



Natural estrogen

# Gracest SOY

Anti-aging & Whitening

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Part 01

PRODUCT  
INFORMATION

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# Post-30-year-old women's estrogen is under recession



- **Thinning of epidermis**
- **Atrophy of subcutaneous fat**
- **Less elasticity of skin**
- **Wrinkles on the skin**
- Accumulation of fat
- Reduction of muscle mass
- Tarnishing, whitening and shedding of hairs
- Decreased secretory and excretive functions of sebaceous glands and sweat glands

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# Estrogens Effects on skin

## ✓ Accelerate cell proliferation

Tests prove that estrogens can stimulate cell proliferation and increase corneum thickness.

## ✓ Accelerate collagen synthesis

Tests prove that estrogens can improve Collagen I' s contents and inhibit broken of current collagen.

## ✓ Resist UV-induced damage

Tests prove that more estrogens in mice body can has lower irritation to UV explosion.



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# Soy Isoflavones

## Natural Source

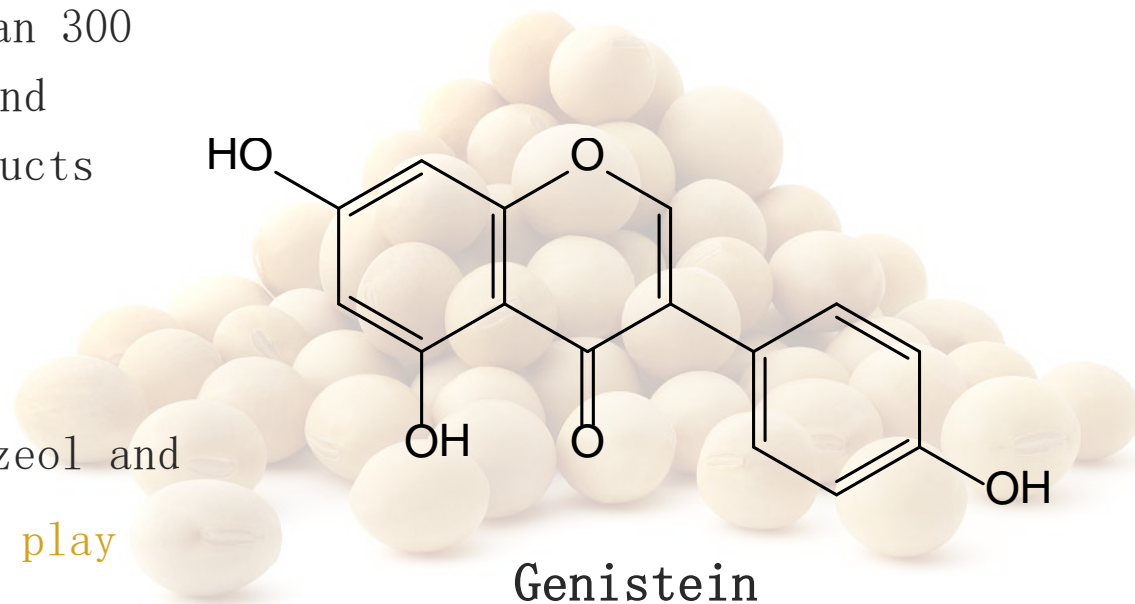
Soy Isoflavones are widely distributed in more than 300 kinds of plants, such as beans, cereals, fruits and vegetables. The contents of soybeans and its products are relatively high in the daily diet.

## Main Ingredients

Soy Isoflavones include genistein, daidzein, daidzeol and so on. Among others, **genistein** and **daidzein** play the main physiological and pharmacological roles.

## Application Highlights

With a similar structure with estrogen, SOY is also called “phytoestrogens”. It can not only avoid the side effects of estrogen, but also have estrogen-like effects. In addition, it can effectively inhibit the skin problems of female older than 30 due to the lack of estrogen secretion.





