



Adiosagging

INCI: Diospyros Kaki Leaf Extract

Anti-Sagging by divine fruit “Kaki”



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Divine Fruit “Kaki”

- “Diospyros” derives from Latin (or Greek).

It means,

Dios → **Divine**

Pyros → **Food, Fruit, Grain**



As you can see, Kaki has long been said to be a **divine food**.

- The effects of Kaki Leaves have been widely known in Japan since ancient times.
- During Sengoku period (15th century ~ 17th century), one of famous feudal lords, **Takeda Shingen** (1521-1573), was always bringing Kaki Leaves to the battles to expand territory because the extraction of Kaki Leaves was efficient for wound healing.
- **Matsuo Bashō** (1644-1694), the most famous poet of the Edo period, wrote the poem about Kaki.

「里古りて柿の木持たぬ家もなし」
(Satoorite kakinokimotanu iemonashi)

This poem means that there is no houses without Kaki tree in old village. Kaki was well known as efficient fruit for health. There are lots of way to cook and eat.



Matsuo Bashō



Life of Tree

- Kaki has a history of being used as one of the so-called "**rescue foods**" to make up for nutritional deficiencies when a food shortage occurred.
- After the Tenpō famine (天保の飢饉, *Tenpō no kikin*, 1833-1837), people was facing food shortage and there were frequent riots and burning down.
Under this difficult situation, Kaki leaves had been eaten because Kaki tree was planted as a garden tree and fruits and leaves could be easily collected.
- Kaki has been widely used as one of dyes and folk remedies. Also, since Kaki can be used as a herbal medicine and skins, seeds, flowers, leaves, and even trunks can be used as materials for tools and equipment.
- From ancient time, Japanese people use Kaki to make our life rich. Because of this usefulness, Kaki is said to be "**Life of tree**" and "**Utility tree.**"



Rich of Nutrients

- Kaki Leaf contains following
 - Vitamin C
 - Catechin and Tannin
 - Calcium, Potassium, Zinc and Iron
- Kaki Leaf contain 20 times more vitamin C than lemons, which not only enhance immunity, but also alleviate, freckles and acne scars. It is also said to have a whitening effect.
- Tannin and Rutin can adjust the function of capillaries and regulate blood pressure.
- Potassium has the effect of reducing the amount of sodium in the body that causes high blood pressure, and since it also has the effect of lowering blood pressure, it helps prevent high blood pressure.
- Kaki is also well know that it contains rich of **Adiponectin**, which is called “Slimming Hormone”.

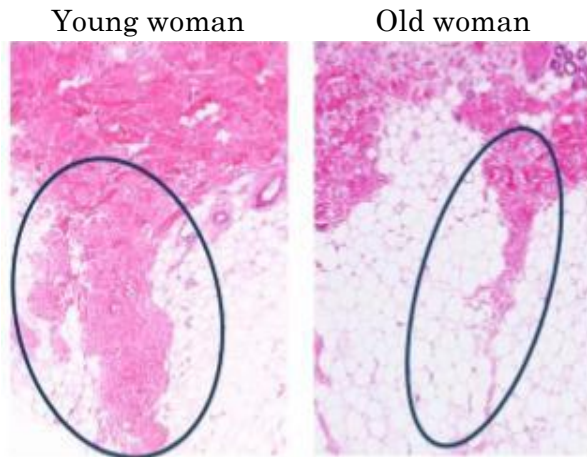




Dermal Anchoring Structures

Researched by Shiseido, 2015 “**Loss of “Dermal Anchoring Structures”** Causes Facial Skin Sagging.

