1151-92-306 **Seonghun Lee**, Choice Research Group, NJ , and **Amanda Kyung***, Choice Research Group, NJ. *Study of the Phytoncide Components for Their Effectiveness in Treating Periodontal Disease Using Biochemical and Numerical Simulations.*

Sophoraflavanone G obtained from Sophora flavescens is a phytoncide molecule. Naturally-made phytoncide compounds that can be used as potential for treatment of periodontitis have been studied in this paper. The components have been found to enhance the effect of currently used antibiotics by affecting the growth of antibiotic-resistant bacteria.

Due to its antibiotic-resistant bacteria, scientific efforts have focused on finding either naturally-made or genetically modified compounds that can treat and or prevent these dental inflammation. Sophoraflavanone G, due to its use as a phytoncide, has been found to impact the growth of antibiotic-resistant bacteria and enhance the effect of currently used antibiotics.

In this paper, the biochemical activity of S. flavescens with different origins was evaluated by quantitive analysis and a computational chemical software which measures the bio-activities and chemical properties of the molecules. Also in this paper, scientific efforts have focused on finding its effectiveness in treating gum disease and periodontal disease by using computerized biochemical and theoretical values, and also by considering the molecules' antibiotic properties. (Received August 21, 2019)