

Effect of Lycorine Alkaloid in Extracellular Nucleotide Hydrolysis in
Trichomonas vaginalis

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The flagellated and amitochondriate protozoan, *Trichomonas vaginalis*, causes trichomonosis, the most common non-viral STD in the world. The presence of enzymes performing ATP and ADP (NTPDase), and AMP (ecto-5'-nucleotidase) hydrolysis in trichomonads may be important for modulation of nucleotide concentration in the extracellular space, protection from the cytolytic effects of extracellular ATP, involvement in signal transduction and in cellular adhesion. In this study we investigated the effect of alkaloid lycorine in extracellular ATP, ADP and AMP hydrolysis on *T. vaginalis*. Lycorine presents an ample variety of pharmacological activities and it is a natural product purified and candidate to new drug. Lycorine (250µM) was incubated with *T. vaginalis* trophozoites and the specific activity was expressed as nmol Pi released/min/mg protein. The treatment of two hours of incubation did not change the specific activity, in contrast of 24h. When compared to controls, the ATP and ADP hydrolysis were 50% and 25% reduced, respectively. The AMP hydrolysis was not affected. Lycorine (250µM) caused no effect on the gene expression level of two NTPDase (434 and 441) of *T. vaginalis*, after 24h. Our results contribute to the understanding of the mechanism of action of the cytotoxic effect exerted by lycorine, concerning the purinergic system from *T. vaginalis*.

Key words: *Trichomonas vaginalis*, lycorine, nucleotide, hydrolysis.

Acknowledgments: To CNPq, FAPERGS and CAPES.