

UNIVERSITI TEKNOLOGI MARA

ANTIPROLIFERATIVE EFFECTS OF *GELAM*  
(*MELALEUCA* sp.) HONEY ON COLON CANCER  
CELL LINES (HCT116)

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## ABSTRACT

The aim of this study is to measure anti-proliferative effects of *Gelam* honey to colon cancer cell lines (HCT116). The anti-proliferative effect is correlated with level of phenolic content that have in the honey. The phenolic content was measured by total phenolic content assay and it is a method to ensure the present of phenolic properties in the honey. This assay was carried out by Folin-Ciocalteu reagent and used gallic acid as a standard. The viability of cells was measured by MTS assay and it was carried out by the MTS reagent (3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyl)-2-(4-sulfophenyl)-2H-tetrazolium, inner salt). The percentage of cell deaths were calculated by minus the control cells to average of cell death and then divided by control cells and times with 100. The half-maximal inhibitory concentrations ( $IC_{50}$ ) of the treatment were calculated by using sigma plot 9.0. In this study, *Curcumin*, was used as a negative control to compare the effectiveness of these two natural substances in treating colon cancer cell lines. It is the active component and yellow pigment of turmeric.