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Antiproliferative and Antioxidant Activities of *Quassia Borneensis* Noot. On HL-60 Human Leukemia Cells

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The family of Simaroubaceae is known to contain quassinoids, a group of compounds that have been reported to possess numerous biological activities such as anticancer and antimalarial activities. This study was carried out to evaluate the inhibition of HL-60 cells proliferation and antioxidant capacity of various extracts from *Quassia borneensis*, an unexplored indigenous Simaroubaceae plant from Sabah. The bark and root of *Q.borneensis* were extracted by Soxhlet and maceration in methanol and further partitioned with hexane, chloroform and water. Twelve different extracts obtained were named as Q1 to Q12. The antiproliferative activity was determined by MTT assay while antioxidant capacity of *Q.borneensis* extracts was measured using Ferric Reducing Antioxidant Power (FRAP) assay with or without the presence of HL-60 cells. Among all the extracts, the highest antiproliferative activity on HL-60 cells was shown by bark Soxhlet chloroform extract (Q7) with the IC50 of 5.0 µg/ml. Meanwhile, bark maceration chloroform extract (Q5) exhibited the highest antioxidant capacity with or without the presence of HL-60 cells, where the FRAP value were 125.45 ± 9.10 µM $FeSO_4.7H_2O$ and 181.55 ± 3.45 µM $FeSO_4.7H_2O$ respectively. In conclusion, *Q.borneensis* possessed both antioxidant and antiproliferative activities on HL-60 cells where the highest activities were shown by chloroform extracts.

Keywords: Antiproliferative, antioxidant, *Quassia borneensis* Noot.