ABSTRACT

HPTLC Method Development and Validation for Determination of Andrographolide in Raw Material and Tablet Containing Ethyl Acetate Fraction of Andrographis paniculata

Andrographolide is the major active compound of Andrographis paniculata and determined as marker compound of ethyl acetate fractions of A. paniculata products. This fraction has a potential activity as antimalarial and prospective to be developed as phytopharmaceutical products. To ensure the quality, efficacy and safety of the phytopharmaceutical products, a rapid and selective analytical method becomes important for the determination of andrographolide in both the raw materials and products. The purpose of this study was to develop and validate a rapid, inexpensive, and selective High Performance Thin Layer Chromatography (HPTLC) for quantification andrographolide in raw material and tablet ethyl acetate fractions of A. paniculata. This method was performed using silica gel G60 F254 HPTLC plate as stationary phase with mobile phase of chloroform:metanol (90:10 v/v) and detected at 228 nm. The validated method was selective to separate andrographolide from other component with good resolution and retention factor andrographolide was 0.38 ±0.03. The data for calibration plots showed good linear relationship with $r^2 = 0.998$ in the concentration range 67.5-225.0 ppm. The Limit of Detection and Quantification were found 9.6 ng/spot and 28.8 ng/spot, respectively. The recovery method was found between 98.0 and 100.5% and the relative standard deviation method was found between 1.4% and 1.5%.

Key words: HPTLC, Method validation, Andrographis paniculata, Andrographolide, antimalarial.