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Evaluation of schistosomicidal activity of hydnocarpin D, a flavolignans isolated from *Vellozia variabillis* stem

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S chistosomiasis is a neglected tropical disease that infects over 200 million people worldwide and it is caused by schistosomes (parasitic trematodes). Its treatment relies only on Praziquantel, a drug which shows toxic side effects, lack of effectiveness against young worms and it may be less useful in the future due to the drug-resistance of schistosomes. Thus, alternative drugs for the treatment are required. The crude ethanolic stem extract from *Vellozia variabillis (Velloziaceae)* has shown *in vitro* schistosomicidal activity against adult worms of *Schistosoma mansoni*. Further, the flavoliganan hydnocarpin D (Figure 1) was isolated from stem extract by chromatographic fractionation plus preparative HPLC; identified by ¹H- NMR, ¹³C-NMR, mass spectrometry methods and evaluated *in vitro* against *S. mansoni*. Adult worms of *S. mansoni* LE strain was recovered from the mesenteric veins of the infected mice and cultured in 24-well plates at 37°C in RPMI1640 media. Hydnocarpin D was dissolved in 10% DMSO and diluted into the medium to give 12.5, 25, 50, 100 and 200 μ M. Adult worms were kept for 72 hours and the viability was monitored every 24 hours. As negative control was used adult worms (100% at 200 and 100 μ M, and 75% at 50 μ M after 48 hours; 100% at 25 μ M after 72 hours) and reduced the motor activity significantly of 100% of the adult worms (25, 50, 100, 200 μ M. Hydnocarpin D showed good results and can be a good choice to futures studies for the seeking of alternative drugs to schistosomiasis treatment.

Biography

Lúzio G B Flauzino has completed his Graduation in Industrial Chemistry from the University of Franca (year 2011). During his graduation, he undertook a scientific initiation phase with the group of Natural Products (GPNUF) developing the project- Molecules of interest: isolation, identification, structural modifications and evaluation in several biological tests with FAPESP technical training grant (Proc. FAPESP (Proc. No. 2014 / 08404-6), which develops the project phytochemical studies of *Villa elliptica* and *Vellozia variabilis* and evaluation in tests against neglected tropical diseases.

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