

Bactericidal Effect of Cempedak (*Artocarpus champeden*) Stem Extract on *Mycobacterium tuberculosis*

Wirawan Indra Priyantono ¹, Ni Made Mertaniasih ², Danti Nur Indiasuti ³

¹Faculty of Medicine, Airlangga University, Surabaya

²Department of Microbiology, Faculty of Medicine, Airlangga University, Surabaya

³Department of Pharmacology and Pharmacy, Faculty of Medicine, Airlangga University, Surabaya

Abstract

This research aimed to study the bactericidal effect of cempedak (*Artocarpus champeden*) stem bark extract against *Mycobacterium tuberculosis* H37Rv in vitro. The cempedak stem bark extract was prepared at the Laboratory of Department of Phytochemistry and Pharmacognosy Faculty of Pharmacy, Airlangga University. The extract was dissolved in DMSO and 0.9% NaCl to achieve a concentration of 500 µg / ml. Firstly we inoculate the bacterial suspension (concentration = 10⁵ cfu / ml and 10⁴ cfu / ml) in MB 7H9 medium. Antituberculosis properties tests were conducted by administering the extract solution at concentration of 500 µg / ml to the inoculated MB 7H9 medium. In the control, the bacterial suspension was given with DMSO and 0.9% NaCl. After incubation for 1 week at 37° C and 5% CO₂, it was subcultured in MB 7H10 plates and incubated again for 3 weeks at 37° C and 5% CO₂. The observations of colonies that grew was confirmed by Ziehl Neelsen acid-fast staining. The results of this study showed no Acid Fast Bacilli found in both of bacterial suspension given extract solution. In the controls, on the 10⁵ cfu / ml bacterial suspension was found Acid Fast Bacilli. It can be concluded that the stem bark extract of cempedak (*Artocarpus champeden*) effectively kill the bacterium *Mycobacterium tuberculosis* H37Rv virulent strain.

Key words: *Mycobacterium tuberculosis*, cempedak stem bark extract, killing effect