DETECTION of *Excretory Secretory Antigens* (ESA) in mice (*Mus musculus* Balb/C) POST INTRAPERITONEAL INOCULATION WITH *Toxoplasma gondii*

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ABSTRACT

ESA protein is excreted and secreted by *Toxoplasma gondii* during its penetration and multiplication in host cell. In intraperitoneal cavity, *Toxoplasma gondii* evolves as well as excretes and secretes a protein required for the development of the parasite, which is known as the excretory secretory antigen (ESA). The protein is produced by the Rhoptry organelles, micronema, and dense granules. The protein can partially increases host immune system in response to infection. The purpose of this study was to determine the titer of *Toxoplasma gondii* ESA antigen in serum of mice infected with *Toxoplasma gondii* based on the time after infection. After being anesthetized with ether, twenty-eight mice were infected with *Toxoplasma gondii* as much as 0.1 cc of physiological saline containing 10 tachyzoite. Mice blood was taken from the hearts of four mice every day for one week. Thereafter, the blood serum was centrifuged and stored in a freezer to be tested using indirect ELISA. Results showed that ESA could be detected on the fourth day, and there was highly significant differences ($p < 0.05$) in OD serum of mice infected with *Toxoplasma gondii*. In conclusion, the detection of ESA in various Balb/C mice serum after intraperitoneal inoculation with *Toxoplasma gondii* showed that the highest OD ESA value in mice blood serum was on the fourth day, while the lowest was on the seventh day.

Keywords: excretory secretory antigen (ESA), *Toxoplasma gondii*, intraperitoneal inoculation, mice.