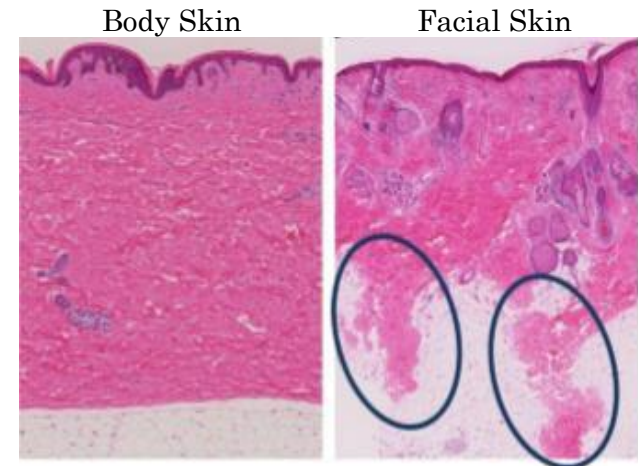
It was found that there are ‘*structures retaining the dermis in subcutaneous tissue, they named them “dermal anchoring structures (**Elastic pillars**)” and examined their relationships with facial skin sagging.*



< Dermal anchoring structures
are lost with age >



< Facial skin sagging >

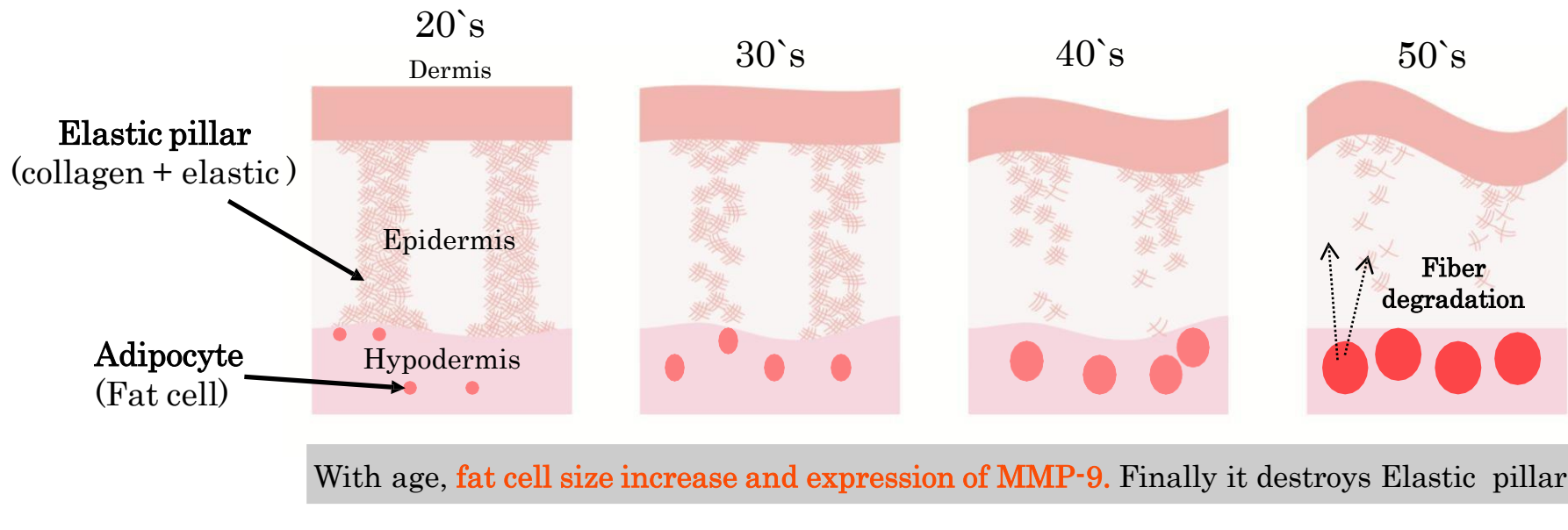


< Dermal anchoring structures
characteristic of facial skin >



Elastic Pillar

