ANTI-Tritrichomonas foetus activity of fungi metabolites from Brazilian Amazon

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Introduction: Tritrichomonas foetus is a protozoan that causes bovine trichomonosis sexually transmitted by coitus and artificial insemination. This infection presents high prevalence and causes important loss in cattle (Rae, J Am Vet Med Assoc., 194,771,1989). Considering the high prevalence, the economic importance of this infection in cattle and the increase number of resistance to ronidazole (Kather, J Vet Intern Med, 2196, 2007) it is essential to search for new alternatives for the treatment of this disease. The aim of this study was to investigate the anti-T. foetus effect of metabolites produced by fungi from the Brazilian Amazon.

Experimental part: The TFK T. foetus isolate was used in this study. The metabolites were obtained from Brazilian Amazon fungi cultivation in Czapec brothe for 28 days at 28 °C. The mycelia were extracted from vacuum microfiltration producing 15 samples. The samples were screened against T. foetus at 10 mg/mL. The minimum inhibitory concentration (MIC) was determined by serial dilution ranging from 20 mg/mL to 0.156 mg/mL. The growth kinetic assay was performed by counting in hemocytometer.

Results and Discussion: Nine of the 15 metabolite samples showed anti-T. foetus activity reducing the trophozoites viability more than 40%. Then, these nine samples had the MIC value determined against T. foetus and two of these presented MIC at 10 mg/mL. In the kinetic assay, the sample obtained from Aspergillus sp. at 10 mg/mL totally inhibited the trophozoites growth at 24h.

Conclusion: The results obtained in this study revealed the cytotoxicity against T. foetus of at least one of the 15 metabolite samples from the Amazonian fungi tested. The Amazon region presents a rich biodiversity and a high potential to obtain active molecules from fungi.

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