2 a 5 out 2024

35º Congresso Brasileiro de Virologia • 19º Encontro de Virologia do Mercosul

Rafain Palace Hotel and Convention • Foz do Iguaçu - PR

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

Teixeira, C.W[1]; Reis, E.V[1], Guamán-Burneo, M.C.[2,3]; Moraes T.F.S.[1], Da Fonseca FG[1], Coelho-dos Reis J.G.A [1]

[1] Laboratório de Virologia Básica e Aplicada, Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, Belo Horizonte, MG.

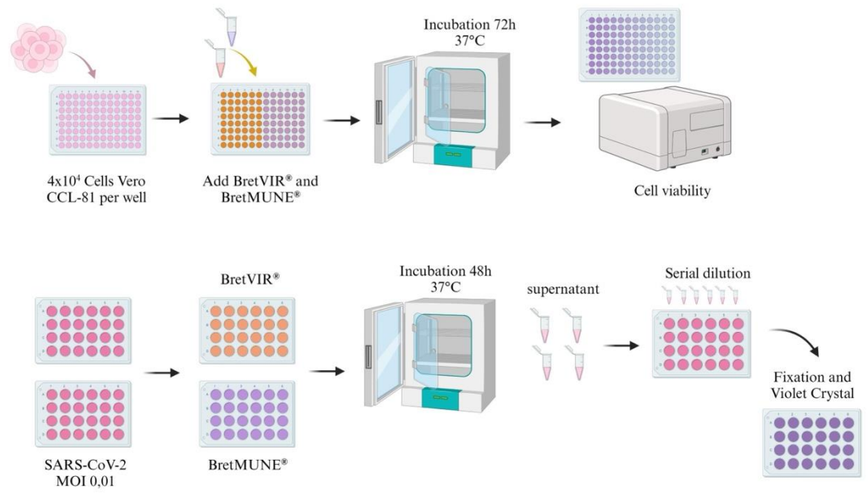
[2]Laboratorios Novandina del Ecuador S.A.

[3]Centro de Investigación para la Salud en América Latina (CISeAL), Pontificia Universidad Católica del Ecuador.

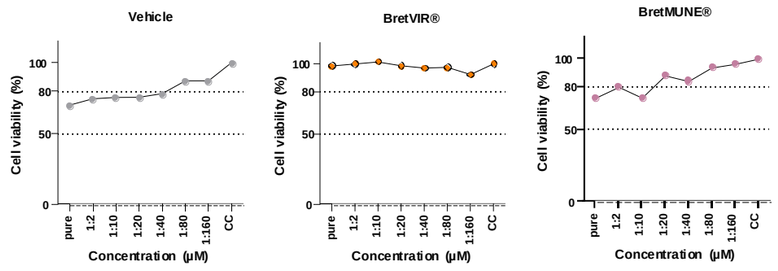
INTRODUCTION

The SARS-CoV-2 pandemic boosted the search for antivirals aimed at treating COVID-19. The antivirals used to treat COVID-19 available on the market are very expensive, impeding access to these therapeutic treatments worldwide. Therefore, it is urgent to develop new drugs to treat this respiratory disease. In this context, this study aimed at evaluating the cellular effects and the antiviral anti-SARS-CoV-2 activity of two amazonian extracts as new candidates for the COVID-19 treatment. BretVIR® and BretMUNE® extracts showed previous promising results against other viruses and were, therefore, selected for the study.

