DETECTION OF *TOXOPLASMA GONDII* BY PCR AND QUANTITATIVE PCR WITH HIGH SPECIFICTY AND LOWER LIMIT OF DETECTION

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Abstract. Toxoplasmosis is one of the important zoonotic protozoan diseases, which can occur in both animals and humans. It is a leading cause of abortion in newborn, blindness and brain abscesses in immunodeficient patients. Traditional molecular assays often are difficult to perform, especially for early diagnosis of *Toxoplasma gondii* infection. The objective of this study was to develop and evaluate PCR and quantitative (q)PCR assay with a lower limit of detection and specificity targeting multi-copy *B1* of *T. gondii*. The detection limit of *T. gondii* DNA by both PCR and qPCR was 10 ag, equivalent to 0.01 tachyzoite/μl. The specificity of qPCR was confirmed using genomic DNA from *Entamoeba histolytica, Escherichia coli*, *Neospora caninum*, *Cryptosporidium* spp, *Cryptococcus neoformans*, *Giardia duodenalis*, *Klebsiella* spp, *Mycobacterium tuberculosis*, cat, dog, swine, cow, and humans.

Keywords: *Toxoplasma gondii*, detection limit, PCR, quantitative PCR

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