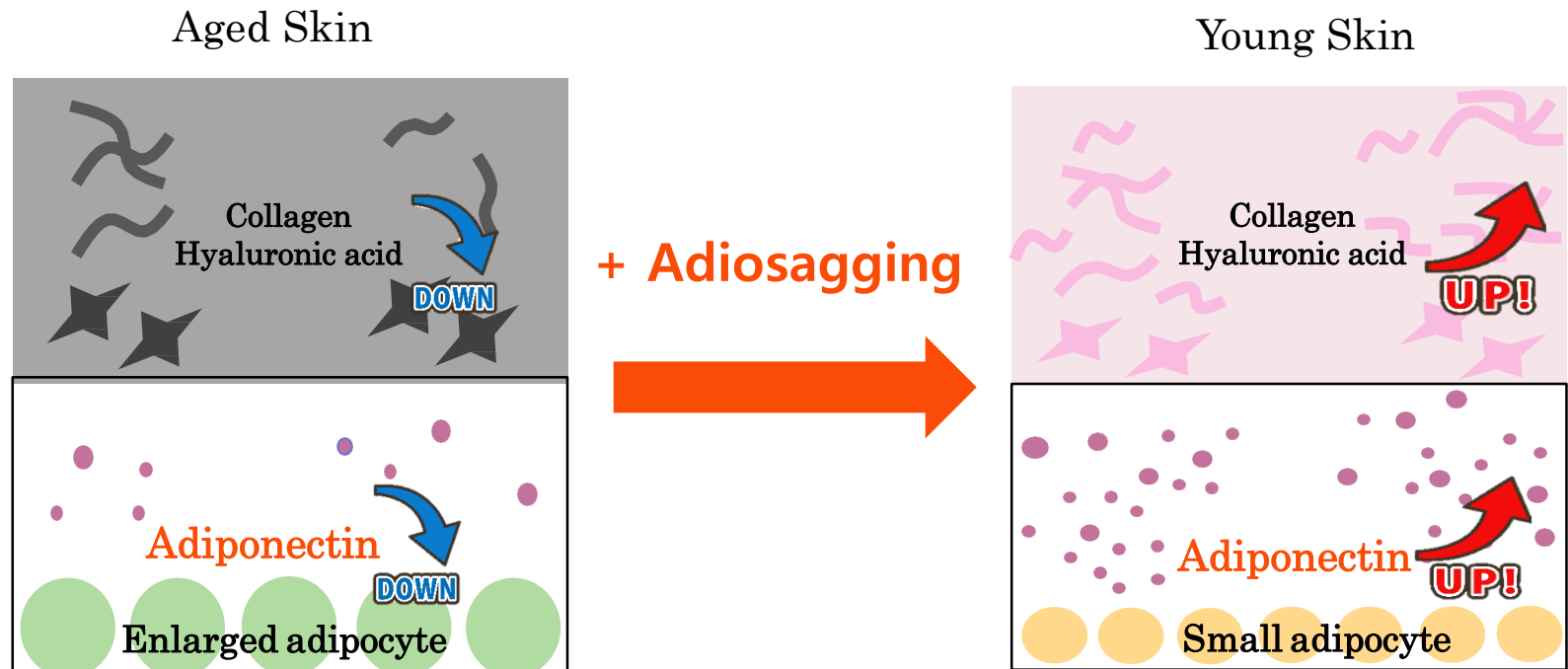
As you are aging, the Elastic pillar will be broken and the elasticity of skin is decreasing.



Skin loses its elasticity and it is likely to be sagging as people get older. Skin cells retaining moisture and elasticity have a declining tendency every year after 20 years old.

The elastic cells under dermis in subcutaneous tissue (Adipocyte) is crucial for anti-aging. For anti-aging, it is of significance to set up pillars under the subcutaneous tissue.

