

**UNIVERSITI TEKNOLOGI MARA**

**THE ANTIMITOTIC ACTIVITIES STUDY OF  
*Polygonum minus* (DAUN KESUM) LEAVES  
EXTRACT IN DIFFERENT SOLVENT**

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Project submitted in fulfillment of the requirements for the degree of  
**Bachelor in Medical Laboratory Technology (Hons.)**

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## DECLARATION BY STUDENT

Project entitled “The Antimitotic Study of *Polygonum minus* (Daun Kesum) Leaves Extract in Different Solvent” 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 collaborative research and discussions. The 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 Bachelor in Medical Laboratory Technology (Hons).

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*In the name of Allah, the Most Gracious and the Most Merciful.*

All praises to Allah S.W.T, the Supreme Lord of the Universe. Peace and blessing to the Prophet Muhammad S.A.W., all prophets and their families. Alhamdulillah, I praise Allah S.W.T. for the strength and His blessings, with all patience and hard work, this thesis has now completed.

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## ABSTRACT

Cancer is a disease that cause by the abnormal growth of cells that can invade in the body parts and spread to other organs. It is second disease that cause death. In 2015, 8.8 million death have been discovered by World Health Organisation (WHO). Nowadays, people are interested in medicinal herbs instead of synthetic medicines. Herbal medicine is a plant or mixtures of plant extracts which is used to treat illness and also to promote health. Medicinal herbs are inexpensive compared to synthetic medicine. The present study was done to determine the antimitotic activity of *Polygonum minus* by using different extraction at different concentration. *Polygonum minus* is prepared to extract in aqueous and methanol. *Allium cepa* is used for the treatment. The roots of *Allium cepa* was dip in the extraction. The root tips was cut to observe under microscope. It was dip in acetic acid and hydrochloric acid and stained with methylene blue. The mitotic index was calculated. Root tips cells in the extract shows minimum number of dividing cells compared to control group. Based on the mitotic index, aqueous has low mitotic index compared to methanol. Thus, aqueous has high cell division suppression. In the comparison of concentration, which involves 4 mg/ml and 8 mg/ml, it shows that 8 mg/ml has high cell division suppression compared to 4 mg/ml. This study shows that there is potential antimitotic activity of *Polygonum minus* extract.

**Keywords:** Antimitotic, *Polygonum minus*, *Allium cepa*, mitotic index, cancer