

Detection and Quantification of Eurycomanone Levels in Tongkat Ali Herbal Products

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ARTICLE INFO

Article History:

Received: April 20, 2015

Accepted: July 10, 2015

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ABSTRACT

Tongkat Ali is most famous for its aphrodisiac property and has gained reputation worldwide. Due to this, Tongkat Ali products are in demand and can be obtained in various forms. The quality of these products is not often authenticated. As Malaysia is one of the major producing countries of Tongkat Ali products, this study adapted a method which is used to determine the quality of Tongkat Ali products in the market. The quality of those products is based on the level of eurycomanone, the major compound in Tongkat Ali and the level should be around 0.8-1.5 w/v (%). A total of 41 products were obtained internationally and from Malaysia, with different pharmaceutical dosage, single or combined formulation. Those products were analyzed for eurycomanone content using HPLC, C18 column with acetonitrile and water as the mobile phase. The result indicated that 24 of the products contained eurycomanone. Eleven out of the 24 products complied (0.84-8.48% w/v) with the criteria set by Malaysian Standard and 9 of the products even have the eurycomanone level above (1.6-8.48% w/v) the set criteria. It was observed no eurycomanone was detected in some products even though the products have been registered with Malaysian herbal regulatory body, National Pharmaceutical Control Bureau (NPCB). In conclusion, this study suggests that the eurycomanone level should be utilized as a mandatory regulatory parameter for Tongkat Ali herbal preparation in the market besides the current parameters; microbial load and heavy metal contents alone.

Key words: *Eurycoma longifolia*, Tongkat Ali, eurycomanone, herbal products, aphrodisiac

INTRODUCTION

In the past, only rural folks consume herbal remedies because conventional drug is expensive and health facilities are inaccessible. However nowadays, despite the great advances and ease of access towards modern medicine, there is growing interest towards the use of medicinal herbs as people are aware towards the adverse effects of conventional drugs. The herbal-based phytochemical industry is a new and upcoming industrial sector in Asian countries especially due to the open web market.

Tongkat Ali is the most popular tropical herbal plants (Bhat and Karim, 2010). The common herbal products in the market include Tongkat Ali and it has become a very valuable product in the phytochemical industry (Athimulam *et al.*, 2006). Tongkat Ali has gained its reputation as sexual performance enhancer based on traditional uses and personal experiences. Due to personal experience and some scientific studies (Ang and Sim, 1998; Ang and Cheang, 2001; Ang *et al.*, 2004; Tambi and Imran, 2009; Zanolli *et al.*, 2009; Wahab *et al.*, 2010; Low *et al.*, 2013), the demand for Tongkat Ali has increased worldwide.