

質量吸光係数比で値付けした4-ヒドロキシ安息香酸プロピルによる半夏厚朴湯エキスの定量法

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Development of a Method for Quantifying Components in Hangekobokuto Extract by 4-Hydroxybenzoic Acid Propyl Ester Using Mass Absorption Coefficient Ratio

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Summary

Quantitative methods for determining magnolol, [6]-gingerol, and rosmarinic acid in Hangekobokuto Extract are specified in the Japanese Pharmacopoeia 17th edition (JP17). Standard substances of these measurement components are used in the quantitative methods, but it is difficult to ensure consistent quality of these standards.

In this study, therefore, we aimed to establish a quantitative method not requiring the use of standard target substances. For this purpose, we investigated an analytical method to simultaneously quantify magnolol, [6]-gingerol, and rosmarinic acid in Hangekobokuto Extract by using 4-hydroxybenzoic acid propyl ester as a standard, based on the mass absorption coefficient ratios, determined by dividing the absorbance ratio measured by HPLC by the mass ratio corrected for purity.

The results obtained with this method agreed with those determined using the quantitative methods specified by JP17 within a 3% tolerance. Thus, evaluation based on the ratio of mass absorption coefficients with respect to 4-hydroxybenzoic acid propyl ester as an alternative standard appears to be a useful method for the quantitation of magnolol, [6]-gingerol, and rosmarinic acid in Hangekobokuto Extract. A similar approach might also be applicable to other components of other extracts.

Key words

Magnolol, [6]-Gingerol, Rosmarinic acid, Hangekobokuto Extract, Mass absorption coefficient ratio