MATERIALS AND METHODS

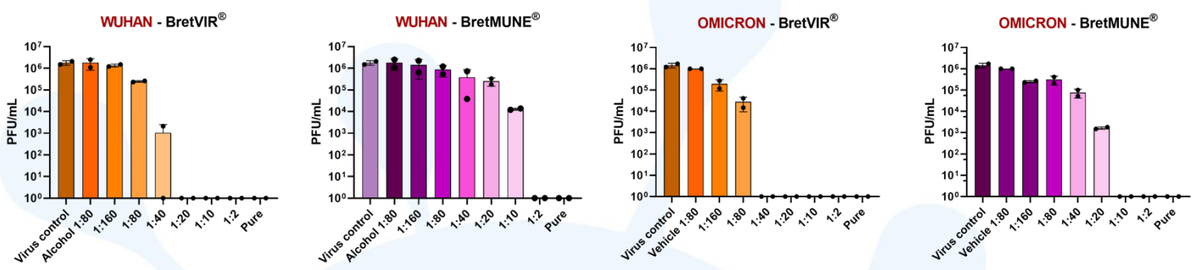


Cytotoxicity analysis of Vero CCL-81 by AlamarBlue ™ assay



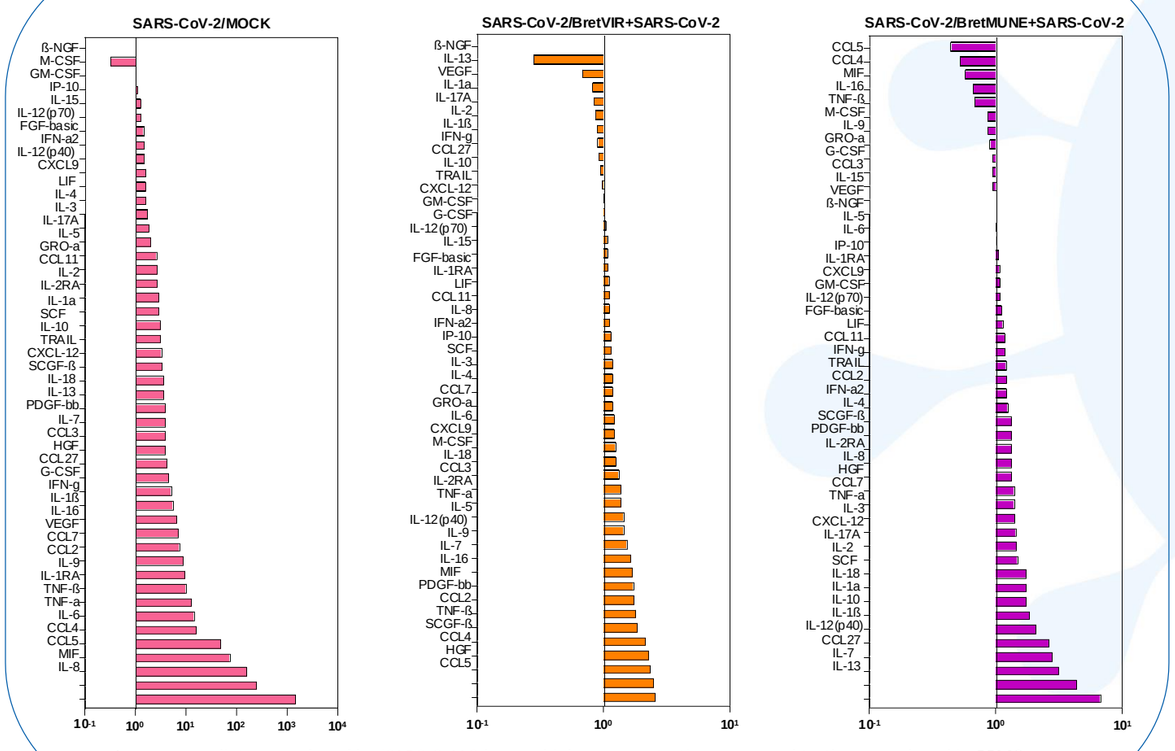
The results show that the compounds are not **toxic** at concentrations of **1:80**

Assessment of dose-response activity of BretVIR® and BretMUNE®



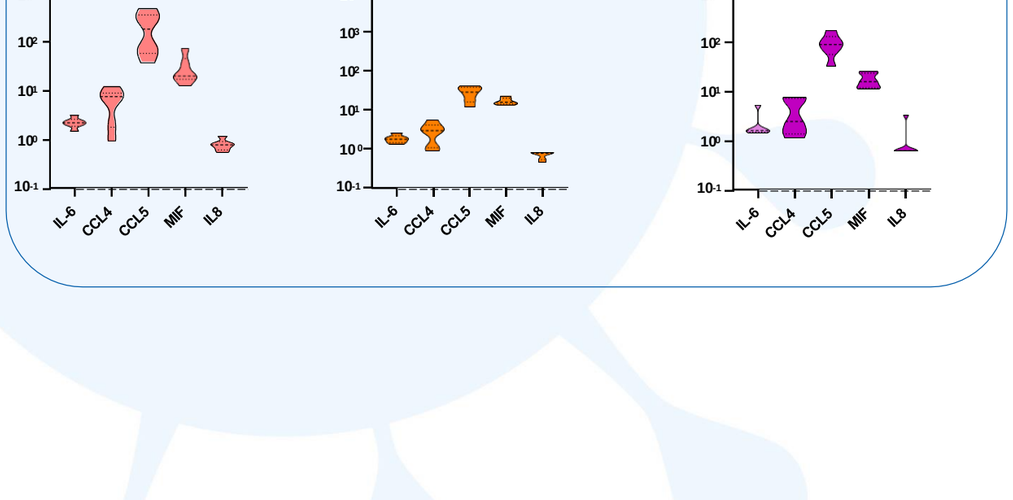
BretVIR® reduces viral load by up to 6 logs in **WUHAN** and **OMICRON** variants

Fold-Changes of serum immune mediator



Immune mediators produced by iSARS-CoV-2 have a higher concentration compared to those produced in PBMC cultures treated with BretVIR® and BretMUNE®

Profile of the 5 immune mediators that showed the greatest increase exclusively by iSARS-CoV-2 in short-term PBMC culture compared to those treated with BretVIR® and BretMUNE®



CONCLUSION

This data indicate a dose-dependency of those extracts and a promising and significant interference in the viral replication cycle, specially for BretVIR®. 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.

FINANCIAL SUPPORT

CAPES CNPq FAPEMIG UFMG NOVANDINA