Part 02

EFFICACY  
DATA

# EFFICACY DATA

## Anti-aging

- Slows down climacteric skin aging
- Resists photo-aging
- Inhibits glycosylation

## Whitening

- Inhibits tyrosinase activity
- Anti-oxidation

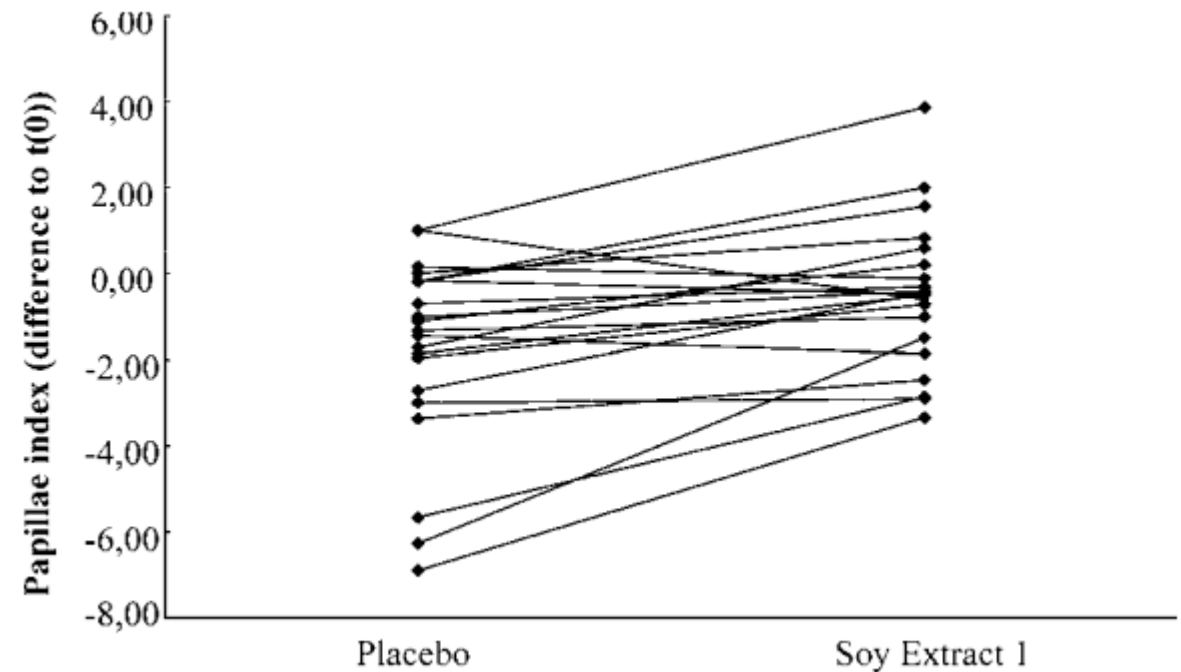
# Anti-aging

Climacteric Skin Aging

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## Test Method: *in vivo*

- n=21, female volunteers aged 55
- Apply on lower arms cream 2% Gracest SOY
- Test papillae index in 0, 2 weeks with laser confocal scanning microscope .  
( Note: Higher papillae index means tighter junction between dermis and epidermis)



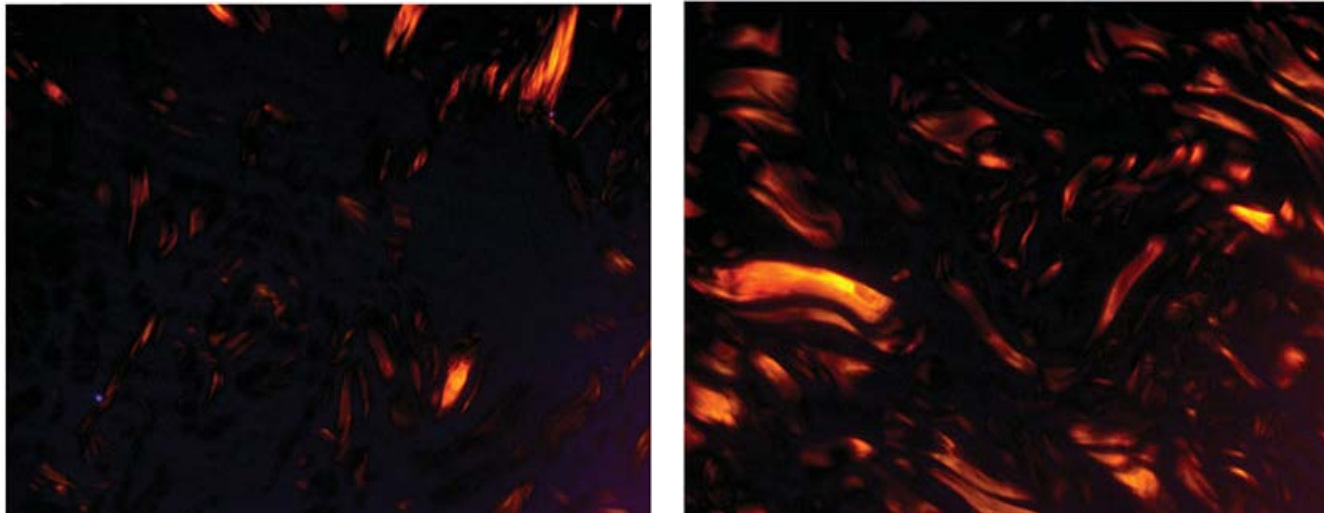
Conclusion: Gracest SOY can improve papillae index effectively and reduce wrinkle formation.

