

Extract from cherries, the jewel of fruit

Cherry Koken

(PRUNUS AVIUM (SWEET CHERRY) FRUIT EXTRACT)

Fruit acids loosen* the skin,
conditioning the barrier function from
within the skin.

Natural ingredient and manufacturing method

Made in Yamagata (Napoleon)
Upcycle

Beauty ingredients

Fruit acid	Polyphenol
Natural sugar	Amino acids

Function

Moisturizing	Peeling
Antioxidant	Antiaging
Enhances NMF production	Anti-inflammatory
Improves skin quality	Prevents the loss of firmness and sagging

*Softening the skin.



What is Napoleon?

Yamagata is the origin of the cherries unique to Japan (accounting for approximately 80% of the market share in Japan) The Napoleon is a progenitor of the representative brand variety "Satonishiki" which originated in Yamagata. Generally, cherry trees do not self-pollenate. They need pollenizers. Cherries were introduced to Japan at the beginning of the Meiji era, and then the Napoleon was adapted to the unique climate of Japan. The variety is still cultivated as a pollenizer for Satonishiki cherry trees.



Napoleon was previously discarded instead of being shipped and consumed since the variety is grown mainly as a pollenizer, and the utility value of the fruit is not recognized although it contains functional ingredients such as polyphenols which include anthocyanins and other flavonoids, saccharides and amino acids. Focusing on the functions of Napoleon, we identified their uses as a raw material of cosmetics. As a result, we succeeded in effectively using the cherries as an upcycled material bringing new value added.

Beauty ingredients contained in Cherry Koken (Prunus avium (sweet cherry) fruit extract)

<p>Polyphenol</p> <p>Antioxidant ingredient</p>	<p>Anthocyanin</p> <p>Anti-inflammatory ingredient</p>	<p>Flavonoid</p> <p>Anti-inflammatory ingredient</p>
<p>Natural sugar (glucose, fructose, sorbitol)</p> <p>Moisture retention ingredient</p>	<p>Amino acid</p> <p>Natural moisturizing ingredients</p>	<p>Fruit acid (malic acid)</p> <p>Peeling and keratin softening</p>
<p>Allantoin</p> <p>Anti-inflammatory ingredient</p>	<p>Pantothenic acid</p> <p>Prevention of rough skin</p>	<p>Nicotinamide</p> <p>Anti-wrinkle effect and skin brightening</p>

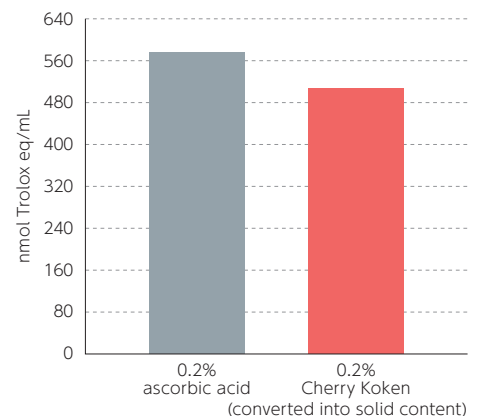
Content of major ingredients

Ingredients	Content (μg/mL)
Malic acid	314
Asparagine	153
Glucose	3909
Fructose	3483
Sorbitol	1712

Contains malic acid, which is effective to remove dirt and dead skin cells and saccharides that have a moisturizing capacity and amino acids.

Based on in-house data

Antioxidative effect comparable to vitamin C



Has an antioxidative effect comparable to ascorbic acid (vitamin C) (peroxy-radical-scavenging activities), containing polyphenol.

