

## **Identification and Quantification of Phenolic Compounds In Cassia tora Collected from Three Different Locations Using Ultra High Performance Liquid Chromatography - Electro Spray Ionization - Mass Spectrometry (UHPLC-ESI-MS-MS)**

**Authors :** Shipra Shukla, Gaurav Chaudhary, S. K. Tewari, Mahesh Pal, D. K. Upreti

**Abstract :** Cassia tora L. is widely distributed in tropical Asian countries, commonly known as sickle pod. Various parts of the plant are reported for their medicinal value due to presence of anthraquinones, phenolic compounds, emodin,  $\beta$ -sitosterol, and chrysophanol. Therefore a sensitive analytical procedure using UHPLC-ESI-MS/MS was developed and validated for simultaneous quantification of five phenolic compounds in leaf, stem and root extracts of Cassia tora. Rapid chromatographic separation of compounds was achieved on Acquity UHPLC BEH C18 column (50 mm $\times$ 2.1 mm id, 1.7 $\mu$ m) column in 2.5 min. Quantification was carried out using negative electrospray ionization in multiple-reaction monitoring mode. The method was validated as per ICH guidelines and showed good linearity ( $r^2 \geq 0.9985$ ) over the concentration range of 0.5-200 ng/mL. The intra- and inter-day precisions and accuracy were within RSDs  $\leq 1.93\%$  and  $\leq 1.90\%$ , respectively. The developed method was applied to investigate variation of five phenolic compounds in the three geographical collections. Results indicated significant variation among analyzed samples collected from different locations in India.

**Keywords :** Cassia tora, phenolic compounds, quantification, UHPLC-ESI-MS/MS

**Conference Title :** ICMNP 2017 : International Conference on Medicinal Plants and Natural Products

**Conference Location :** London, United Kingdom

**Conference Dates :** February 16-17, 2017