# Anti-aging

Climacteric Skin Aging

## Test Method: *in vivo*

n=15, postmenopausal women aged 45 – 55, apply cream with 4% genistein (main active component in Gracest SOY); Test collagen content in skin with Imagelab software at 0, 24 weeks; take the skin tissue in front of ears, stain the Collagen I /III and test its content.



	Collagen I µm <sup>2</sup>	Collagen III µm <sup>2</sup>
0	47.50 ±2.22	45.50 ±1.26
24w	75.17 ±1.02*	63.83 ±1.08*

Note: vs before use, \*p < 0.001

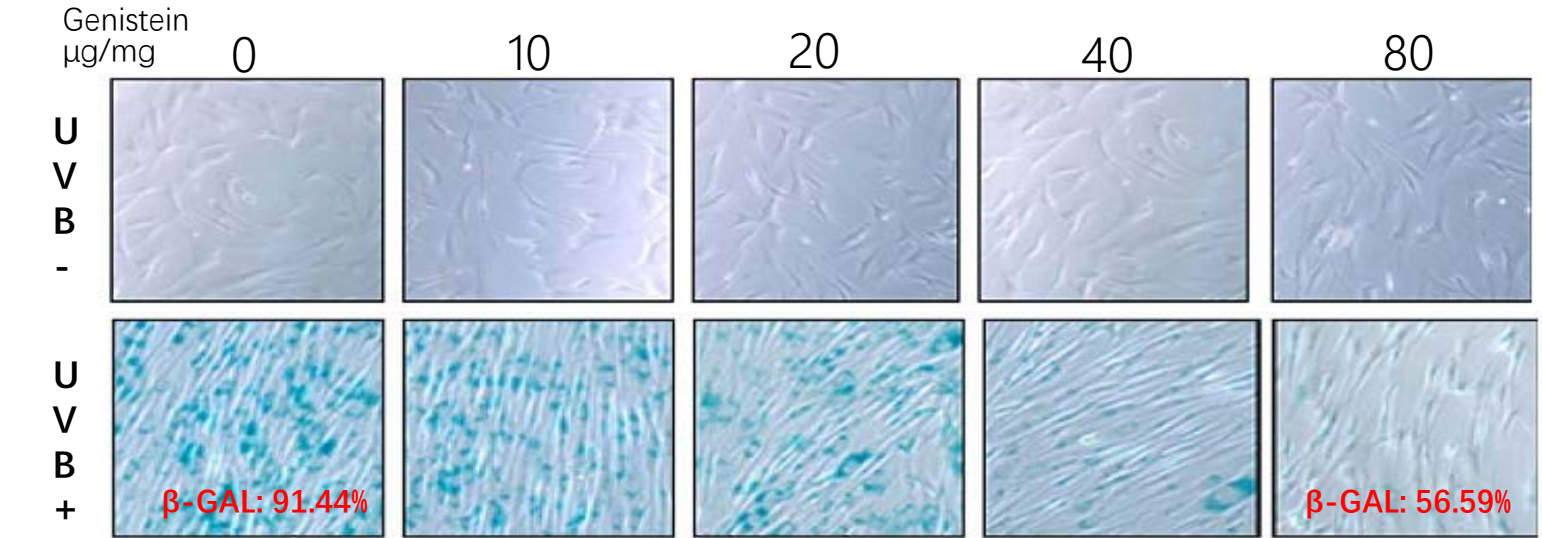
**Conclusion:** Genistein can increase Collagen I /III content in skin and reduce wrinkle formation.

