EVALUATION ON ANTICOAGULANT ACTIVITY ON ETHYL ACETATE EXTRACT FROM PERICARP OF *Parkia speciosa*

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DECLARATION

"I hereby declare that this thesis entitled Evaluation on Anticoagulant Activity on Ethyl Acetate Extract from Pericarp of *Parkia Speciosa* is the result of my own research except as cited in the references. The thesis has not been submitted or currently for any other degree at UiTM or any institutions."

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"CHALLENGES ARE WHAT MAKE LIFE INTERESTING AND OVERCOMING THEM IS WHAT MAKES LIFE MEANINGFUL"

-Joshua J.Marine

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ABSTRACT

Parkia speciosa also known as stink bean is usually found in tropical countries such as Malaysia, Indonesia, Thailand and Philippines. The seeds are usually consumed as condiment or vegetable with rice. The pericarp is usually separated from the seeds and discarded. Thus, the present study was carried out, using this waste to investigate whether it possess anticoagulant activity as some parts of *P. speciosa* were reported to have some beneficial values such as antioxidant, anti-diabetic and antiangiogenic properties. The dried powder of pericarp was subjected to extraction using ethyl acetate via the maceration extraction method. Ethyl acetate was removed by rotary evaporation and the concentrated extract was prepared into a 1000 µg/ml stock solution using DMSO. The different concentrations of extract were prepared at 160 µg/ml, 80 µg/ml, 40 µg/ml, 20 µg/ml and 10 µg/ml using saline. Then, anticoagulant activity was evaluated by prothrombin time (PT), activated partial thromboplastin time (aPTT) and thrombin time (TT) using commercial control plasma. The statistical analysis was done by using One-way ANOVA and pos-hoc Dunnett's tests. The results of the study showed a trend in which the coagulations time increased as the concentrations of ethyl acetate extract increases from 10 µg/ml to 160 µg/ml. However, only extract with concentration of 160 µg/ml showed significant effect on aPTT test (81.4 seconds, $p<0.001$) and TT test (88 seconds, $p<0.05$). Meanwhile, no significant effect was observed for PT test as $p>0.05$. The present study revealed that 160 µg/ml extract from pericarp of *P. speciosa* possessed anticoagulant activity. Hence, there is possibility that ethyl acetate extract could be a potential source of natural anticoagulant of blood coagulant disoders.

Keywords: *Parkia speciosa*, Anticoagulant, Ethyl acetate, aPTT, PT, TT