Simultaneous Determination of Nine Active Components in Traditional Chinese Medicine ‘Xue-Fu-Zhu-Yu’ Capsule by HPLC-ELSD

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SUMMARY. ‘Xue-Fu-Zhu-Yu’ capsule, a famous traditional Chinese medicinal formula, has been widely used to treat cardiovascular and related diseases in China for centuries. In this study, a reliable and accurate method for the simultaneous determination of nine active components in ‘Xue-Fu-Zhu-Yu’ capsule was developed using high-performance liquid chromatography coupled with evaporative light scattering detection (HPLC-ELSD). These active components included amygdalin, paeoniflorin, liquiritin, narirutin, naringin, hesperidin, neohesperidin, saikosaponin a and glycyrrhizic acid. The chromatographic separation was performed on a Symmetry C18 column with gradient elution of acetonitrile, methanol and 1.0 % acetic acid water. The flow rate was 0.5 mL min⁻¹. All the compounds showed satisfactory linearity (R² > 0.9954) within test ranges. The method developed showed satisfactory precision and accuracy with overall intra- and inter-day variations of 1.32-3.06 % and 1.67-3.28 %, respectively, and the overall recoveries of 95 – 105 % for the nine compounds. The method was successfully applied to the simultaneous determination of nine active components in 10 batches of ‘Xue-Fu-Zhu-Yu’ capsules.

KEY WORDS: Evaporative light scattering detection, HPLC, Quantitative analysis, Traditional Chinese medicine, ‘Xue-Fu-Zhu-Yu’ capsule.

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