# Anti-aging

Inhibit UV-induced Aging

## Test Method: *in vitro*

- Co-culture HDF Fibroblast with Genistein for 24 h, leave the culture medium, add PBS and treat with 250 mJ/cm<sup>2</sup> UVB; after 24h, stain cell with β-GAL (β-galactosidase, an enzyme, its expression will increase in aged cells)
- Take the supernate and test SOD and MDA content



	UVB-	UVB+ Genistein µg/ml				
		0	10	20	40	80
β-GAL,%	ND	91.44	85.44*	73.08*	59.88*	56.59*
SOD,ng/ml	60.81	7.86	10.47	22.31*	30.67*	38.39*
MDA,ng/ml	5.03	41.5	38.18	36.06	33.44	13.26*

SOD : superoxide dismutase, can scavenge hazardous substances produced in metabolism.

MDA: malonaldehyde, products in lipid peroxidation.

Note: vs. UVB group, \*p < 0.05

**Conclusion:** Genistein can reduce cell aging induced by UVB, speed up metabolism and slow down lipid peroxidation on skin surface.

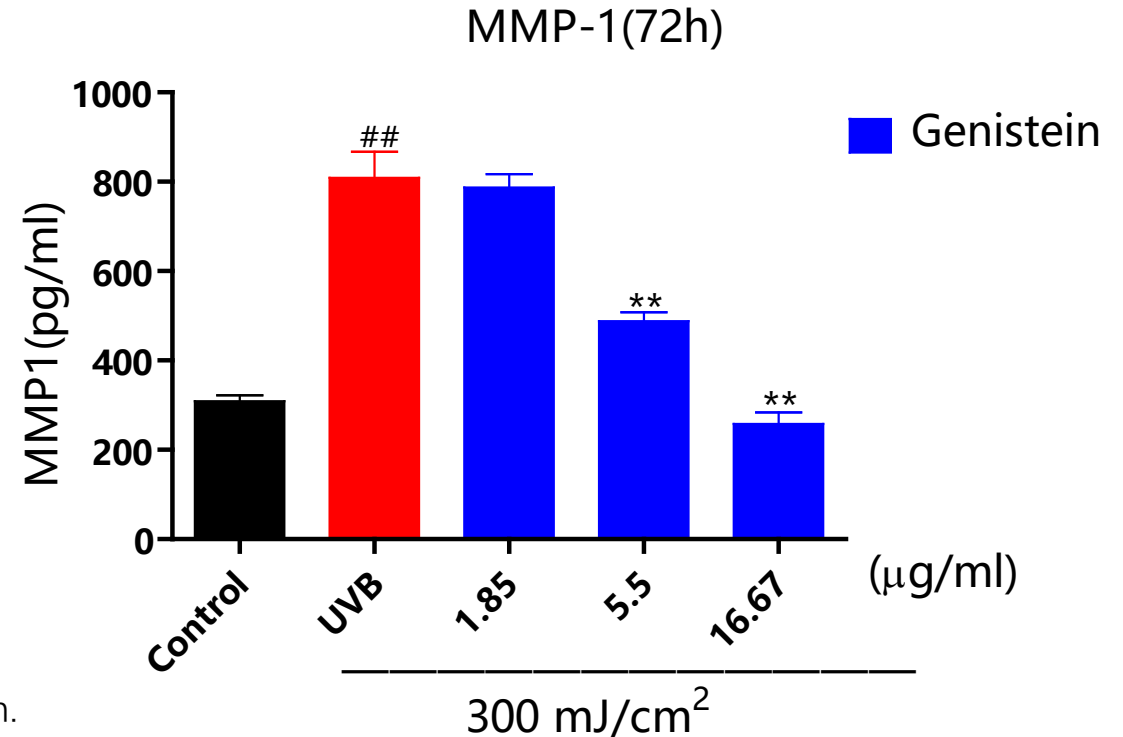
# Anti-aging

Inhibits UV-induced Aging

## Test Method: *in vitro*

Treat HDF fibroblast with 300 mJ/cm<sup>2</sup> UVB to cause skin photo-aging; add genistein into cell, after 72 h, collect the supernate and test MMP1 with ELISA (MMP1, to decompose the protein)

