

**Title: TRIPANOCIDE ACTIVITY OF ETHANOLIC AND ALKALOID EXTRACTS OF POGONOPUS TUBULOSUS**

**Authors:** Gonçalves, G. <sup>1</sup>, Souza, C.M.M. <sup>1</sup>, Portela, A. <sup>1</sup>, Padovani, C.T. <sup>1</sup>, Tozetti, I.A. <sup>1</sup>, Garcez, F.R. <sup>1</sup>, Garcez, W.S. <sup>1</sup>, Ferreira, A.M.T. <sup>1</sup>

**Institution:** <sup>1</sup> UFMS/CCBS– Universidade Federal de Mato Grosso do Sul/ Centro de Ciências Biológicas e da Saúde (Cidade Universitária, Campo Grande - MS, 79090-900)

**Resume:**

*Trypanosoma cruzi* is the etiological agent of Chagas disease in humans in the Americas. It is responsible for thousands of deaths each year and disables thousands of individuals to work, generating a great onus for the government with the treatment of patients. The treatments used today are effective in 50% of the cases in acute phase, but are ineffective in the chronic stage of the disease. The use of bioassays allows detection of the biological activity of a plant extract in a simple way and points to studies searching for new compounds with therapeutic properties. This study aims to determine the trypanocidal potential of *Pogonopus tubulosus* (stem alkaloid extract, fruits and stem ethanolic extract). Parasites in the exponential phase of growth were incubated for 72 hours at 28 °C with all three extracts in concentrations of 100, 50, 25, 12.5 and 6.25 µg / ml. After this period, MTT (3- [4,5-dimethylthiazol-2-yl] -2,5 diphenyltetrazolium bromide) was added to the test at a concentration of 5 mg/ml, incubated at 37 °C for 4 hours, the parasites centrifuged and the supernatant discarded. At the pellet were added 50mL of 10% SDS and 150µL of DMSO for solubilize the formazan crystals produced. The solution was transferred to a 96 well plate and read in a spectrophotometer at 570 nm µQuant. The whole experiment was carried out in five replications, the comparison between treatments and their controls was performed by analysis of variance (T test) and the IC<sub>50</sub> value was obtained by logarithmic regression. The stem alkaloid extract demonstrated increased biological activity, with IC<sub>50</sub> of 3.41 µg / mL, followed by stem ethanolic extracts (IC<sub>50</sub> of 4.58 µg / ml) and fruits ethanolic extract (IC<sub>50</sub> of 5.77 µg / ml). All extracts analyzed showed potent trypanocidal action, with IC<sub>50</sub> values below the used control (Benznidazole), revealing, therefore, to be promising extracts for the isolation of active compounds.

**Key-words:** *Trypanosoma cruzi*, plant extracts, epimastigotes

**Sponsoring agency:** UFMS, Fundect, CNPq