

A unique raw material that works for skincare for both the inside and outside of the skin*1 contains soluble beauty ingredients and fruit fibers

Freeze-dried powder of the domestically produced fruit

(Shonai Kaki)

The blessings of the Japanese traditional fruit “Shonai Kaki” help solve the skin problems of modern people.



Natural ingredient and manufacturing method

Sustainable

Freeze-drying method

Beauty ingredients

Polyphenol

Vitamin

Amino acids (NMF)

Function

Second skin fiber

Soft scrubs

Deodorant effect

Antioxidant

Turnover

Collagen production

Moisturizing

Brightens up skin tones

Prevention of the loss of firmness and sagging

*1: Skin care from the surface of skin to the stratum corneum

Shonai Kaki Powder Koken

Japanese people have long appreciated persimmon or Kaki, calling the fruit “the food of the gods”. Because of its richness in nutrition, there is an old saying that “A persimmon a day keeps the doctor away”. We focus on Shonai Kaki, the native variety peculiar to the region certified for the UNESCO Creative City of Gastronomy. Shonai Kaki Powder Koken was developed by freeze-drying the beautiful orange flesh, which contains multiple beauty ingredients, to preserve the benefits. It is produced using a waterless method*2, meaning it is formulated without water. This powder contains soluble beauty ingredients as well as insoluble fruit fibers. They collectively create a unique texture that resembles the flesh of real fruit.

*2: An extraction method without using water.

Commitment to materials and manufacturing method

● Domestic materials

We use Shonai Kaki, a living cultural asset*3 that has been grown in the Shonai region of Yamagata for more than 100 years. The city of Tsuruoka designated an original tree for a municipal natural monument. We collaborated with local companies in Yamagata to ensure clear and accurate traceability, with the faces of local farmers visible. Requests for interviews are welcomed.

*3:<https://www.tsuruokagastronomy.com/gastronomy>
Tsuruoka's Gastronomy
The 1st UNESCO Creative City of Gastronomy in Japan "Heirloom Crops, Living Cultural Asset"

● Effective use of resources (sustainability)

We upcycled the whole fruit without wasting any. We ensure the eco-friendliness of the raw material because we effectively use scarred or deformed persimmon fruit that are usually discarded.

● Beauty ingredients derived from fruit

Originally, Shonai Kaki is an astringent persimmon. The astringency comes from tannin, which has a deodorant effect. It contains other ingredients such as citrulline and gaba associated with the amount of collagen in the skin as well.

Tannin Deodorizing ingredient	Polyphenol Antioxidant ingredient	Catechin Antioxidant/deodorizing ingredient	Vitamin C Antioxidant ingredient
Amino acids Natural moisturizing factor(NMF)	GABA Promotion of turnover and collagen production	Citrulline Suppression of collagen degradation and promotion of collagen production Anti-inflammatory	Natural sugar Moisture retention ingredient

Conceptual drawing showing how the powder work

No-rinse product (Second skin fiber*4)

Stimulation from the outside UV

Dietary fibers create a physical barrier layer

Stratum corneum

Penetrating ingredients of low molecular weight, such as amino acids

The physical barrier layer consisting of insoluble ingredients prevents the skin surface from receiving external stimulation and provides an anti-inflammatory effect. Penetrating ingredients of low molecular weight care for the skin from the inside.

Rinse-off product (Soft scrubs)

Kaki fibers

Moisturizing ingredient

Makeup stains

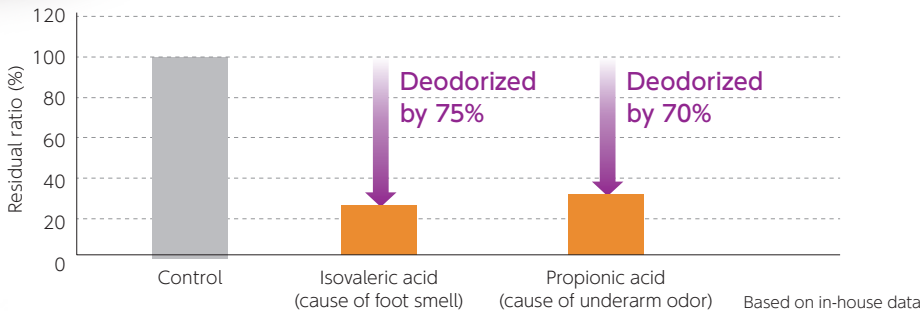
Dead cells

Kaki fibers gently remove the dead cells and dirt. Moisturizing ingredients, such as amino acids and natural sugar, moistly cleanse the face while also improving turnover.

