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### **Evaluation of the Anti RT HIV-1 and Anti-candidal properties of *Heteropterys brachiata***

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#### **Abstract**

Despite efforts to control and prevent new cases of HIV infection, the prevalence of HIV/AIDS patients has not shown an evident decrease. Opportunistic infections, like oral fungal infections related to AIDS are the most prevalent worldwide. Having a drug that has a double pharmacological effect, anti RT HIV-1 and anti-candidal, would represent a better therapeutic option. For these reasons, the present study evaluated the anti-candidal and anti RT HIV-1 properties of the methanolic extract of plant species *Heteropterys brachiata* (Malpighiaceae) (HbMeOH). Likewise, it was chemically analyzed to identify the main secondary metabolites.

HbMeOH inhibition on RT HIV-1 was obtained using the Lenti RT® Activity Assay kit (Cavidi Tech). At a concentration of 1% HbMeOH, the inhibition of RT was  $38.8 \pm 1.5$ , at 0.1% it was  $25.8 \pm 0.6$  and at 0.01% it was  $12.5 \pm 1.0$ . *Candida albicans* ATCC® 90028 strains were shown to display sensitivity to HbMeOH. According to the CLSI, if the inhibition percentage is greater than 50%, it is considered to be sensitive. The lowest sensitive, 61%, was at 2.5 mg/ml concentration and the highest inhibition, 98%, was at 10 mg/ml. This study is the first report of the presence of alkaloids, saponins and tannins metabolites in HbMeOH. Results indicate that the methanolic extract of *Heteropterys brachiata* has anti RT HIV-1 and anti-candidal properties; in the future it will be necessary to carry out studies specifically to determine the target of action. Therefore, it can be considered as a future candidate for AIDS therapy

#### **Biography**

Getsemaní Sinai Villanueva Amador is a Biologist and has completed her MSc from Universidad Nacional Autónoma de México (UNAM, National Autonomous University of Mexico).

Her professional experiences comprise working as a researcher in Phytochemistry, Molecular Biology and Mycology. She is also a professor of Botany in the Biology career at Science Faculty, at UNAM. She has published 3 papers since 2020.

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