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Isolation and Characterisation of Cytotoxic Compounds from *Impatiens Balsamina*

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Cancer is characterised by uncontrolled cells growth and spread of abnormal cells (National Cancer Institute (NCI), 2007). According to the National Cancer Institute (NCI), USA, cancer is the top two cause of mortality in year 2004. American Cancer Society expects 1,444,920 new cancer cases to be diagnosed in 2007. Although cancer has killed many people worldwide, a cure remains elusive. The inability of modern medicine to cure cancer without leaving any side effects has evoked the development of alternative treatments especially herbal medicine. Malaysia is listed as the 12th most biodiverse nation in the world and ranked fourth in Asia with over 15,000 flowering plants and over 3000 species of medicinal plants, of which more than 90 percent of species have yet to be studied. Balsam (*Impatiens balsamina*) is one of the herbs used in Malaysia for its medicinal properties. Tan (2006) showed in a preliminary screen, that crude ethanolic extract of Balsam were very cytotoxic towards cancer cell lines. However, the active principle was not isolated. Therefore, in this study, the seed capsules of *I. balsamina* were extracted using sequential extraction (soaked in n-hexane followed by ethyl acetate and methanol). The crude extracts were screened for their cytotoxic activity towards K-562, a human erythroleukemia line and showed promising cytotoxic activity with IC_{50} value ranging from 0.3 to 8.0 ug/ml. Those active fractions were further isolated using bioassay-guided isolation methods. A pure compound was isolated from the ethyl acetate that shows strong cytotoxic activity. However, the IC_{50} and the structure of the compound are yet to be determined.