Mechanism

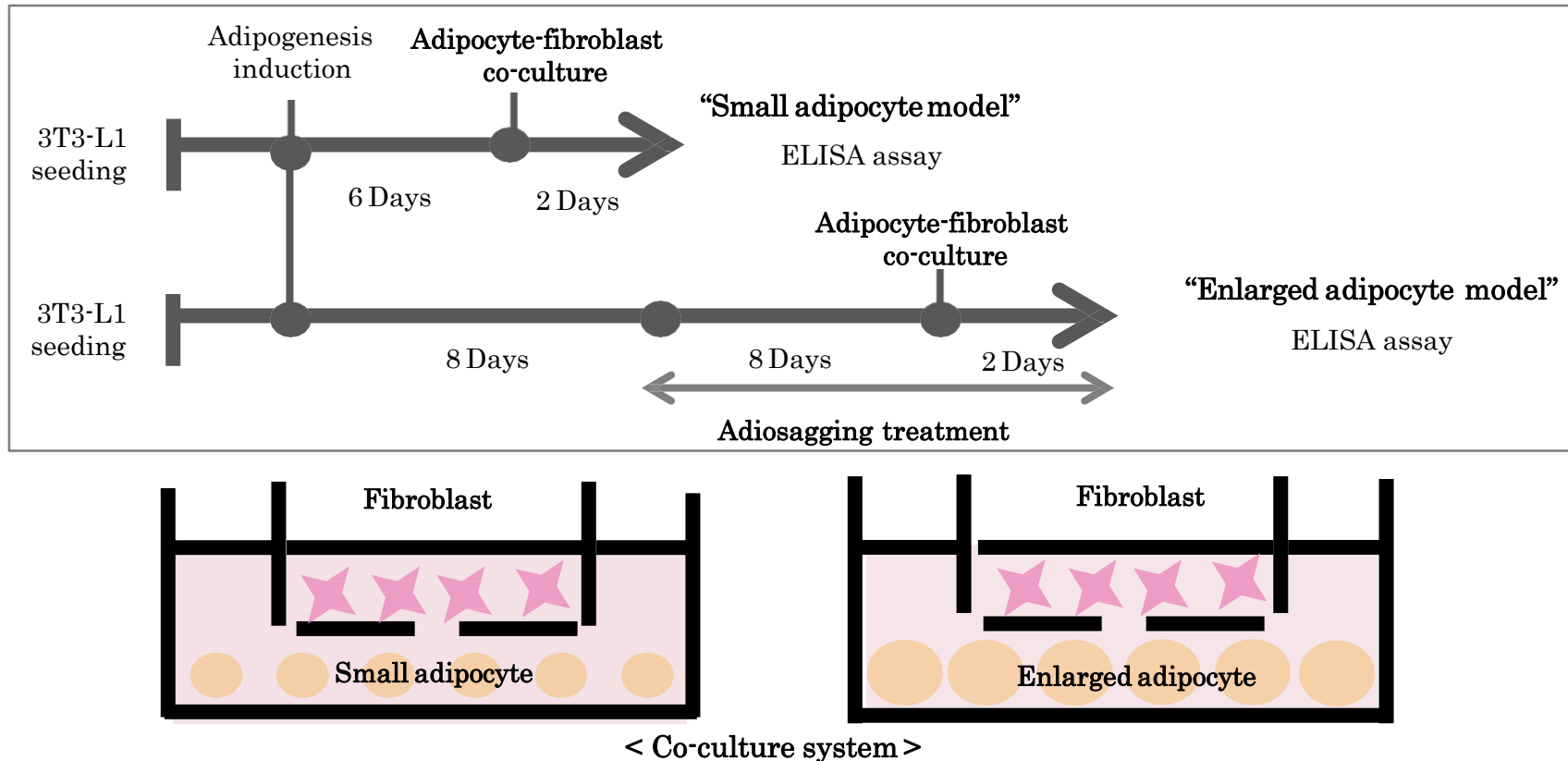


Adiosagging has been confirmed to stimulate the production of adiponectin, a protein secreted by adipocytes. Since adiponectin has a function of preventing fat cell enlarging, it can be expected to have an effect of properly maintaining the base of the pillar which is maintaining dermal anchoring structure.

In addition, adiponectin has a function of promoting the production of collagen and hyaluronic acid, which are components of dermal anchoring structure. By increasing adiponectin, the pillar of structure is strengthening and can be effective for facial sagging.



