

## ABSTRACT

Oswari, Melissa. 2016. **Stimulation Response Immune CD4<sup>+</sup> T cells by *Candida albicans*' Cell Wall Extract in Mice Model of Typhoid Fever.** Final Assignment, Medical Program, Medical Faculty of Universitas Brawijaya. Supervisors: (1) Dr. Dra. Sri Winarsih, Apt., Msi. (2) Prof.Dr.dr. M.Rasjad Indra, MS.

Typhoid fever is a disease of global health issues caused by *Salmonella* Typhimurium. One of first-line choice of treatment in typhoid fever is ciprofloxacin. Recently there are many cases of resistance to first-line drugs, so that an alternative solution to typhoid fever treatment is with immunomodulator. One of potent immunomodulator is  $\beta$ -glucan.  $\beta$ -glucan contained in the cell wall of *Candida albicans*. This study aims to prove that  $\beta$ -glucan contained in extracts of the cell wall of *Candida albicans* can stimulate immune response to CD4<sup>+</sup> T cells in mice model of typhoid fever. This study is an experimental research in experimental animals Balb/C male mice infected with *Salmonella* Typhimurium. Mice were divided into four groups, namely positive control group that infected by *Salmonella* Typhimurium (n = 10), the negative control group that were not treated with anything (n = 10), a group after infected and treated by *Candida albicans*' cell wall extract (n = 10), and a group that after infected and treated by ciprofloxacin (n = 11). The variables measured in this study is the number of CD4<sup>+</sup> T cells in the spleen of mice in the treatment group positive control, negative control group, *Candida albicans*' cell wall extract group, and ciprofloxacin group. The results showed that an increase is not significant from the CD4<sup>+</sup> T cells in the spleen of mice in the extract group than the positive control group, negative control group, and ciprofloxacin group. While in the ciprofloxacin group, the increase is not significant compared to a positive control group and negative control group. The increase in the number of CD4<sup>+</sup> T cells in the extract group more than the ciprofloxacin group. It is concluded that oral administration *Candida albicans*' cell wall extract can stimulate the immune response of CD4<sup>+</sup> T cells in mice model of typhoid fever and as effective as oral administration of ciprofloxacin.

Keywords: *Salmonella* Typhimurium, *Candida albicans*, CD4<sup>+</sup> T cells, ciprofloxacin,  $\beta$ -glucan