Antibacterial activities of *Tithonia diversifolia* leaf extracts
Montakarn Thongsom*, Paweena Khongjua, Chalermwut Sue特朗g
Faculty of Science and Technology, Nakhonsithammarat Rajabhat University,
Nakhonsithammarat 80280, Thailand
*E-mail: montakarn2008@hotmail.com

Abstract: *Tithonia diversifolia* (TD) is a member of sunflower family. It has been used as traditional medicine for malaria, diarrhea, inflammation and diabetes. This study aimed to determine the effect of antibacterial activity of TD leaves extracted by ethanol, methanol, hexane, ethyl acetate, *n*-butanol and water. The crude extracts were tested against *Staphylococcus aureus*, *Bacillus cereus* and *Escherichia coli*. The results indicated that the TD ethyl acetate extract displayed the highest antibacterial activity against *S. aureus* and *B. cereus* in both agar well diffusion and broth dilution methods. For the agar well diffusion method, the average inhibition zone diameters were 27.33 mm (*S. aureus*) and 26.66 mm (*B. cereus*). Moreover, the results from the broth dilution method showed MIC values of 0.12 mg/mL (*S. aureus*) and 0.48 mg/mL (*B. cereus*), and MBC values of 0.06 mg/mL (*S. aureus*) and 0.25 mg/mL (*B. cereus*). As a result, the TD ethyl acetate extract could be used for bacterial treatment.

**Keywords:** *Tithonia diversifolia*; Antibacterial; Minimum inhibitory concentration (MIC); Minimum bactericidal concentration (MBC)