**MMP1:** matrix metalloproteinases; can decompose collagen in skin.



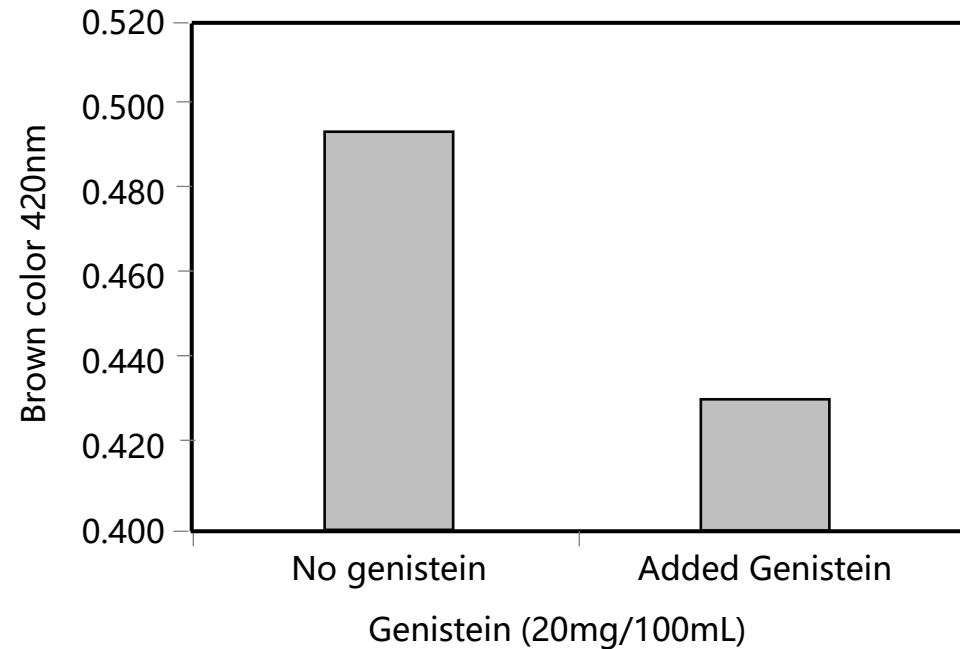
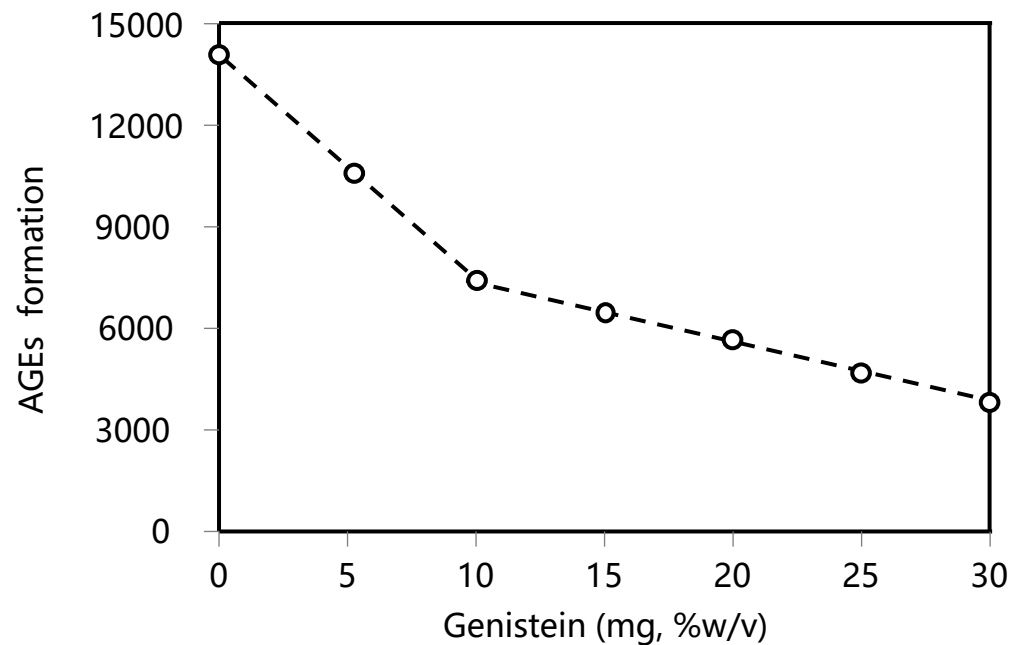
**Conclusion:** Genistein can resist fibroblast cell damage from UVB and have effects of anti photo-aging.