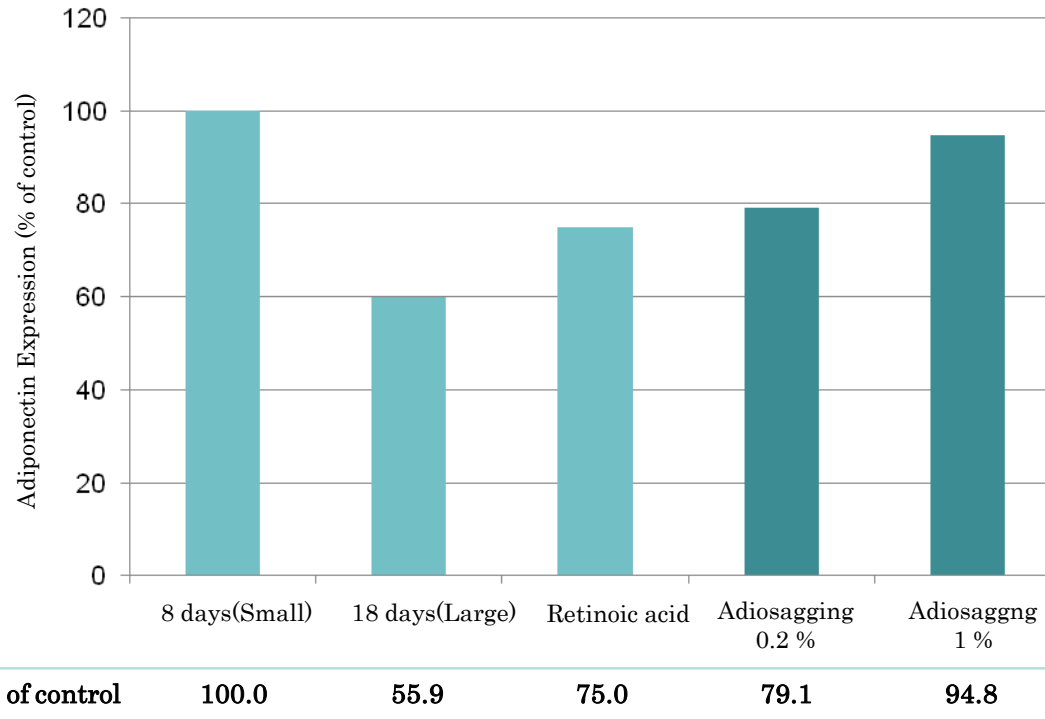
Study Design



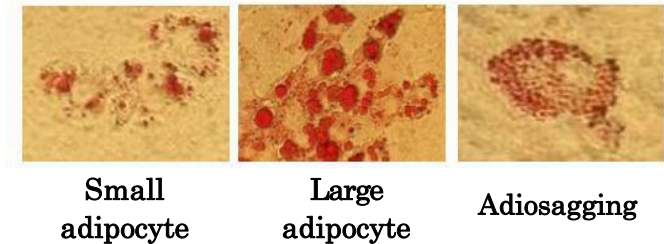
In this test model, fibroblasts 3T3-L1 were cultured and differentiated into adipocytes and Co-culture system (fibroblasts and adipocytes) was created. And then prepared 2 cultures, "small" adipocytes and "enlarged" one.

Adiosagging was treated to enlarged culture and the expression levels of various markers were compared between the cultured adipocytes and enlarged adipocytes with Adiosagging.

Fat cells controlling capacity (Control of Adiponectin expression)



