

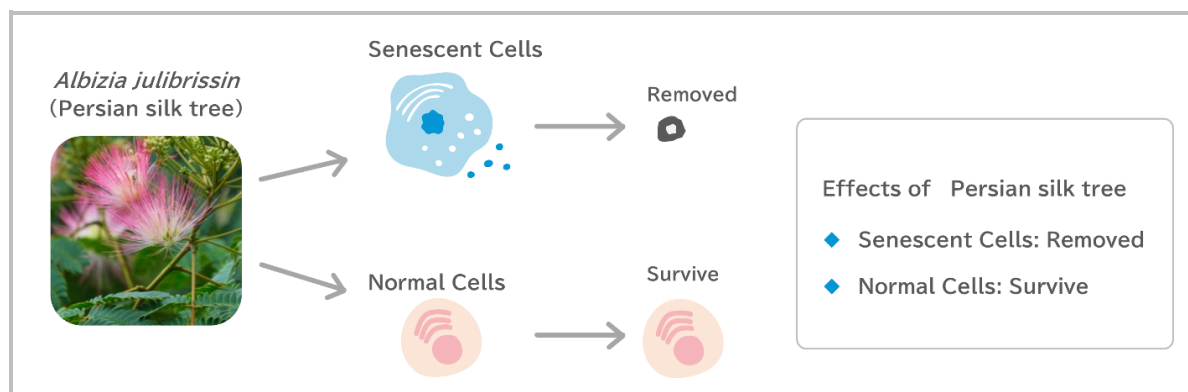
April 30, 2025

Accelerating Research on Aging Prevention

Glico Demonstrates Senescent Cell Removal by Persian silk tree and Obtains Patent

—Discovered from Glico's Library of 6,000 Curated Ingredients —

Ezaki Glico Co., Ltd. conducted research to identify ingredients that act on the causes of aging, selecting approximately 6,000 candidates from its curated ingredient library, with a focus on those suitable for food applications. As a result, Glico demonstrated that Persian silk tree removes senescent cells (senolysis^{*1}), and has now obtained a Patent (Patent No. 7659690). This marks the first patent in Japan for the removal of senescent cells using Persian silk tree. Moving forward, the Glico Group will continue its research, including validation in humans, to further explore its potential in aging-related applications.



The Glico Group's Purpose is "Healthier days, Wellbeing for life", and we continue to create value by delivering both great taste and good health. Under our "Long-Term Strategy", we have identified "Healthy Aging" as one of five key focus areas. In this area, we are advancing research that contributes to extending healthy life expectancy, including efforts focused on aging at the cellular level.

■ About Senescent Cells

Senescent cells are cells with damaged DNA, caused by factors such as natural aging, ultraviolet exposure, or reactive oxygen species. These cells lose their ability to divide

and begin releasing inflammatory substances, which can negatively affect the body. Although senescent cells form and are removed at any age, they become increasingly difficult to eliminate as we grow older.

■ About Persian silk tree

Persian silk tree, commonly known as *Nemunoki* in Japanese, is a deciduous tree in the legume family (Fabaceae), subfamily Mimosoideae, widely distributed across Asia—including countries such as Japan and Iran. Its Japanese name, meaning “sleeping tree”, comes from its nyctinastic movement, where the leaves fold together at night. In Japan and China, its flowers and bark have long been used as herbal teas.

■ Removal of Senescent Cells Using Persian silk tree (Patent Highlights)

- This is the first time the senescent cell-removing effect of Persian silk tree has been identified.
- In an evaluation using cultured human cells, the flower part of Persian silk tree was shown to remove senescent cells with 9.8 times greater efficiency compared to normal cells^{*2} (see Figure).
- Compared to quercetin—a functional compound found in onions and other plants that has been reported to remove senescent cells—Persian silk tree demonstrated higher removal efficiency. It has been shown that Persian silk tree selectively targets and removes senescent cells while allowing normal cells to survive.

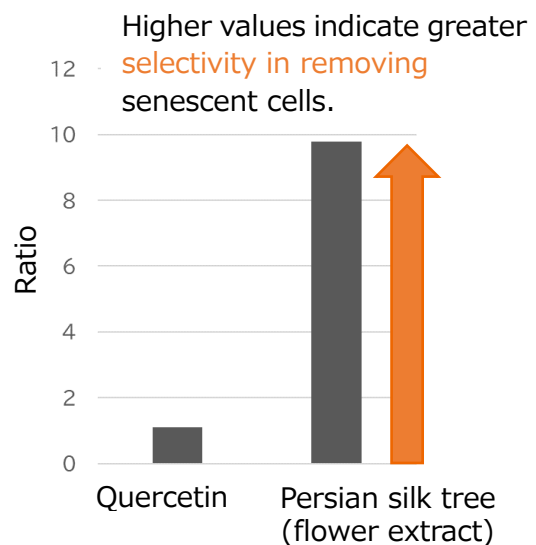


Figure. Ability to Remove Senescent Cells
(Comparison of the Ratio of Effects on
Normal and Senescent Cells)

■ Effects of This Technology

This technology is expected to help support healthy aging by removing senescent cells—one of the causes of biological aging—from the body. Oxidative stress^{*3}, glycation^{*4}, and inflammation^{*5} are interrelated stressors that contribute to the increase and accumulation of senescent cells in the body, ultimately leading to biological aging. While natural aging itself is an unavoidable passage of time, the rate at which biological aging progresses varies among individuals and can be influenced by lifestyle and other factors. Around the world, research on senescent cells is underway in pursuit of extending healthy life expectancy. The removal of senescent cells—known as senolysis—has been reported to improve various age-related conditions and contribute to longer, healthier lives. The removal of senescent cells by Persian silk tree may offer a preventive approach that can be incorporated into daily life before signs of biological aging begin to appear.

■ Patent Information

Issuing Country: Japan Patent Office (JP)
Title of Invention: Agent for removing senescent cell
Patent Number: No.7659690
Patent Holder: Ezaki Glico Co., Ltd.
Registration Date: April 1, 2025

Glico has filed an international application under the Patent Cooperation Treaty (PCT) for this technology, and we will continue research—including healthy aging validation in humans—with the goal of obtaining global patents and product development. Over the past 15 years, the field of aging research has made significant advances, particularly in technologies to help prevent age-related functional decline. While the removal of senescent cells is already being explored in the field of pharmaceuticals as a promising healthy aging strategy, food products differ in that they can be consumed daily and continuously. Moving forward, we will pursue further studies on Persian silk tree—a plant traditionally used as a food ingredient—to verify its senescent cell-removing effects and explore its potential for proactive aging care.

The Glico Group positions “Healthy Aging” as one of its key focus areas and is actively engaged in research to support it. By deepening our understanding of aging mechanisms and advancing the development of this technology into real-world applications, we aim to contribute to the extension of healthy life expectancy.

< Reference Information >

- *1 Senolysis: Refers to the selective removal of senescent cells. The term is derived from *seno* (senescence) and *lysis* (destruction or breakdown).
- *2 Normal cells: In this context, “normal cells” refers to cells that retain the ability to divide before becoming senescent.
- *3 Oxidation: A process in which oxygen atoms bind to other molecules. While oxidation is a natural part of many biological reactions, certain types of oxidations can cause cellular damage.
- *4 Glycation: A reaction in which sugars bind to proteins, potentially impairing their function.
- *5 Inflammation: A response triggered by the immune system, characterized by redness, heat, swelling, pain, and loss of function. Inflammation may occur locally or throughout the body.