

Simultaneous Extraction and Estimation of Steroidal Glycosides and Aglycone of Solanum

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Abstract : Solanumnigrum L. (Family: Solanaceae), is an important Indian medicinal plant and have been used in various traditional formulations for hepato-protection. It has been reported to contain significant amount of steroidal glycosides such as solamargine and solasonine as well as their aglycone part solasodine. Being important pharmacologically active metabolites of several members of Solanaceae these markers have been attempted various times for their extraction and quantification but separately for glycoside and aglycone part because of their opposite polarity. Here, we propose for the first time simultaneous extraction and quantification of aglycone (solasodine)and glycosides (solamargine and solasonine) inleaves and berries of S.nigrumusing solvent extraction followed by HPTLC analysis. Simultaneous extraction was carried out by sonication in mixture of chloroform and methanol as solvent. The quantification was done using silica gel 60F254HPTLC plates as stationary phase and chloroform: methanol: acetone: 0.5 % ammonia (7: 2.5: 1: 0.4 v/v/v/v) as mobile phaseat 400 nm, after derivatization with an isaldehydesul furic acid reagent. The method was validated as per ICH guideline for calibration, linearity, precision, recovery, robustness, specificity, LOD, and LOQ. The statistical data obtained for validation showed that method can be used routinely for quality control of various solanaceous drugs reported for these markers as well as traditional formulations containing those plants as an ingredient.

Keywords : solanumnigrum, solasodine, solamargine, solasonine, quantification

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