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A metabolomics-based strategy to screening characteristic chemical markers for quality evaluation of Flos *Chrysanthemi Indici*

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Traditional Chinese medicine (TCM), with notable effectiveness and few side effects, is gaining greater acceptance for preventing or healing a host of ailments worldwide. However, lack of well-established criteria to quality control of TCMs has been the biggest bottleneck for the modernization and globalization of TCMs. Flos Chrysanthemi Indici, anthotaxy of *Chrysanthemum indicum* L., has been used widely as a heat-clearing and detoxication herb because of its anti-inflammatory and anti-bacterial activity. Flos Chrysanthemi Indici has more than 100 chemical components, and their relative abundances are highly variable depending on geographical origins, climate, cultivar and other factors, which make great challenge for quality control. Over the past several decades, linarin as the single chemical marker for quality control of the Flos Chrysanthemi Indici according to the Chinese pharmacopoeia. Despite possessing easy-operation characteristics, a single chemical marker cannot provide sufficient and convincing information for herbs which contain several hundred of chemical components. Considering the synergistic effects of multiple components on the effectiveness or therapeutic function of herbs, more chemical markers or active ingredients should be considered. In the present study, an integrated strategy of global chemical profiling using ultra performance liquid chromatography coupled with tandem quadrupole time-of-flight mass spectrometry and chemometric approach was applied to screening characteristic chemical markers for quality evaluation of Flos Chrysanthemi Indici. The result showed that a panel of key ingredients including chlorogenic acid, 3,5-dicaffeoylquinic acid, luteolin and linarin are considered as characteristic chemical markers, which showed even better quality control ability than fingerprint analysis, to guarantee the consistency of Flos Chrysanthemi Indici. This metabolomics-based approach is effective to screening characteristic chemical markers for quality evaluation of TCMs.

Biography

Yong Yang is pursuing his PhD from Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences and Peking Union Medical College major in Traditional Chinese Medicine. He engages in the research on the quality control of traditional Chinese medicine by metabolomics-based strategy.

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