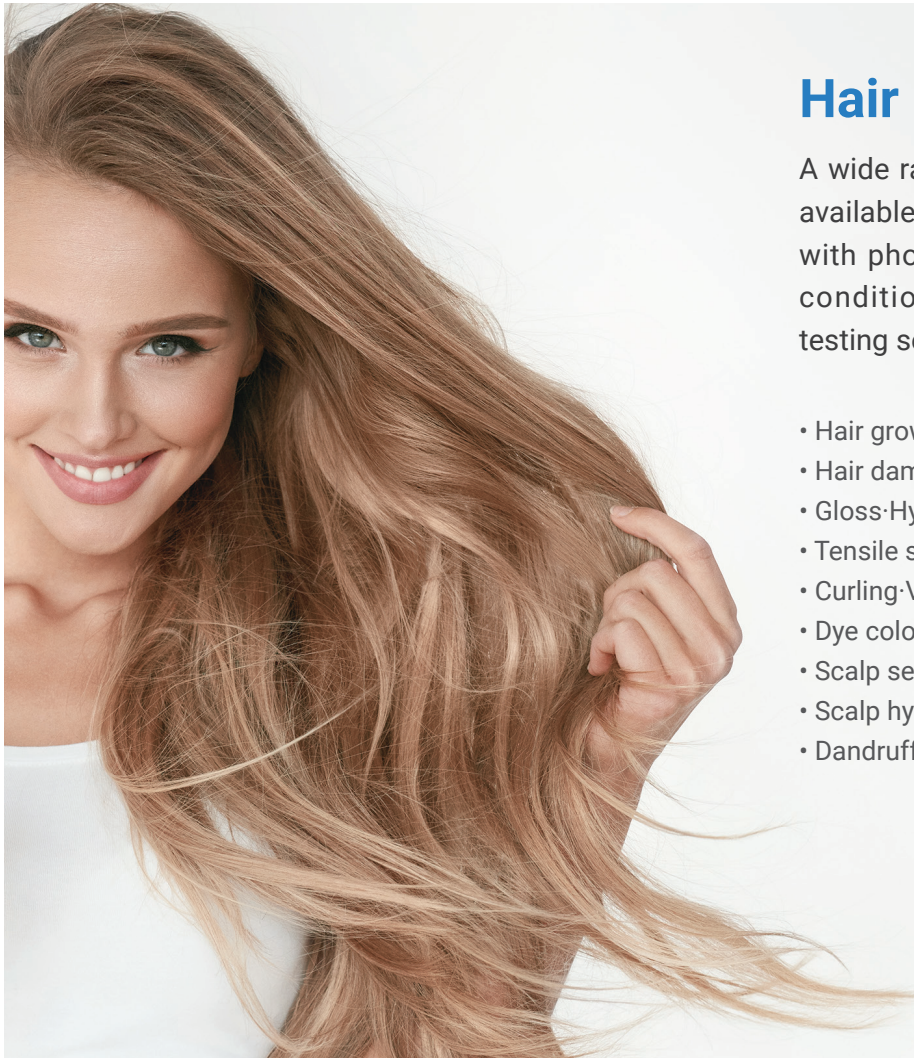


* Hydration of lips

Lip care

Lip care products are applied topically to help moisturize and relieve skin dryness and chapping, and are tested for such claims.

- Hydration
- Desquamation
- Roughness

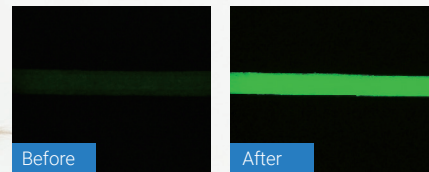


Hair care

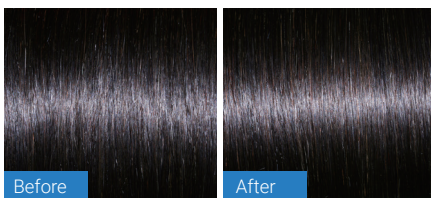
A wide range of hair product testing is available including hair growth studies with phototrichogram as well as hair condition, color, strength and style testing services.

- Hair growth
- Hair damage
- Gloss·Hydration
- Tensile strength·Elasticity
- Curling·Volume
- Dye color durability
- Scalp sebum·Desquamation
- Scalp hydration·Elasticity
- Dandruff

