LUMIFLORA PEONY

‘I am from nature’
Peony flower extract originated from Mt. Jiri
When petals fall on your skin…

Extract only from flower part gives whitening effect

Peony grown naturally and collected from Mt. Jiri inspires marketer
Story of Peony

Prime minister of the flowers
Symbol of Riches and Femininity

Symbol of Beauty
“三佳品，the three top of beautiful flower”
Symbol of Beauty, Femininity and Riches
Called ‘Prime minister of Flower’ in Asian

Oriental Medicinal Use in human body
Found in several oriental traditional medicinal books
Known to have efficacy for sore relieve, blood circulation and woman’s disease

Originated from Mt. Jiri
Selected from Mt. Jiri, where has high humidity
"When the Three Kingdoms era of China, Hwata’s house was surrounded by the herbs. He considered Peony as insignificant herb since it doesn’t taste unusual and bitter. One day, the wife of Hwata got injured on her leg. Hwata took several herbs on her wound but bleeding was not stopped. The wife suggested to try Peony and Hwata treated the Peony on the wound. Bleeding stopped soon. Hwata started to recognize its medicinal effect and let his wife drink its extract. The wound was cured in a few days."
Record of Medicinal Use

Dongeuibogam* and Bonchoseupyu*

* Dongeuibogam(東醫寶鑑) : Korean traditional medicinal book written in Sun Dynasty, 1596~1610 (National Treasure)
* Bonchoseupyu(本草拾遺) : Chinese traditional medicinal book written in Tang Dynasty(唐), 618~907
Mt. Jiri
The First National Park in Korea

Story of Mt. Jiri

Hosta longipes
Sanguisorba officinalis
Iris sanguinea
Cimicifuga biternata
Angelica gigas
Epimedium koreanum
Melampyrum roseum
Lilium tsingtauense

Rhododendron brachycarpum
Pinellia ternata
Atractylodes Koidzumi

Bupleurum falcatum
Paeonia lactiflora
Chelidonium majus var. asiaticum

Schisandra chinensis
Codonopsis lanceolata
Xanthosoma roseum
Ostericum koreanum Maximowicz
Zanthoxylum schinifolium
Geranium thunbergii

Lilium tsingtauense
Although Mt. Jiri is located on the route of Typhoon, various animals and plants live in perfect balance.
- Mt. Jiri embodies **life-giving** and **nurturing** aspects in the form of the mother.
- Mt. Jiri helps animals and plants to endure extremely harsh condition and be stronger to survive.
The Mountain of the Herb of Eternal Youth

The important place where Qin Shi Huang’s expedition has visited in the Korean Peninsula

- Mt. Baekdu
- Mt. Geumgang
- Mt. Jiri
- Mt. Halla

Story of Mt. Jiri
Paeonia lactiflora

Name: *Paeonia lactiflora*
Utilized part: Root and Flower
Country of origin: Korea, Mongolia and East Siberia
Flowering Season: May to June
Traditional Use: Treatment for inflammatory, psoriasis and atopy
Index material: Paeoniflorin

LABIO’s Peony Extract

INCI: *Paeonia lactiflora* flower extract
Utilized part: Flower
Country of origin: Mt. Jiri, Korea
Use: Whitening, Anti-aging and Anti-oxidative effect
Whitening Mechanism

Lumiflora Peony

Tyrosine → L-DOPA → L-dopaquinone → Dopachrome → 5,6-Dihydroxyindole-2-carboxylic acid → Indole-5,6-quinone carboxylic acid

Tyrosinase

TRP gene

Oxidation

Melanocytes → Melanin → Keratinocytes
Melanin Contents

Whitening Effect

Melanocyte B16F10 (P. 7)

$250 \mu g/ml$ of Paeonia flower extract inhibits Melanin by 53%

$\alpha$-MSH induces melanogenesis

Arbutin is used for comparison of whitening

In vitro assay
Significant synergic effect between *Paeonia lactiflora* flower extract and Arbutin has been found on reduction of Melanin contents.

**Melanin Contents**

**Synergic Effect for Whitening**

Melanocyte B16F10 (P. 7)
Tyrosinase Gene Expression

Whitening Effect

Melanocyte B16F10 (P. 8)
Detection method : Real-time PCR

250 μg/ml of Paeonia flower extract inhibits Tyrosinase gene expression by 92%
250 μg/ml of Paeonia flower extract decreases MMP-1 gene expression by 52%
COL1A1 Gene Expression

Anti-aging

Human Dermal Fibroblast neonatal (HDFn, LONZA)

Detection method: Real-time PCR

250 µg/ml of Paeonia flower extract increases COL1A1 gene expression by 30%
In 0.1% and 1% of Paeonia flower extract results in 90% radical scavenging activity.

Scavenging activity

Anti-oxidative

DPPH assay

In vitro assay

Control  0.1% AA2G  0.1% Paeonia flower extract  1.0% Paeonia flower extract
In vitro assay

Cell viability
Irritation test
Neoderm ED(Tego science, 12 well)

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**ACCEPTANCE CRITERIA**

<table>
<thead>
<tr>
<th></th>
<th>O.D. raw data (570nm)</th>
<th>MTT viability (%)</th>
<th>S.D. of the % viability</th>
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</thead>
<tbody>
<tr>
<td>Negative control (PBS(+))</td>
<td>≥ 1.200</td>
<td>-</td>
<td>≤18.0</td>
</tr>
<tr>
<td>Positive control (PC) (5% SDS)</td>
<td>-</td>
<td>&lt;40%</td>
<td>≤18.0</td>
</tr>
<tr>
<td>Samples</td>
<td>-</td>
<td>-</td>
<td>≤18.0</td>
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</table>

Lumiflora Peony is non-irritant natural extract
**In vivo assay**

**Skin tone**

**Brightening**

Facial Analysis System (JANUS)

Test information
(3% Lumiflora Peony essence)

Registered Volunteers : 7
Ended Volunteers : 7
Duration : 8 weeks
Treatment : Right Face, twice/day

4~6% Skin tone has been improved with 3% of Lumiflora Peony essence
### Summary

<table>
<thead>
<tr>
<th>INCI</th>
<th>Butylene Glycol, Paeonia Lactiflora Extract</th>
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<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Containing paeonia flower extract and this delivers whitening and Anti-oxidative effect. Using only flower part for extraction and well known for strong effect of lightening and brightening. Especially the paeonia flower collected from Mt. Jiri where the Korean first and largest national park is located and famous for the clean nature.</td>
</tr>
<tr>
<td><strong>Physical characteristics</strong></td>
<td>Transparent to Yellow color Liquid</td>
</tr>
<tr>
<td><strong>Benefits &amp; Uses</strong></td>
<td>Whitening, Anti-aging, Anti-oxidative effect</td>
</tr>
<tr>
<td><strong>Application</strong></td>
<td>Skin, Body, Sun and Hair care</td>
</tr>
<tr>
<td><strong>Recommended dosages</strong></td>
<td>2.0 ~ 5.0 %</td>
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</tbody>
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