

May 21, 2025

Patent filed for mitochondrial Activation Function of Maqui Berry extract (Delphinol™)

Oryza Oil & Fat Chemical Co., Ltd. is pleased to announce that it **has discovered the effect of activating mitochondrial function of Maqui Berry Extract**, a multi-functional ingredient possessing eye care and beauty benefits, and **has filed a patent application** for this discovery.

In the health food market, anti-aging ingredients continue to enjoy strong popularity, with demand accelerating for products that promote the activation of mitochondrial function, often referred to as **"Mito-katsu" (mitochondrial activation)**. Several ingredients eligible for Foods with Function Claims (FFC-compatible ingredients), which offer benefits such as supporting vitality against age-related decline and reducing fatigue, attribute their mechanism of action to mitochondrial function activation. **As this mechanism serves as scientific evidence for the Foods with Function Claims**, we believe there is significant potential demand.

■ What is the activation of mitochondrial function?

Mitochondria are the most crucial organelles found in all cells, responsible for generating adenosine triphosphate (ATP), **the energy essential for all life activities**. For this reason, mitochondria are often referred to as **the "powerhouses of the cell" or "energy factories."** The ATP produced is **then utilized in processes vital for sustaining life**, such as muscle contraction, nerve transmission, and protein synthesis. Consequently, activating mitochondrial function (which means increasing ATP production) leads to enhanced vitality and contributes to anti-aging effects.

In screening tests of Oryza Oil & Fat Chemical Co., Ltd.'s products aimed at identifying "mito-katsu" (mitochondrial activation) ingredients, **Maqui Berry Extract-P35 (Delphinol™) was found to significantly increase intracellular ATP production**. This discovery clearly identifies **Maqui Berry Extract-P35 (Delphinol™) as a novel mitochondrial activation ingredient for us**.

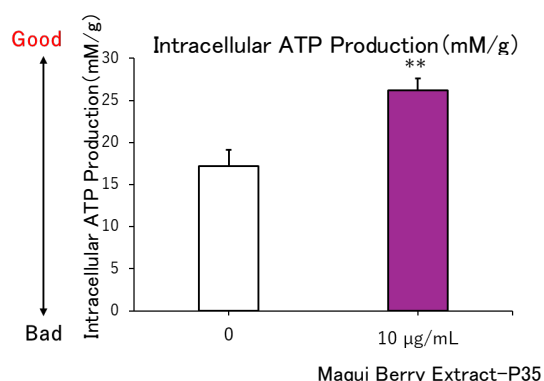


Fig. Maqui Berry Extract-P35 Enhances Intracellular ATP Production.

"Mito-katsu" (mitochondrial activation) is becoming a **widely recognized and trending keyword, not only within the health food market but also among general consumers**. This trend reflects a growing awareness of the super-aging society and the importance of "healthy longevity," suggesting that demand in this area will continue to increase substantially.

Based on this latest discovery, We aims to develop Maqui Berry Extract not just as an ingredient for eye care and beauty, but also as an excellent ingredient for “Mito-katsu” applications.

■ About Maqui Berry Extract

In 2012, Oryza Oil & Fat Chemical Co., Ltd. was the first in the world to launch ingredients that prevent dry eye, exhibit in-vivo antioxidant effects, and suppress post-meal blood sugar elevation.

We offer two types of ingredients, “MaquiBright™” and “Delphinol™”, each targeting specific benefits. “MaquiBright™” is primarily promoted for eye care, focusing on improving dry eye symptoms such as eye moisture, reducing eye strain, discomfort, and alleviating shoulder stiffness. “Delphinol™” is positioned for anti-glycation benefits, including improving skin redness and anti-aging properties for the skin, as well as for its ability to suppress blood sugar elevation.

Notably, “MaquiBright™” has been the subject of various joint research projects with the Chilean government, Keio University, and Gifu Pharmaceutical University, leading to the discovery of its eye disease preventive effects (such as dry eye prevention and blue light protection). Patents related to these discoveries for dry eye prevention have been issued in Japan, United States, Canada, Europe, Israel, and South Korea. As a result, “MaquiBright™” has been adopted in numerous dry eye improvement supplements worldwide.

Furthermore, “Delphinol™” has been patented in Japan as a “skin whitening agent” and an “agent for improving skin redness,” based on our proprietary evaluation technologies.

□ Health Claim for Functional Food containing “MaquiBright™”

This product contains Delphinidin 3,5-diglucoside. Delphinidin 3,5-diglucoside has been reported to support the maintenance of eye moisture, which tends to decrease in healthy individuals who routinely perform VDT work (such as using smartphones, computers, or playing TV games). It has also been reported to reduce temporary eye fatigue, temporary eye discomfort, and temporary shoulder strain caused by VDT work.

Sincerely,
Oryza Oil & Fat Chemical Co., Ltd.