IMMUNOMODULATOR EFFECT OF MANGOSTEEN 
(\textit{Garcinia mangostana} L.) PERICARP EXTRACT ON MACROPHAGE THROUGH EXPRESSION OF TLR2 IN NEWCASTLE DISEASE VACCINATED MICE

Hendri Budiyansah

ABSTRACT

The research conducted in a purpose to prove the immunomodulator effect of mangosteen pericarp extract (MPE) through expression of TLR2 in ND vaccinated mice. Animal used in the research were 24 female Balb/c mice, randomly separated into four groups (T0, T1, T2, T3) with six animals each group. T0 group, the control group, was administered with PBS. T1 group was administered with 100 mg/kg of body weight of MPE. T2 group was administered with 200 mg/kg of body weight of MPE. T3 group was administered with Stimuno®. All groups were were treated for four days and vaccinated by inactive ND vaccine LaSota strain without any booster on the next day. Blood collection has been done two days after vaccination. The immunocytochesmistry technique used to stain the cell with TLR2 antibody to observe the macrophages that expressed TLR2 under fluorescent microscope 400x magnification. TLR2 expression cell percentage calculated by formulating TLR2 expression and normal cell. The data analyzed with ANOVA one way and Duncan multiple range test. The result indicated that T0 group has the lowest value of TLR2 expression significantly with T1, T2 and T3 group. T1 group were not significantly different with T2 and T3 group. We can conclude that MPE has immunomodulator effect through expression of TLR2 in ND vaccinated mice and 100mg/ kg of body weight of MPE is the most efficient and effective dose.

Keywords: mangosteen pericarp extract, immunomodulator effect, TLR2, macrophage, newcastle disease.