トウシソウの確認試験法について

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(受付: 平成 24 年 6 月 29 日, 受理: 平成 24 年 10 月 16 日)

Studies on the Identification Test for JUNCI HERBA

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Summary

JUNCI HERBA is the crude drug derived from the aerial part or the pith of Juncus effusus (Juncaceae). The drug is mainly used for the treatment of various eye disorders as a component of Kampo formulae, such as Jjinmeimokuto (滋賢明目湯).

The formula, Jjinmeimokuto, has been added to the standards of approval for OTC Kampo formulations as of April, 2011, but its component, JUNCI HERBA, has no disclosed official standard yet, even though it is used under a letter of approval. Therefore, we investigated the identification test of the drug in preparation for listing of the drug in The Japanese Standards for non-Pharmacopoeial Crude Drugs 2012 (non-JPS 2012). We have developed a test based on the detection of luteolin and its 3',5'-dimethylether derivative (1) by TLC. The test clearly distinguished the drug from EQUISETI or EPHEDRAE HERBA, both of which have similar appearance to JUNCI HERBA.

The established TLC conditions were as follows: chromatographic support, silica gel; developing solvent, EtOAc/2-butanone/water/formic acid (25/3/1/1); developing length, 7 cm; visualization, UV (365 nm) and ferric chloride–methanol reagent; Rf values, 0.75 for luteolin and 0.4 for luteolin 3',5'-dimethylether (1).

Key words
JUNCI HERBA, Identification test, Luteolin, Luteolin 3',5'-dimethylether, Non-JPS 2012, TLC