# Anti-aging

Inhibits formation of AGEs

Test Method: *in vitro*, heat skim milk-lactose solution with genistein, test AGEs formation with immunofluorescence labeling method and observe color change(brown) of solution.

Note: **AGEs(Advanced Glycation End Products)** are the final products of glycosylation—reactions like condensation, rearrangement, pyrolysis or oxidation between aldehyde group of reducing sugar and free amidogen of protein, amino acid, lipids or nucleic acids under conditions of no enzyme.



**Conclusion:** Genistein can inhibit formation of AGEs and resist skin aging induced by glycosylation.

# Whitening

## Tyrosinase Activity Inhibition Test

### Test Method: *in vitro*

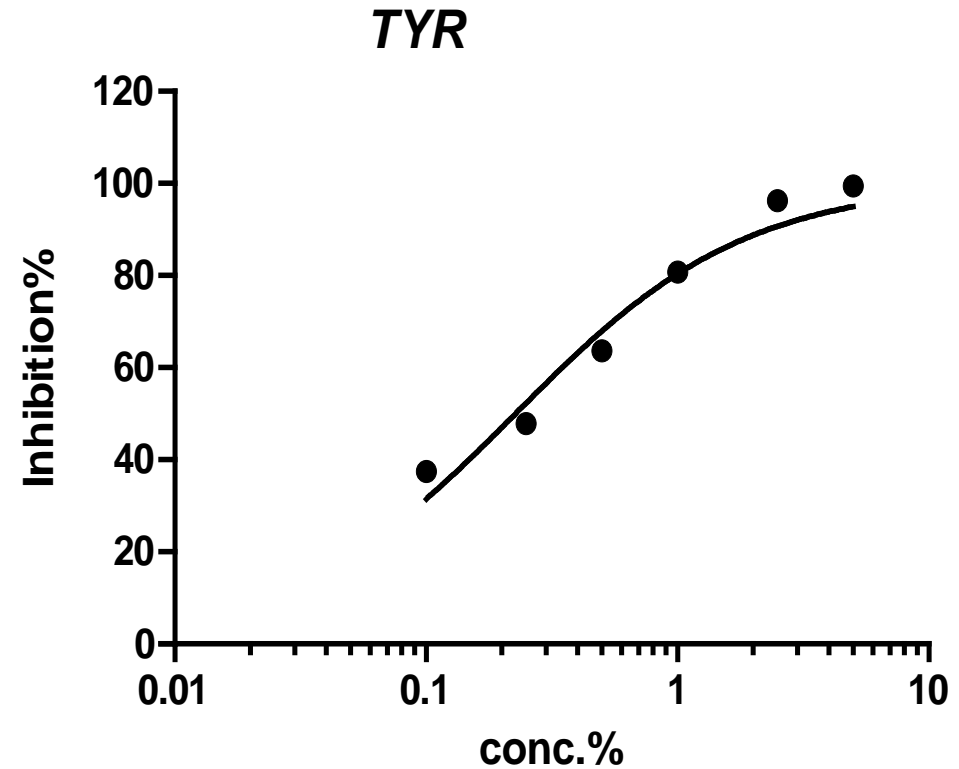
**Theory:** Tyrosinase(TYR) is speed-control enzyme in melanin synthesis process; inhibiting tyrosinase is one of the main target during inhibiting melanin synthesis

**Substrate:** L-tyrosine

**Enzyme:** Mushroom Tyrosinase

**Reaction:** L-tyrosine + Mushroom Tyrosinase+ Gracest SOY, 37°C, 30 min

**Test:** OD<sub>492</sub>



**Conclusion:** Gracest SOY can **inhibit** tyrosinase activity and has excellent whitening effects.

# Whitening

Anti-oxidation

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## Reactive oxygen species, ROS

- Mainly including hydroxyl radical, superoxide radical and  $H_2O_2$ .
- Active oxygen will activate melanin synthesis process in body and accelerate melanin synthesis.

ROS	Genistein IC50, $\mu\text{g/ml}$	Daidzein IC50, $\mu\text{g/ml}$
$O^{2-}$	$16.14 \pm 1.25$	$196.63 \pm 15.36$
-OH	$2.9 \pm 0.24$	$1100 \pm 110$
$H_2O_2$	> 2500	> 2500

**Conclusion:** Gracest SOY can scavenge free radicals effectively and reduce melanin synthesis in skin induced by active oxygen.

