UNIVERSITI TEKNOLOGI MARA

ANTIMITOTIC ACTIVITY OF *Phyllanthus niruri* (DUKUNG ANAK) LEAVES ON DIFFERENT SOLVENT EXTRACTION

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DECLARATION BY STUDENT

Project entitled "Antimitotic Activity of *Phyllanthus niruri* (Dukung anak) Leaves on Different Solvent Extraction" is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature and acknowledgement of collaboration research and discussions. This project was done under the guidance of Project Supervisor, En Zed Zakari bin Abdul Hamid. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Medical Laboratory Technology (Hons).

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In the name of Allah, The Most Gracious, The Most Merciful.

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TABLE OF CONTENTS

ABSTRACT

Recently, the use of natural product including herbs has become the choice of drugs as it is safer than synthetic products. The unsuccessful use of the synthetic product has been reported due to side effect occurred such as suppression of the immune system and metabolic disease. *Phyllanthus niruri*, a small herb that is commonly known as "dukung anak" in Malaysia, has been used for decades due to its pharmacological effects towards human system such as antidiabetic, anti-inflammatory, antiviral and anticancer effects. Despite the antiproliferative characteristic of *Phyllanthus niruri* in cancer, there are no studies being conducted on comparison of different solvent extraction and concentration on *Allium* assay. Aqueous and 50% ethanol leaves extract of *Phyllanthus niruri* were done to evaluate the suitable solvent extract and concentration for antimitotic activity. The aqueous and 50% ethanol crude with three concentrations, 4, 5, 6 mg/ml, was used. The result showed that both solvents were significantly reduced the mitotic index as higher concentration being used when comparing to control. The strongest and the lowest antimitotic activity were found in 50% ethanol extract (6 mg/ml) and aqueous extract (4 mg/ml), respectively, with mitotic index of 0.33%±0.78 and 2.90%±0.63 each. Thus, suitable solvent extraction for *Phyllanthus niruri* was identified in 50% ethanol with a concentration of 6 mg/ml.

Keywords: *Allium* assay, anticancer, antimitotic, *Phyllanthus niruri*