*4: A generic name given to the fibers that form a skin-like membrane or layer.

Deodorant effect

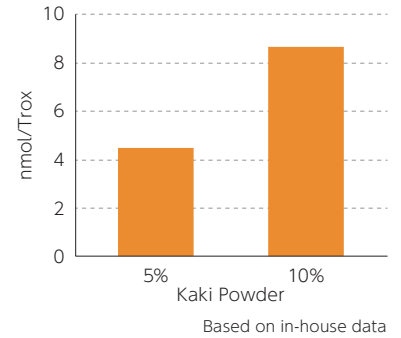
4 μ L of a malodorous substance and glass wool were put in a test tube. Then, 1 g of Kaki Powder was added. After heating for a certain period of time, the mass of the malodorous substance was quantified, and the residual ratio of the substance was calculated.



The test confirmed the deodorizing action of malodorous substances. It is considered to stem from tannin included in Shonai Kaki Powder. The product is expected to control an unwanted body odor.

Antioxidant

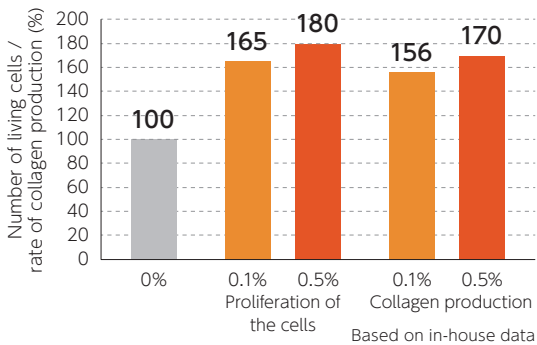
The TRAP assay was used to determine antioxidant activity.



The assay confirmed the concentration-dependent antioxidant effect.

Turnover and collagen production

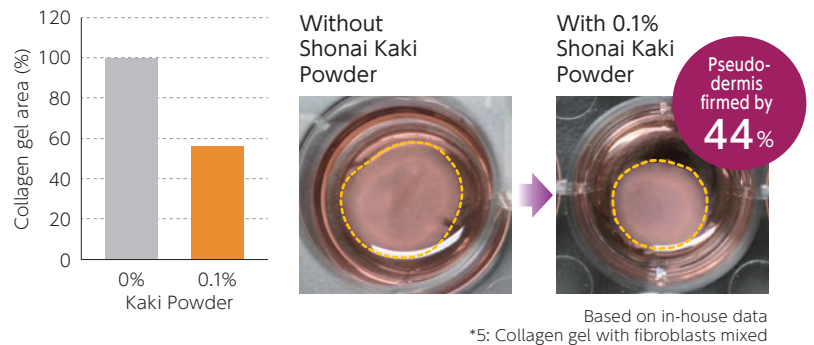
A sample was added to fibroblasts. The number of cells was measured after three days of cultivation. The rate of collagen production was measured after seven days of cultivation.



Shonai Kaki Powder was found to encourage the proliferation of fibroblasts and production of collagen. Shonai Kaki Powder is expected to improve resilience, promote turnover and collagen production that decreases with age.

Prevention of the loss of firmness and sagging

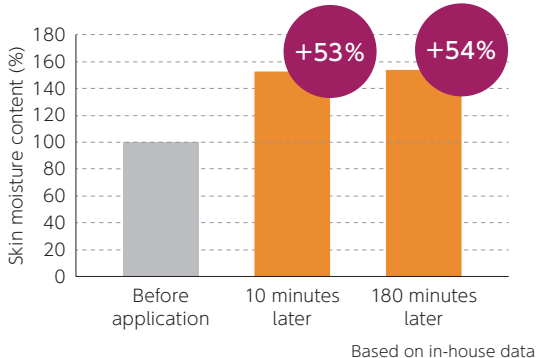
Pseudo-dermis with collagen*5 was cultivated in a medium that contained the sample. The contraction rate of pseudo-dermis was measured after seven days of cultivation.



The effect of firming pseudo-dermis was promoted. Therefore, Shonai Kaki Powder is expected to prevent the loss of firmness and sagging.

