

Comparative study of *Scleromitron diffusum* and *Oldenlandia corymbosa*: microscopy, TLC, HPLC and antioxidant activity

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Abstract

Quality control of herbal medicines is an important and necessary issue, especially the role of herbal drug identification to avoid misuse of herb that affect efficacy, or cause toxicity. *Scleromitron diffusum* (SD) is one of the most common herbs but often confused with *Oldenlandia corymbosa* (OC). 10 samples of SD and 10 samples of OC were collected on the Taiwan markets. This study conducted the analysis of morphology, microscopy, TLC, HPLC using two markers Asperuloside (ASP) and Scandoside methyl ester (SME) to distinguish SD and OC. Through quantification of total polyphenols and total flavanoids, investigating antioxidant activity through DPPH free radical scavenging effect, ABTS ^{•+} scavenging effect and reducing power to further clarify the biological effects of two herbs. Study results show the differences in microscopy and suggests a TLC method for distinguishing two herbs on the markets. In HPLC, the ratio of two markers ASP and SME in two herbs was also different when SD contained higher content of ASP and conversely OC higher SME. With more total polyphenols and total flavonoids in SD than that in OC, the antioxidant activity of SD is superior to that of OC. This study provides a more comprehensive perspective for identification and quality evaluation of SD on the markets.

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