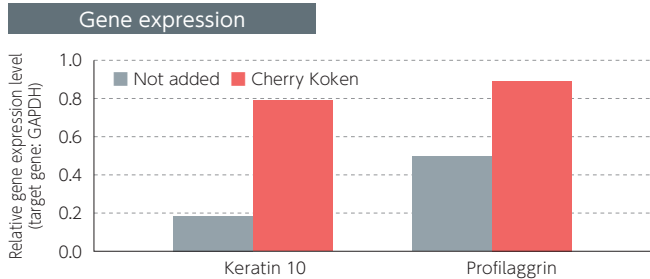
Based on in-house data

Function

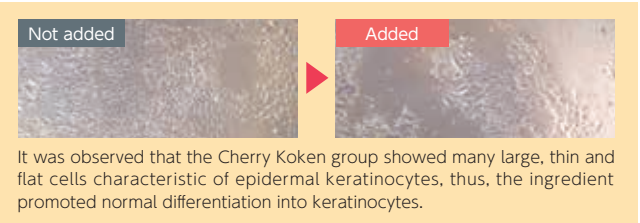
Moisturizing • Barrier functions

Enhances the synthesis of protein as the base of the natural moisturizing factor in the skin

Test method: After Cherry Koken (blended at 20%) was added to human epidermal keratinocyte, RT-PCR was used to determine the degree of gene expression of Keratin 10 and profilaggrin, which are keratinocyte molecular markers, to observe the status of cells.



Morphological observation



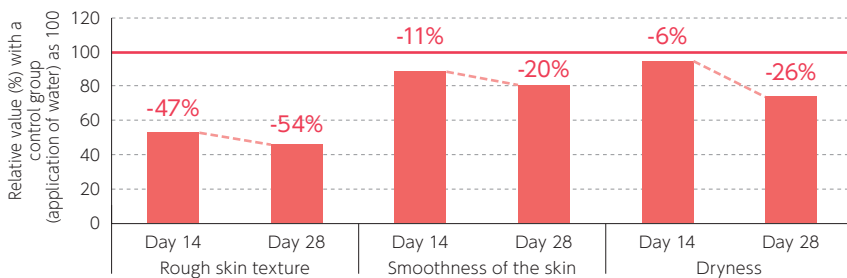
It was confirmed that Cherry Koken enhanced the synthesis of Keratin 10 and profilaggrin and promoted differentiation into keratinocytes.

Keratin fibers and filaggrins condition the corneum. Moreover, filaggrins degrade into natural moisturizing factors (NMFs), moisturizing the corneum and absorbing ultraviolet (UV) rays to protect the skin.

Based on in-house data

Improves skin quality (human study)

Test method: A aqueous solution containing 0.5% Cherry Koken was applied to the forearm continuously. Then, the condition of the skin at the application site was quantified by image analysis.



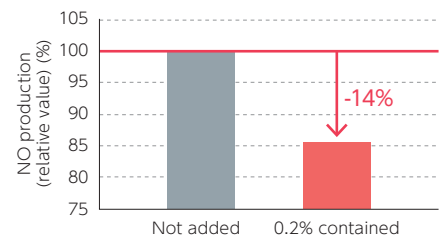
It was confirmed that the continued use of Cherry Koken conditioned skin texture and improved smoothness of the skin and the degree of dryness.

The ingredient is expected to make the skin evenly textured and cause the skin to be fully moisturized and smooth.

Based on in-house data

Anti-inflammatory

Test method: Immune cells were stimulated using LPS to induce an inflammatory response. A sample was added, and the level of NO production was then measured after cultivation overnight.



The addition of the ingredient was found to inhibit inflammatory response (NO production).

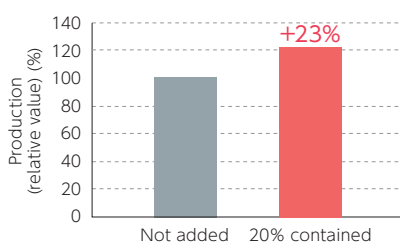
It is expected to maintain the healthy state of the skin.

Based on in-house data

Firmness and elasticity

Promotion of Type I collagen synthesis

Test method: A sample was added to human fibroblasts. Following cultivation, the gene expression level was measured with RT-PCR.



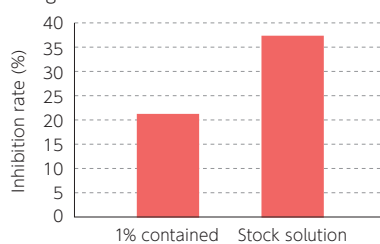
It was confirmed that the ingredient promoted Type I collagen synthesis.

