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***In vitro* Anti-proliferation Activity of *Impatiens balsamina*  
Plant Extracts on Two Human Tumor-derived Cell Lines**

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**Abstract**

An anti-proliferation activity study of *Impatiens balsamina* plant extracts on two cell lines derived from human tumor was performed. The plant was extracted using ethanol and chloroform solutions. Brine Shrimp Lethality Test (BSLT) for determination of lethal concentration-50 (LC50) of the extracts was used. The growth inhibition activity of the extracts was assayed by using a Trypan Blue dye exclusion method and the cells were counted using a haemocytometer. The plant extracts were significantly inhibited the proliferation of leukemia (K-562) and myeloma (137) — derived cell lines *in vitro* ( $P < 0.05$ ).

The LC50 for *Impatiens balsamina* ethanol extract was 11.1734 ppm, and the dose tested for this extract were 4, 8, 12, 16 and 20 ppm. The highest anti-proliferation effect of *Impatiens balsamina* ethanol extract on each cell lines were 60.80 % for leukemia cell, while for myeloma cell was 64.29 %, this activity was occurred on the dose of 20 ppm. For the chloroform extract, the LC50 level was achieved at 4.6623 ppm. The tested doses were 2, 4, 6, 8 and 10 ppm and the maximum activity on both cell lines were occurred on the dose of 10 ppm, they were 38.63 for leukemia cell and 85.71 % for myeloma cell.

The anti-proliferation activity of *Impatiens balsamina* plant extracts indicated that this extracts contained substance(s) that have ability on the inhibition of the growth of some human derived-tumor cell *in vitro*. From the above result, in conclusion we suggest that *Impatiens balsamina* have a possibility and could be used as a source of anti-tumor substance(s). Isolation and identification of the bioactive compounds of this plant extracts is in progress.

**Keywords:** Anti-proliferation, *Impatiens balsamina*, *in vitro*, tumor cells