Hair absorption



Hair gloss



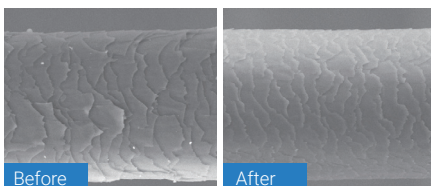
Hair growth



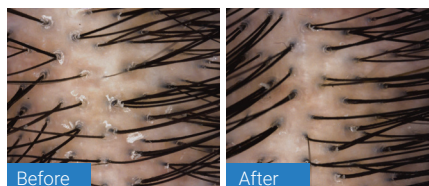
Hair volume



Hair damage care



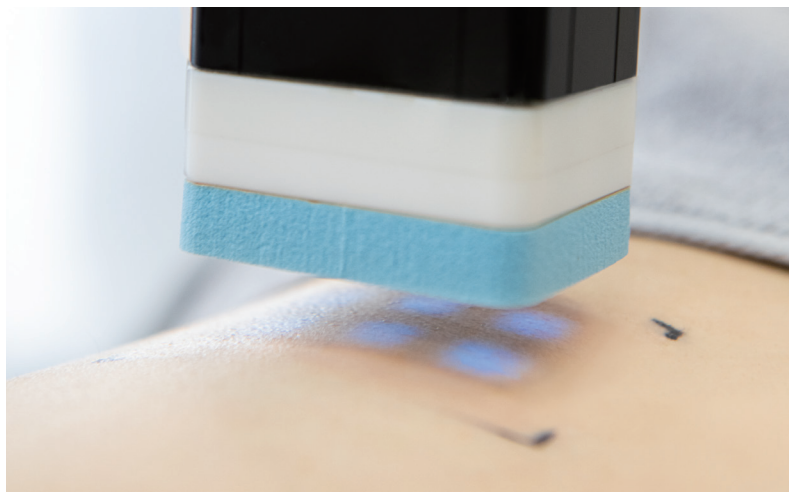
Scalp desquamation



CLINICAL EFFICACY TEST

Sunscreen

Sunscreen test offers according to the desired standard listed below.



SPF	PA	Water resistance	in-vitro
MFDS	MFDS	MFDS water resistance	ISO 24443
JCIA (ISO 24444)	JCIA (ISO 24442)	FDA	FDA
FDA	CFDA	Colipa water resistance	
Cosmetics Europe (ISO 24444)	ASEAN	CFDA	
CFDA			
ASEAN			



Oral care

Oral care products, such as tooth paste or mouthwash, can be tested for tooth whitening effect, oral hygiene and breath odor.

- Tooth whitening
- Oral hygiene (Breath odor)

Intimate hygiene

Intimate hygiene products are tested in collaboration with gynecologist and dermatologist.

- Vaginal health grading
- pH measurement
- Skin hydration
- Self-assessment

FUNCTIONAL FOODS



Efficacy claims are tested after the approval of Ellead Institutional Review Board.