It is expected to make the skin firm and elastic through the promotion of the synthesis of collagen, a component of the dermis, or the inhibition of hyaluronic acid degradation. Additionally, it is also expected to maintain the healthy state of the skin through the inhibition of hyaluronidase activity, which is an index for inflammation and allergies.

Based on in-house data

Inhibition of hyaluronidase activation

Test method: Hyaluronic acids were added to a reaction solution with each of the samples and a degrading enzyme mixed. The degree of degrading enzyme activity was measured using absorbance.

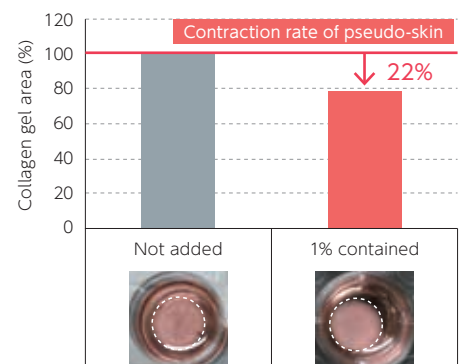


The concentration-dependent inhibition of hyaluronidase (hyaluronic acid degrading enzyme) activity was confirmed.

Prevents the loss of firmness and sagging

Test method: Pseudo-dermis with collagen* was cultivated in a medium that contained the sample. The contraction rate of pseudo-dermis was measured after 7 days of cultivation.

*Collagen gel with fibroblasts mixed

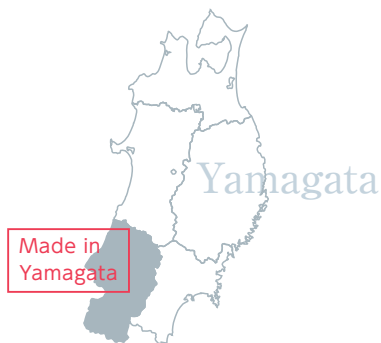


The effect of firming pseudo-dermis was promoted.

Therefore, Cherry Koken is expected to prevent the loss of firmness and sagging.

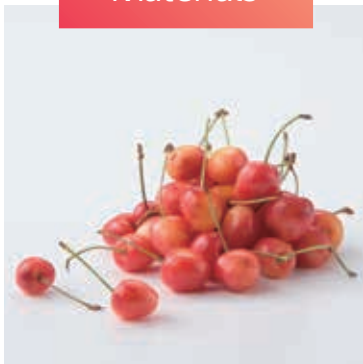
Based on in-house data

Place of origin



Made in Yamagata
Requests for interviews are welcomed

Materials



Upcycled cherries (Napoleon),
unused resources

Manufacturing method and specifications



Natural manufacturing method
(hot water extraction)

Identifying the usefulness of unused resources in Japan, we will support the creation of a recycling-based society and the future-oriented production of cosmetics.



SUSTAINABLE



UPCYCLING



VEGAN-FRIENDLY



100% NATURAL*



JAPANESE
MATERIAL



CHINA NMPA
REGISTERED



NON-CITES
SPECIES



PALM OIL FREE



CRUELTY FREE



GMO FREE



ALCOHOL FREE

*From the next Lot, the origin will be changed to plant-derived BG. Please contact us for the switching time.

Recommended formulation ratio: 0.5% ~

Safety evaluation: Human Repeat Insult Patch Test(HRIPT) Conducted・Skin irritation alternative test(OECD TG439) Negative

Product No.	Product Name	INCI name	中文名称	Other ingredients	Package	Sample
CFE-131	Cherry Koken BG	PRUNUS AVIUM(SWEET CHERRY) FRUIT EXTRACT	欧洲甜樱桃(PRUNUS AVIUM)果提取物	Water・BG*	1kg	30g

The country of origin: Japan, The place of origin: Yamagata Pref.

*From the next Lot, the origin will be changed to plant-derived BG. Please contact us for the switching time.

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