

Schisandrae Fructus: A Potential Candidate Functional Food Against Muscle Atrophy and Osteoarthritis Prevention

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Muscle atrophy, known as a sarcopenia, is defined as a loss of muscle mass resulting from a reduction in muscle fiber area or density due to a decrease in muscle protein synthesis and an increase in protein breakdown. Many conditions are associated with muscle atrophy, such as aging, denervation, disuse, starvation, severe injury and inflammation, prolonged bed rest, glucocorticoid treatment, sepsis, cancer, and other cachectic diseases. On the other hand, osteoarthritis (OA) is the most common form of joint disease and is wide spread in the elderly population and is characterized by erosion of articular cartilage, osteophyte formation, and subchondral bone sclerosis. The cytokine network plays an important role in the development and progression of OA with the inflammatory cytokine. Schisandrae Fructus (SF) derived from the ripe fruit of *Schisandra chinensis* (Turcz.) Baill. (Magnoliaceae) has been extensively used in traditional herbal medicines in Asia. It was originally used as a tonic and has been traditionally used for the treatment of many uncomfortable symptoms, such as cough, dyspnea, dysentery, insomnia, and amnesia for a long time. Previous reports have shown that SF and its related compounds possess various biological activities such as antioxidant, anti-inflammatory, anticancer, anti-microbial, antiseptic, anti-aging, hepatoprotective and immunostimulating effects. However, the therapeutic effects of SF on muscle atrophy and OA has not yet been evaluated. In the present study, we aimed to determine whether extracts of SF, the dried fruit of *S. chinensis*, mitigates the development of muscle atrophy and OA.

Key words: Schisandrae Fructus, Muscle Atrophy, Osteoarthritis, Antioxidant, Anti-inflammatory

[This research was supported by the Basic Science Research Program through the National Research Foundation of Korea (NRF) grant funded by the Korea government (No. 2016R1C1B1014724).]

[This work was supported by the Nakdongnag National Institute of Biological Resources grant funded by the Ministry of Environment, Republic of Korea.]