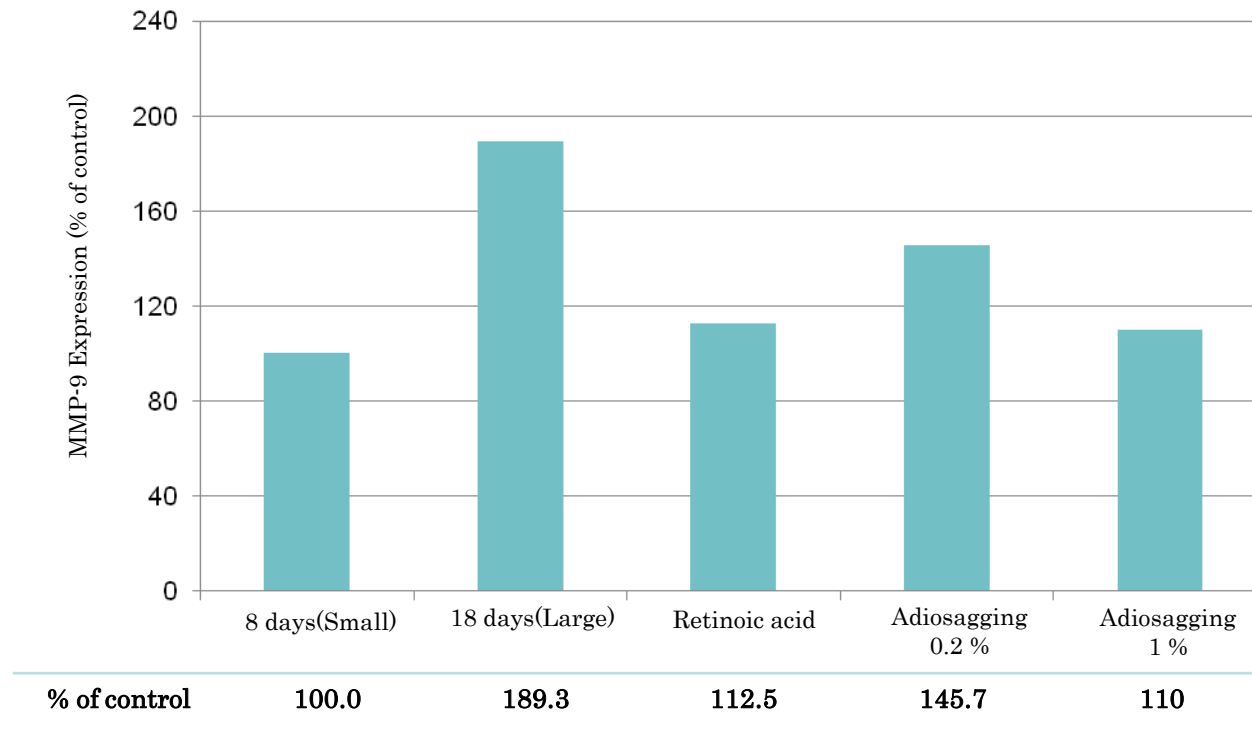
Oil-Red O dyeing



Adiponectin is known for inhibition of fat cells and inflammation control as well as increase of collagen and moisturizing factor.

It was confirmed that treatment of Adiosagging increased adiponectin expression.