Moisturizing effect (human study)

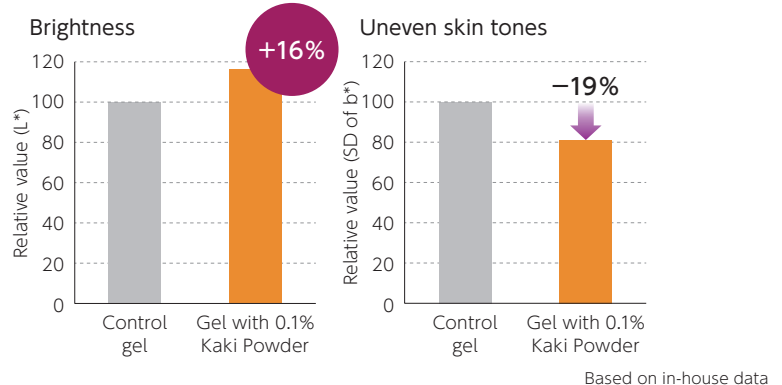
An aqueous solution with 0.1% Shonai Kaki Powder was applied to the skin. Time-dependent changes in skin moisture content were measured.



Application of an aqueous solution with Shonai Kaki Powder was found to have a moisturizing effect.

Brightening effect (human study)

Gel with 0.1% Shonai Kaki Powder was massaged into the skin. After a certain period of time, skin tones were measured.



Shonai Kaki Powder was found to have a brightening effect and effect on the reduction of uneven skin tones. Although there is no need to wipe off, Shonai Kaki Powder is expected to have a brightening effect, which helps achieve translucent skin.

Basic physical property

Appearance・Particle size

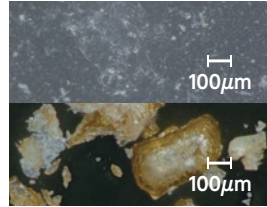
Kaki Powder was dispersed in water. The supernatant liquid was then removed. Insoluble components obtained were examined under a microscope.

Product appearance



This powder contains beauty ingredients derived from fruit. They are either soluble or insoluble fruit fibers.

Insoluble fibers



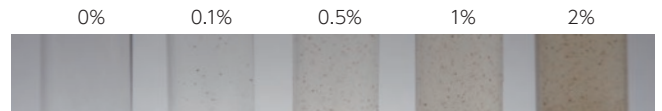
Fiber size

Fibers: 30 - 200µm
Crystals: 10 - 20µm
100 - 500µm

Based on in-house data

Appearance at formulating

Kaki Powder was mixed into gel.



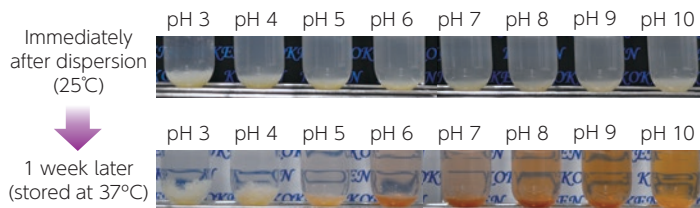
Based on in-house data

The composition of gel with 0.1% Kaki Powder (pH: 6-7)

Raw material	%
Kaki Powder	0.10
Carbomer	0.20
Xanthan gum	0.10
Glycerin	10.00
Pentylene glycol	3.00
1,2-hexanediol	2.00
Methylparaben	0.02
Potassium hydroxide	0.80
Water	83.78
Total	100.00

Effects on pH, temperature, and color

Kaki Powder was dispersed in water to make a 2% solution. pH was then adjusted accordingly. Color differences were observed immediately after dispersion and after storing for a week at 37°C.



pH

The color remained almost the same immediately after dispersion, regardless of pH.

Temperature

It was confirmed that the color turned brownish under alkaline conditions and/or because of the impact of heat. This is considered to come from the browning of polyphenol. (Recommended pH for coloring: 6 or higher)

Based on in-house data

Purposes of fruit fibers

Product name	Anti-inflammatory	Improvement of rough skin	Brightens up skin tones	Antioxidant	Moisturizing	Collagen production	Prevention of the loss of firmness and sagging	Turnover	Deodorant effect
Cherry Powder	◎	◎	◎	○	○	○	○	○	—
LaFrance Powder	—	—	○	○	◎	◎	◎	○	—
Shonai Kaki Powder	—	—	○	○	○	○	○	◎	◎

Recommended formulation ratio: 0.1 - 1%

Safety evaluation: Human repeat insult patch test (HRIPT): Negative

Product number	Product name	中文名称	INCI name	Other ingredients	Package	Sample
SKP-000	Shonai Kaki Powder Koken	—	DIOSPYROS KAKI FRUIT POWDER	Maltodextrin, Sucrose, Zeamays(CORN) starch, Elaeis guineensis (PALM) oil	100g	10g

The Country of origin: Japan, The Place of origin: Yamagata Prefecture

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