

EFFECT OF MANGOSTEEN (*Garcinia mangostana* L.) PERICARP EXTRACT ON TLR5 AND CD14 EXPRESSION IN IMMUNIZED MICE AGAINST NEWCASTLE DISEASE VACCINE

Demas Mochammad Zain Fithronny

ABSTRACT

Mangosteen pericarp has well-recognized could reduce the incidence of degenerative diseases including cancer, heart disease, inflammation, arthritis, and immune system. The main chemical substance of mangosteen pericarp that role in improving health, the xanthone, is belonged to phenolic acid that has been studied for its remarkable biological activities in recent years. The research conducted in a purpose to analyze the immunomodulatory effect of mangosteen pericarp extract (MPE), by measuring both the expression of TLR5 and CD14 in mice PBMCs. Animal used in the research were 36 female Balb/c mice, that randomly separated into six groups (T0, T1, T2, T3, T4, T5) with six animal each. T0 was negative control group, T1 was administered with 40 mg/ml MPE, T2 until T4 was administered with 20 mg/ml, 40 mg/ml, 60 mg/ml respectively, and T5 was positive control group using Stimuno®. All groups were vaccinated by inactive velogenic type ND vaccine except for T1 group once and without booster. Blood collection has been done a week after vaccination. The result indicated that MPE could increase both the activity of TLR5 and CD14 with 40 mg/ml as optimal dose.

Key words: mangosteen pericarp extract, immunomodulatory effect, mice, TLR5, CD14