- Blood examination, urine examination
- Diet investigation

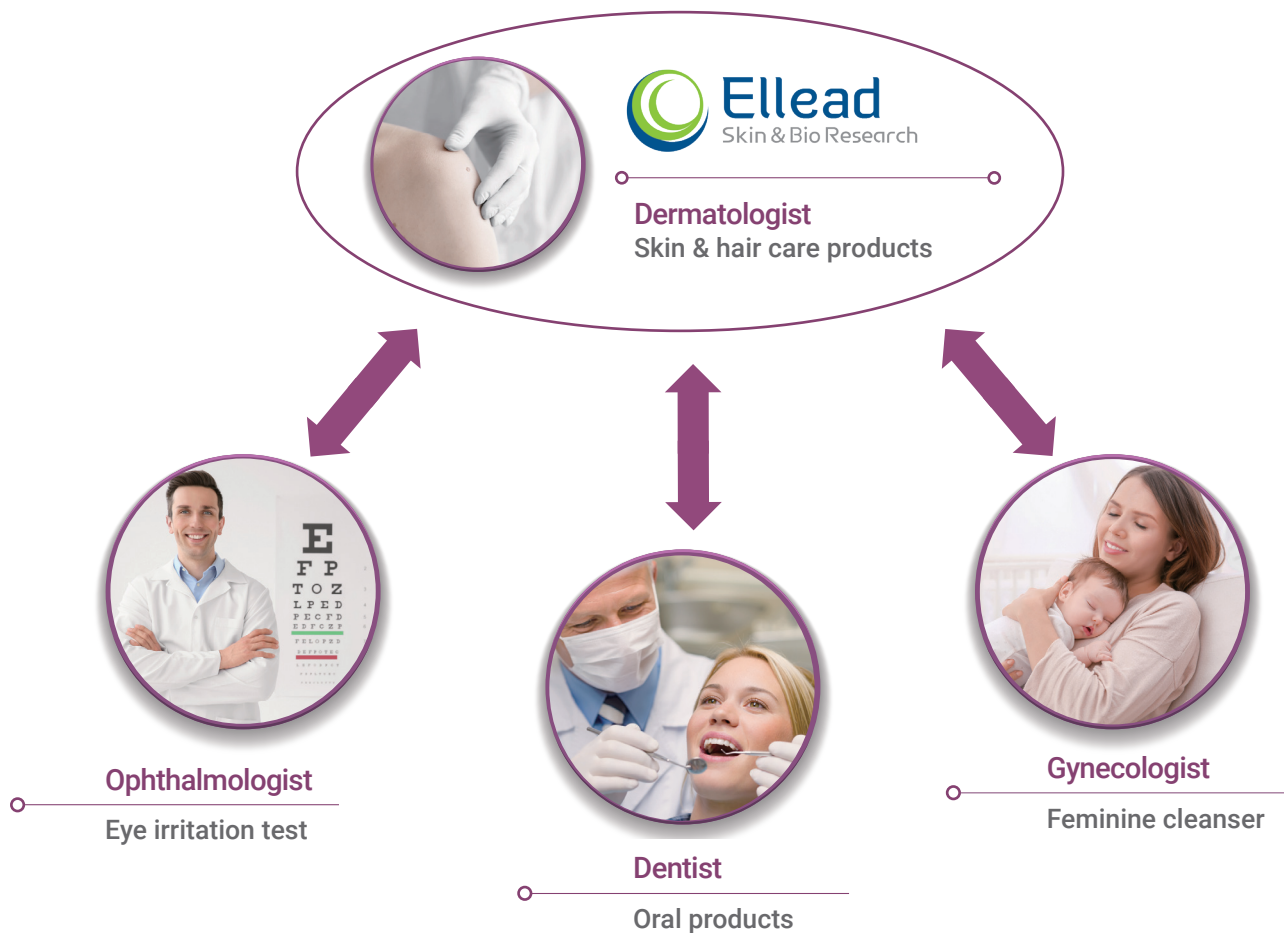
Skin care

- Skin hydration, anti-wrinkle, whitening, skin elasticity

Body

- Cellulite
- Nail
- Hair

COLLABORATION



IN VITRO TEST



In-vitro test

In-vitro testing is essential in raw material active ingredient development. Ellead offers various efficacy and safety tests customized to your needs at our new Ellead Osong research center dedicated solely for in-vitro testing.



Anti-oxidant

- DPPH radical scavenging assay
- ABTS radical scavenging assay
- ORAC assay
- Total polyphenol quantification assay
- SOD activity assay
- ROS scavenging assay



Whitening

- Melanin inhibition assay
- Tyrosinase inhibition assay
- DOPA oxidation inhibition assay



Cytotoxicity & cell viability

- MTT assay
- WST-1 assay
- CCK-8 assay
- Alamar blue assay



Anti-wrinkle

- Collagen synthesis assay
- Collagenase inhibition assay
- Collagen fluorescence staining



Moisture & Skin barrier

- mRNA expression analysis
- Protein expression analysis
- TARC (Thymus and Activation - regulated Chemokine) assay



Hair

- Human dermal papilla cell viability
- mRNA expression analysis (5 α reductase, androgen receptor, beta-catenin, VEGF, Bcl2, Axin2)



Blue light

- Cell viability
- mRNA expression analysis (Skin moisture gene)



Fine dust

- Cell viability
- mRNA expression analysis (inflammatory & skin barrier gene)



Anti-inflammation

- Nitric oxide inhibition assay
- Cytokine inhibition assay
- NF-kB luciferase assay



Cell migration

- Wound healing assay



Elasticity

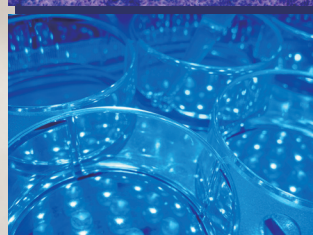
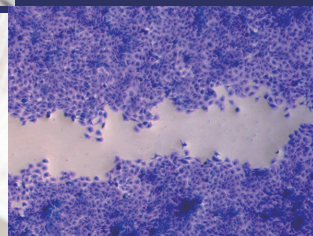
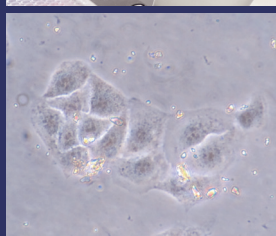
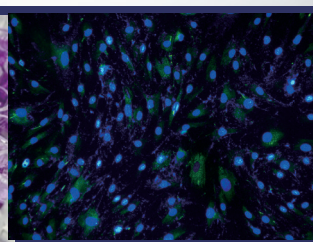
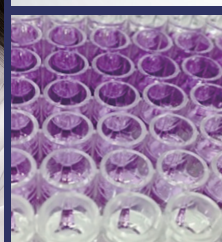
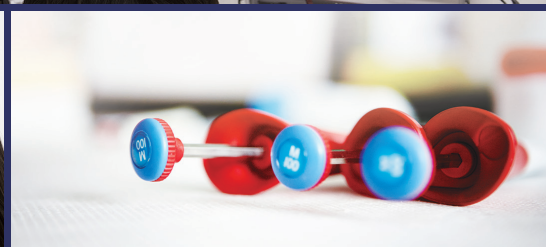
- Elastase inhibition assay
- Elastin synthesis assay



Others

- mRNA expression analysis by RT-PCR, RT-qPCR
- Protein expression analysis by Western blot
- Protein secretion analysis by ELISA

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