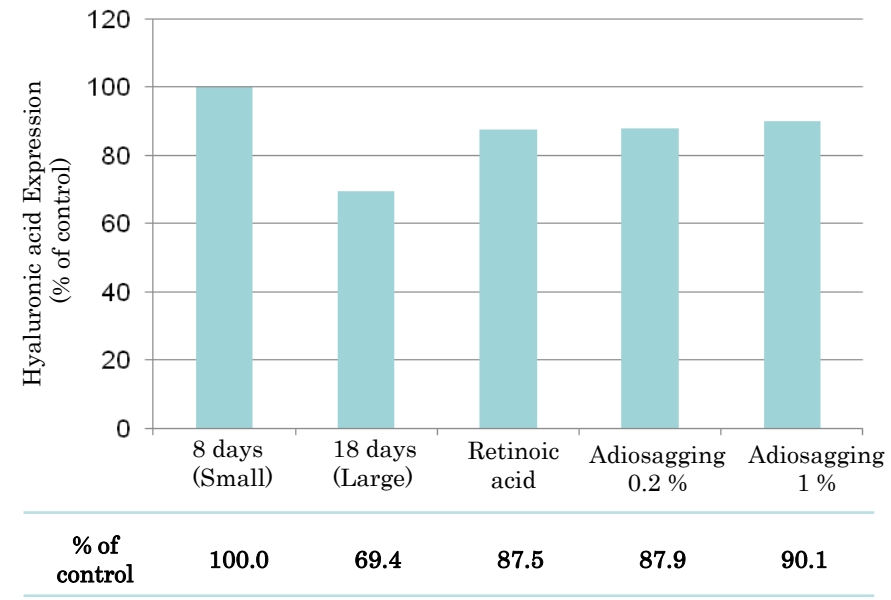
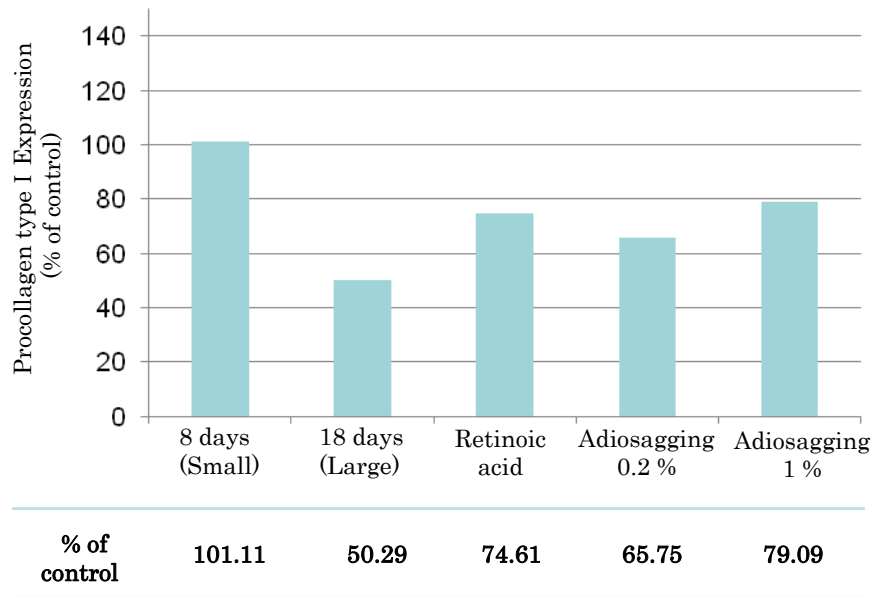
Anti-wrinkle & Skin elasticity efficacy data (MMP-9 Expression)



In order to evaluate the effect for protecting and strengthening dermal anchor structure, the expression levels of MMP-9 was examined. Adiosagging indicates inhibition of MMP-1.

-In vitro-

Expression of procollagen I & Hyaluronic acid

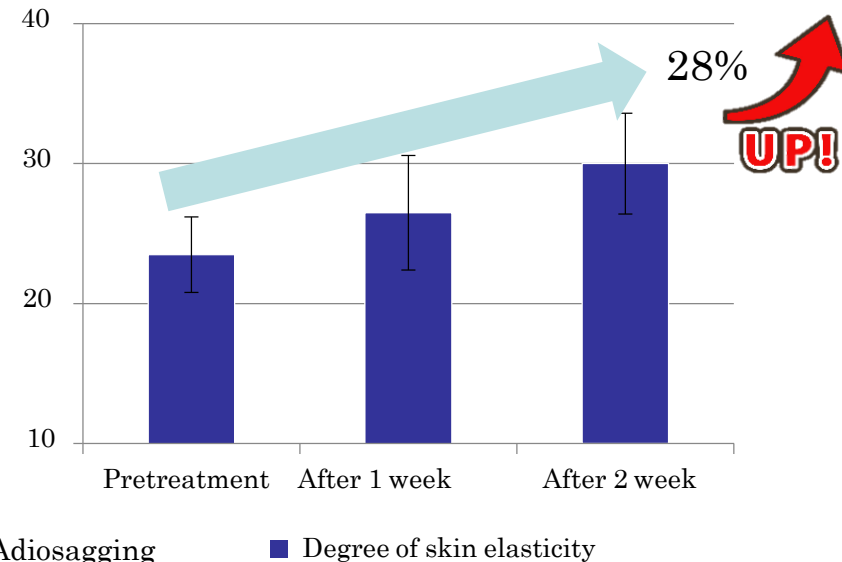


Type I procollagen is a precursor of type I collagen, which is the main component of the elasticity of the skin. It was confirmed that treatment of Adiosagging increased expression level of type I procollagen.

