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NOVEL AMAZONIAN EXTRACTS AS ANTIVIRAL CANDIDATES AGAINST SARS-CoV-2 INFECTION *IN VITRO*

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The SARS-CoV-2 pandemic boosted the search for antivirals aimed at treating COVID-19. The antivirals for COVID-19, today, are very expensive, impeding access to these treatments. Therefore, it is urgent to develop new drugs to treat this disease. This study aimed at evaluating the cellular effects and the antiviral anti-SARS-CoV-2 activity of two amazonian extracts as candidates for the COVID-19 treatment. B1 and B2 extracts showed previous promising results against other viruses and were selected for the study. They were tested using six dilutions for cytotoxicity and plaque-reduction assays to assess antiviral potency in BSL-3. Both extracts showed low cytotoxicity, with above 80% of viability in Vero CCL-81 cells. Also, both extracts had an antiviral activity against SARS-CoV-2 (Wuhan and Omicron). In tests based on the Wuhan, B1 decreased 3-log at a dilution up to 1:40, presenting a dose-dependent effect. In tests based on the Omicron, B1 reduced 6-log up to 1:40 dilution and almost 2-log in the 1:80 dilution. This effect was more significant in Omicron variant as compared to the Wuhan strain. In assays using extract B2, a reduction of ~6-log was shown for both strains in the first dilution (1:2), however, a smaller effect on the next dilutions was observed compared to B1. This data indicate a dose-dependency of those extracts and a promising and significant interference in the viral replication cycle, specially for B1. Therefore, further tests are underway in order to shed light regarding the mechanisms of viral inhibition and its potential as anti-SARS-CoV-2 antiviral candidates.

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