Acute, Reproductive Toxicity and Two-generation Teratology Studies of a Standardized Quassinoid-rich Extract of Eurycoma longifolia Jack in Sprague-Dawley Rats

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PHYTOTHERAPY RESEARCH  Volume: 28  Issue: 7  Pages: 1022-1029  DOI: 10.1002/ptr.5094  Published: JUL 2014

Abstract: The roots of Eurycoma longifolia Jack are popularly sought as herbal medicinal supplements to improve libido and general health amongst the local ethnic population. The major quassinoids of E. longifolia improved spermatogenesis and fertility but toxicity studies have not been well documented. The reproductive toxicity, two generation of foetus teratology and the up-and-down acute toxicity were investigated in Sprague-Dawley rats orally treated with quassinoid-rich E. longifolia extract (TAF273). The results showed that the median lethal dose (LD50) of TAF273 for female and male rats was 1293 and > 2000 mg/kg, respectively. Fertility index and litter size of the TAF273 treated were significantly increased when compared with those of the non-treated animals. The TAF273-treated dams decreased in percentage of pre-implantation loss, post-implantation loss and late resorption. No toxic symptoms were observed on the TAF273-treated pregnant female rats and their foetuses were normal. The no-observed adverse effect level (NOAEL) obtained from reproductive toxicity and teratology studies of TAF273 in rats was 100 mg/kg body weight/day, being more than 10-fold lower than the LD50 value. Thus, any human dose derived from converting the rat doses of 100mg/kg and below may be considered as safe for further clinical studies. Copyright (C) 2013 John Wiley & Sons, Ltd.

The authors wish to thank the Ministry of Agriculture and Agro-based Industry, Malaysia for providing a NKEA Research Grant Scheme and an incentive support from the USM Fellowship Scheme.

06/01/2018