Adiosagging also indicated that expression level of Hyaluronic Acid was increased. The treatment of Adiosagging can be expected to give elasticity and moisturizing effect on the skin.

-In vivo study- Improvement of skin elasticity

	Pretreatment	After 1 week	After 2 weeks
Degree of skin elasticity	23.5	26.5	30.0
	± 2.3	± 4.1	± 3.6



Test period : 2 weeks

Subsector : 10 people (aged 30-50)

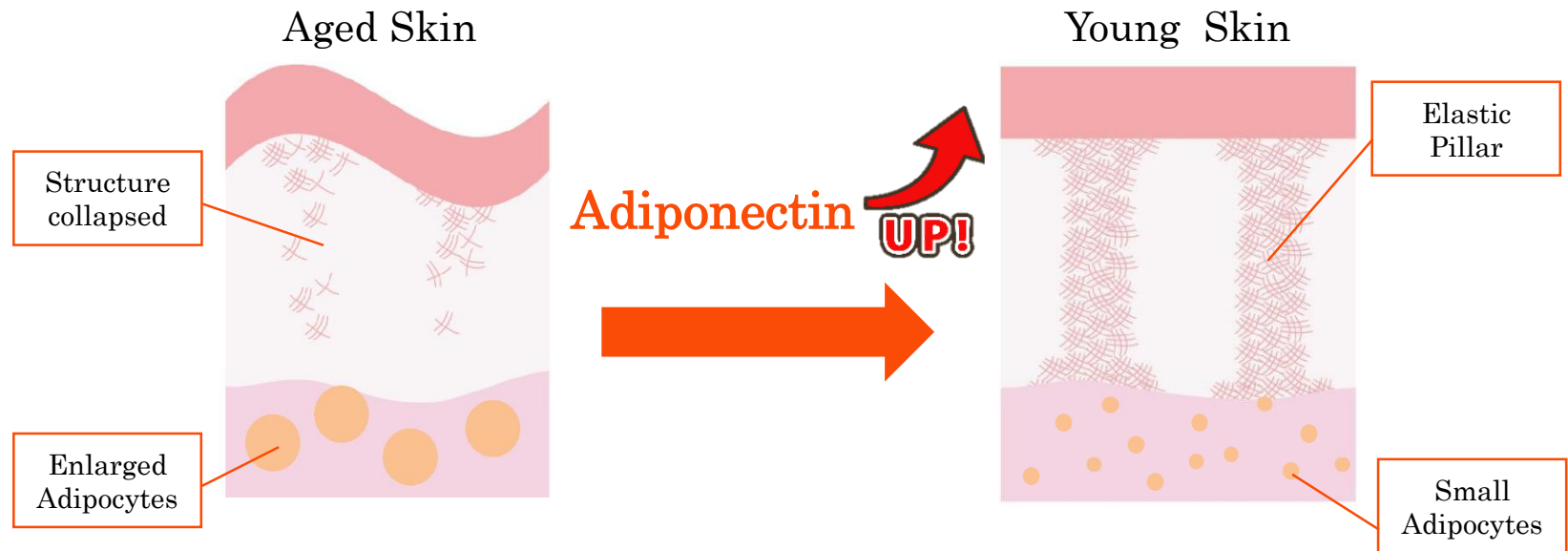
Application: Treated skin (6*5cm) with essence containing 2% of Adiosagging

Test measurement : Checked the skin elasticity with Soft Plus by Callegari S.r.l

Adiosagging showed its efficacy of improvement of skin elasticity. The degree of skin elasticity was gradually increased after applying essence with 2% of Adiosagging. There had been approximately 28% improvement of skin elasticity.

Summary

When you get old, the Dermal Anchor Structure will be destroyed due to reducing adiponectin and increasing enlarged adipocyte. To prevent structure collapse, we need a certain amount of adiponectin.



Adiosagging showed effects of increasing adiponectin and improvement of skin elasticity. Adiosagging is expected to maintain Dermal Anchor Structure and keep your face young.

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