# Wrinkle-Refining Skin Gel

Phase	Product Name	INCI Name	% W/W	Supplier
A	Water	Water	Reach to 100.00	
	Ultrez 21	Acrylates/c10-30 Alkyl Acrylate Crosspolymer	0.45	LUBRIZOL
	Pemulen TR-2 Polymeric Emulsifier	Acrylates/c10-30 Alkyl Acrylate Crosspolymer	0.20	LUBRIZOL
	GLYCERIN	Glycerin	5.00	BASF
	BUTYLENE GLYCOL	Butylene Glycol	5.00	OXEA
	Microcare PTG	Propanediol	Appropriate amount	THOR
	DISODIUM EDTA	Disodium EDTA	0.05	AKZO NOBEL
	Nipagin M	Methylparaben	0.10	CLARIANT
	<b>Gracest SOY</b>	PEG-4, Soy Isoflavones	3.00	GREAF
B	TRIETHANOLAMINE	Triethanolamine	0.65	DOW
C	Comthing SGS	Water, Butylene Glycol, <i>Sophora flavescens</i> Root Extract, <i>Glycyrrhiza inflata</i> Root Extract, <i>Scutellaria baicalensis</i> Root Extract	0.50	GREAF
D	Fragrance	Fragrance	Appropriate amount	DROM

## Operation:

1. Heat Phase A up between 80 and 85°C, stir it evenly;
2. Add Phase B into it and stir it evenly;
3. Cool it down to about 45°C, add Phase C, Phase D respectively, and stir it evenly;
4. Stir until it distributes evenly and cool down to 40°C

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# Specification

Appearance	Light yellow to brownish yellow, transparent liquid
Odor	Slight characteristic odor
Density	1.13-1.18g/cm <sup>3</sup>
Refractive index	1.450-1.500
Genistein (HPLC)	≥10.0%
Recommended use level	2.0 - 5.0%
Shelf life	2 years
Solubility	Polyol Soluble





Part 03

# MARKETING CLAIMS

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KUORA  
Day & Night SOYA Emulsion

## 5% Soy Isoflavones

5% Soy Isoflavones can improve collagen and elastic protein synthesis, bring supports to skin structure, and increase the thickness of dermis.



MartiDerm DSP Serum Illuminator



Physicians Formula  
Dark Spot Corrector & Skin Brightener

Gracest SOY

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## HANHOO EXTRAME REPAIR ESSENTIAL CREAM

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**+USE Gracest SOY** for anti-aging

**+ALSO USE Gmoist BT99** for immediate moisturizing

**+ALSO USE Gioactive SPG** for skin repairing

**HANHOO**  
**韩后**

【HANHOO】 Founded in 2008, apprx. \$198 million sales in 2017

Gracest SOY

**GREAT**



## TONGRENTANG PURE FIRMING EYE SERUM



【TONGRENTANG】 Chinese Medicine Brand, IPO in 1997, \$128.7 million profit in 2017

# Gracest SOY

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## FOREST CABIN CAMELLIA REPAIR FIRMING SERUM

PRICE: 150 USD /30ml

### + Anti-aging

- Rejutime ADE: strengthen cell viability of fibroblast; reducing Periorbital Wrinkle
- **Gracest SOY: resist photo-aging & glycosylation; whitening & anti-oxidation**
- Gioactive F-1000: immediate moisturizing(>HA, 2h); inhibit MMP1 expression and accelerate Collagen I synthesis

### + Repairing

- Renovate ASC: repair dermis, wound, sunburn skin

### + Whitening

- Gwhite PT40 PG: classic natural extract for inhibiting tyrosinase activity and melanin synthesis in melanocytes

+ ALSO USE BT99, SPG, HEU for MULTI-MOISTURIZING



**林清轩**  
forest cabin

【FOREST CABIN】 Founded in 2003, \$76 million sales in 2017, the NO.1 Essence Oil on *Tmall.com* (2017-2018)

# Marketing Claims

## Natural

Biological isoflavone extracted from *Glycine max*

## Anti-aging

Has similar effects to Estrogen's, slows down skin aging and reduces fine lines

## Whitening

Inhibits Tyrosinase activity



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**Thank you**  
for your attention!

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