

Abstract

Determination and Evaluation of Acteoside Content of *Scrophularia striata* Boiss. under Lead Stress[†]

Reyhaneh Danaeipour and Mohsen Sharifi *

Department of Plant Biology, Faculty of Biological Sciences, Tarbiat Modares University, Tehran 14117-13116, Iran

* Correspondence: msharifi@modares.ac.ir

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Abstract: *Scrophularia striata* Boiss. (Scrophulariaceae family), as an important medicinal plant, is one of the species native to Western Iran. This perennial herbaceous plant has been traditionally used to cure various diseases, including eye and ear infections, inflammation, infectious wounds, colds, and boils, and is also used to treat bacterial, fungal, and viral infections in the world. Since the COVID-19 pandemic outbreak, Ongoing efforts are proceeding worldwide to develop an efficient vaccine and use approaches to find preventive measures and effective treatment. *S. striata* was introduced as a phenylethanoid glycosides (PhGs) source. *S. striata* functions as a resistant plant under various stresses. The essential mechanism in response to abiotic and biotic stress is the production of phenolic compound precursors, which eventually leads to PhG compound accumulation, especially acteoside, in this plant. Acteoside operates as a powerful antioxidant that scavenges excess ROS content in biological systems. The study purposed to evaluate the acteoside content in response to Pb stress of *S. striata*. HPLC analysis was employed to identify PhGs between the untreated and Pb-treated shoots plants with three gathering times (24, 48, and 72 h). Our results indicated that acteoside increased significantly after 72 h under Pb stress, and no significant difference was observed in other time courses. In general, *S. striata* is a good source of PhGs, especially acteoside, with application in the pharmaceutical industry.

Keywords: *Scrophularia striata* Boiss.; phenylethanoid glycosides; acteoside content; Pb stress

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