

ABSTRACT

The aim of this research was to know the immunotherapy effect of sea cucumber *Paracaudina australis*, based on IFN- γ levels and histopathological view of the lung on murine model tuberculosis. This research used 24 male rat, Wistar strain, with age range 8-10 weeks and average weight 200 g. *Paracaudina australis* were collected from east coast Surabaya and being extracted using ethanol.

Mycobacterium tuberculosis strain H37RV 10^5 per mL were used as agent of infection. Rats were grouped into four groups; K- negative control group were not given sea cucumber's extract nor infected with M.tb; K+ positive control group were not given cucumber's extract but infected with M.tb; T1 were given sea cucumber's extract with dose 15 mg/200grBW and infected with M.tb; and T2 were given sea cucumber's extract with dose 30mg/200grBW and infected with M.tb. After infected by M.tb for 3 weeks, T1 and T2 were given Sea cucumber's extract continuously for 2 weeks using gavage method.

After that, termination for each group were held, followed with IFN- γ levels and lung's histopathology examination. In the histopathology feature, we done semi-quantitative procedure to measure lung damage by using Dormans score method.

The obtained data then analyzed with oneway Anova ($\alpha=0,05$), followed with Duncan test. As the result, it can be confirmed that *Paracaudina australis* extract with dose 30mg/200grBW had immunotherapy effect by affecting the level of IFN- γ (most high) and histopathological view of lung (less damage) on murine model tuberculosis

Keywords :*Paracaudina australis*, Immunotherapy, Interferon gamma, Tuberculosis.