In vitro evaluation of standardized extracts of brazilian red propolis and related substances (gutiferone e/xanthoquimol and oblongifolin b), on *Trypanosoma cruzi*

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Chagas disease is a neglected disease that affects more than eight million people in developing countries. Due to the limitations with the current treatments, it is necessary to research new molecules for the treatment. In this scenario, the Brazilian red propolis, an apicultural product found mainly in the Northeast region, presents a variety of substances with biological activities, including antiparasitic. Thus, the present work evaluated the *in vitro* effect of hydroalcoholic extracts of standardized Brazilian red propolis rich in phenolic substances (**EPVPF**) and rich in polyprenylated benzophenones (**EPVPB**) and the related substances, Gutiferone E/ Xanthoquimol (**GUT/XAN**) and Oblongifolin B (**OBL**) against trypomastigote and amastigote forms of the *Trypanosoma cruzi* strain Y parasite, and evaluated the cytotoxic and hemolytic effect of these extracts and substances. Among the extracts evaluated, the **EPVPB** was the most active against the trypomastigote and amastigote forms of *T. cruzi* presenting inhibitory concentration values 50% (CI_{50}) of 17.97 and 6.83 μg/mL in 48h, respectively, the **EPVPB** also presented less cytotoxic against the myoblast lineage C_2C_{12} with cytotoxic concentration values (CC_{50}) between 51.32 and 42.80μg/mL in 24 and 48h respectively. Regarding isolated substances, both **GUT/XAN** and **OBL** showed IC_{50} values less than or equal to 5 μM against trypomastigotes in 48h, and against amastigotes **GUT/XAN** was the most active substance with IC_{50} value of 6.97 μM. Furthermore, both substances showed moderate cytotoxicity with CC_{50} values below 20 μM. All extracts and substances evaluated did not show hemolytic activity in the experimental conditions evaluated. The results obtained in this study show the *in vitro* efficacy of the **EPVPB** and related substances tested against the *T. cruzi* strain Y parasite, and open the way for the study of the mechanism of action, as well as the *in vivo* efficacy in the murine model of Chagas disease. Financial support FAPESP (Process: 2017/04138-8), CAPES (Process: 88887.605060/2021-00).