

## In vitro Effect of Malaysian Plants on Natural Killer Cell Activity

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Natural killer (NK) cells are not just simple cells of the innate immune system but they are also regulators for adaptive immunity that can kill certain virally infected cells and tumor cells. Stimulation of natural killer cell activity (NKCA) may augment its cytotoxic function towards cancer cells. We studied the ability of plants to enhance NKCA to kill leukemia cancer cells *in vitro*. The lactate dehydrogenase assay was used to test the NKCA. Eight types of plants were extracted using ethanol and water. Human peripheral blood lymphocytes (PBL) were incubated with either plant extract or interleukin-2 as positive control for 18 hours and tested against erythroleukemia cell line, K562. Results showed that incubation of PBL with aqueous extracts of *Strobilanthes crispus* produced significantly higher NKCA than untreated PBL (an increase of 63.62%,  $P < 0.05$ ). Further extraction with solvents of different polarity (hexane, chloroform, ethyl acetate, ethanol and water) also showed the aqueous extract of *Strobilanthes crispus* specifically produced greatest NKCA. Our findings suggest that the aqueous extract of *Strobilanthes crispus*, probably possesses *in vitro* immunostimulating activity on human PBL.