

Antibacterial Activity of the Capsules of *Moringa oleifera* Lamk. (Moringaceae)

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ABSTRACT

This study determined the antibacterial activity of methanolic crude extract, purified dichloromethane extract and isolated parts from column chromatography of Moringa oleifera Lamk. capsules by agar-well diffusion. The methanolic crude extract showed no activity against Staphylococcus aureus ATCC 25923, Escherichia coli ATCC 25922, Pseudomonas aeruginosa ATCC 27853 and Klebsiella pneumoniae ATCC 67120. The purified dichloromethane extract and isolated parts from column chromatography showed antibacterial activity against these bacteria. Antibacterial activity began at 5-10% W/V concentration. It was proved that purified samples consisted of more active components, so they showed antibacterial activity against gram-positive and gram-negative bacteria.

Key words: *Moringa oleifera* Lamk., Antibacterial activity

INTRODUCTION

Moringa oleifera Lamk. is a member of the *Moringaceae* family. It originated in India, Sri Lanka and can be grown-up in Asia Minor and Africa as well. However, it is commonly found in Thailand. Several evidences revealed that *M. oleifera* had various pharmaceutical activities such as antibacterial (Eilert et al., 1981; Dayrit et al., 1990), antifungal, antispasmodic, anti-inflammatory, and diuretic activities (Carceres et al., 1992). Mutagenic activity of *M. oleifera* was also proposed by Villasena et al., 1989. The nutritional values of this plant were demonstrated by Verma et al., (1976) and Chakraborti et al., (1988).

As mentioned above, there is a good positive direction if the *M. oleifera* cultures from the northern part of Thailand have the similar valuable activity. In this present study, the technique for purification of crude extract of *M. oleifera* to screen the antibacterial activity was established. About 5 to 10% W/V of chromatographic fractions and purified dichloromethane extract showed the potential broad spectrum antibacterial activity against gram positive bacteria (*Staphylococcus aureus*) and gram negative bacteria (*Escherichia coli*, *Pseudomonas aeruginosa*, and *Klebsiella pneumoniae*). Further studies are required to confirm and clarify the mechanism of action of *M. oleifera*.