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Advancement in the chemical analysis of Paeoniae Radix (*Shaoyao*)

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Highlights

- Recent advances in the chemical analysis of Paeoniae Radix (PR) is summarized.
- Methods for sample pretreatment, qualitative/quantitative analysis are reviewed.
- Advantages/disadvantages of the methods are discussed based on the related studies.
- This review may contribute to the improvement of quality evaluation methods for PR.

Abstract

Paeoniae Radix Alba (*baishao* or white peony root) and Paeoniae Radix Rubra (*chishao* or red peony root) are two highly valuable traditional Chinese medicines (TCMs) usually indicated for painful conditions, menstrual disorders and viral infections. These two TCMs are collectively referred to as *shaoyao* (Paeoniae Radix) due to their close origins and similar chemical compositions. Modern research indicates that monoterpene glycosides, polyphenols and paeonols are the three main types of compounds related to the pharmacological activities of Paeoniae Radix. This review summarizes recent advances in the chemical analysis of Paeoniae Radix and the related traditional Chinese medicine formulas/preparations, including methods used for sample pretreatment, qualitative analysis, quantitative analysis and biological sample analysis. More than 120 papers are discussed in this review, focusing on the chemical analysis of Paeoniae Radix, and various analytical techniques (such as HPLC, LC-MS, IR, near IR and quantitative NMR), as well as their advantages/disadvantages, are described. It is our hope that this paper can provide necessary

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