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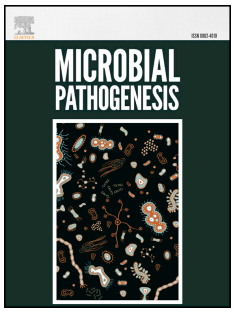

miR-20a inhibition using locked nucleic acid (LNA) technology and its effects on apoptosis of human macrophages infected by *Toxoplasma gondii RH* strain

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miR-20a Inhibition using Locked Nucleic Acid (LNA) Technology and its Effects on Apoptosis of Human Macrophages Infected by *Toxoplasma gondii RH* Strain

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Abstract

Toxoplasma gondii is a ubiquitous and infectious parasite that multiplies in any nucleated cell of warm-blooded animals and humans worldwide. This parasite has intricate mechanisms to reciprocate host-cell apoptosis to exist in the host cell. So far, the details of the parasite interactions with host cells are not well known. MicroRNAs (miRNAs) are one of the small noncoding RNAs that are now considered as a key mechanism of gene regulation. They are important in physiological and pathological processes such as apoptosis. In this study a Real Time quantitative PCR technique was used to evaluate the levels of miR-20a of miRNAs family in human macrophage during *T. gondii* infection to determine the role of miR-20a in apoptosis. Then, the inhibition of miR-20a function through interaction with transfection of Locked Nucleic Acid (LNA) antisense oligomer was studied. Furthermore, it was examined whether miR-20a is involved in apoptosis of human macrophages with *T. gondii* infected cells using flow cytometry.