Validated High Performance Liquid Chromatographic (HPLC) method for analysis of Zerumbone in plasma

ABSTRACT

Zerumbone (ZER) is a sesquiterpene derived from Zingiber zerumbet smith, family Zingiberaceae. It has been shown to possess anti-cancer and apoptosis-inducing properties against various human tumour cells as well as in vivo against a number of induced malignancies in mice. In this study a simple, specific and accurate high performance liquid chromatographic method for determination of ZER in micro-volumes human plasma (1.5 ml) was developed and validated. ZER and its analogue -Humulene as internal standard were easy recovered by simple one step plasma protein precipitation using acetonitrile and separated in isocratic mobile phase, on reverse phase-C18 column. The effluent was monitored by Photodiode Array (PDA) detector and at a flow rate of 1.0 ml/min. The linearity of proposed method was 2 – 15 μg/ml. The intra-day and inter-day coefficient of variation and percent error values of the method were less than 15% and mean recovery was more than 90% for both ZER and -Humulene. This method was found to be precise, specific, accurate and robust for detection and analysis of ZER in human plasma.

Keyword: Zerumbone; Humulene; HPLC; Human plasma.