

## Antioxidant Activity of Quercetin in Fermented *Parkia speciosa* Beans

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### ABSTRACT

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*Parkia speciosa* is also called as petai in native Malaysia and it belongs to the family of *Fabaceae*. They are distributed widely in tropical regions such as Indonesia, Malaysia, Philippines and Thailand. The petai tree grows up to 40 meter in height and sprout long and flat green stalks with pods encapsulated with the petai beans. The flavanoids found in these petai beans display various beneficial properties such as, antioxidant activity, anti-inflammatory activity and antiviral activity to name a few. The purpose of this study was to determine the quercetin content of in yeast fermented petai beans by using solid phase extraction. A quercetin standard curve was constructed in order to calculate the amount of quercetin contained in both non-fermented and fermented petai bean solution. The antioxidant activity of both fermentation conditions were compared using 2,2- diphenyl-2-picrylhydrazyl (DPPH) assay. The antioxidant activity was determined based on the measurement of the scavenging ability of the antioxidant towards the stable DPPH radical. The reduction capability of the DPPH radical is determined by the decrease in its absorbance at 517 nm due to antioxidants. The absorption maximum of a stable DPPH radical in methanol was at 517 nm. Based on the results obtained, the non-fermented petai bean solution showed slightly higher quercetin content compared to fermented petai bean