Detection of *Toxoplasma Gondii* in Cow Fresh Milk Using PCR Technique.

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Abstract

Consumption of unpasteurized cow milk is can be a source of infection in human. Reports shown the presence of *T. gondii*in milk of lactating mammals such as sheep and camel. Grazing animals may come into contact with *T. gondii* oocyst in the grass passed by stray cats and later passed to the infant through lactating. Thus the aim of this study is to study the presence of *T.gondii* DNA in cow's fresh milk. 15ml of milk was collected and stored at -40°C. 300µL of milk was used for DNA extraction using Genomic Mini DNA Kit. PCR was done using primer 5'-AAGCTTATGCGAGGCGGGACG-3' and 5'-GATATCTCACTGCTTAATTTT CTCACACGTCACGG-3'. The reaction consisted of 31 cycles with the following conditions: 30 second at 98°C (denaturation), followed by 31 cycles at 98°C for 30 second (denaturation), 5 second at 64°C (annealing), and 30 second at 72°C (extension), final extension step of 10 minutes at 72°C and stopped at 16°C. Electrophoresis was done on 1% agarose gel stained with ethidium bromide (2µl). Mice peritoneal fluid infected with *T.gondii*was used as the positive control. The expected PCR product size (MIC3 gene form *T.gondii)* was 1080 base pairs. Results from the gel electrophoresis showed no band was formed for the milk samples. The fresh milk from Klang, UPM and Shah Alam were free from *T. gondii*however further studies should be conducted to detect other microorganisms that may be present in the milk to assure safe consumption.

Keywords:

Milk, *Toxoplasma gondii*, MIC3 gene, PCR