

**MECHANISM OF ANTITOXOPLASMOSIS ETHANOL EXTRACT
OF MANGOSTEEN PEEL (*Garcinia Mangostana* Linn)
ON MICE INFECTED BY *Toxoplasma gondii***

ABSTRACT

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Background: *Toxoplasmosis* is a dangerous infectious disease caused by *Toxoplasma gondii* in the blood or tissue. This disease is zoonotic which is a source of transmission from animals to humans. Therapy of herbal medicine for *Toxoplasmosis* can be determined by looking at IFN γ , IL-12 and MMP-9 expression, and seeing the level of organ damage.

Purpose: to prove the mechanism of antitoxoplasmosis of mangosteen peel extract against *Toxoplasma gondii*.

Methods: The study was divided into two stages. Stage I: determination of the effective dose 50% of mangosteen peel extract against *Toxoplasma gondii*. Stage II: mechanism of antitoxoplasmosis of mangosteen peel extract against *Toxoplasma gondii*. This study used 50 mice divided into five groups: healthy control group (P0) given 0.5% CMC-Na, P1 group without treatment, P2 group given Cotrimoxazole 60mg/kgB, P3 and P4 groups given mangosteen peel extract 200 and 400 mg/kgBW (orally twice a day). After injection of *Toxoplasma gondii* 10² intraperitoneally and given treatment for 5 days then blood samples taken for measurement of SGPT, SGOT, BUN and creatinine; liver and kidney organ samples to determine organ damage, IFN γ , IL-12 and MMP-9 expression. **Results:** ED 50% at dose of 60mg/kgBW. Mangosteen peel extract 200mg/kgBW (P3) and 400mg/kgBB (P4) with significance (p<0.05) can reduce the number of parasites, levels of SGPT, SGOT, BUN and creatinine, reduce liver and kidney damage, increases IFN γ and IL-12 and decreases MMP-9 expression.

Conclusion: Mangosteen peel extract 200mg/kgBW (P3) was proven as antitoxoplasmosis in mice can reduce the number of parasites, levels of SGPT, SGOT, BUN and creatinine, reduce liver and kidney damage, increases IFN γ and IL-12 and decreases MMP-9 expression.

Keywords: antitoxoplasmosis, ethanol extract of mangosteen peel, *Toxoplasma gondii*