## ABSTRACT

Since the onset of the COVID-19 pandemic in late 2019 in China, researchers have been actively engaged in the pursuit of non-toxic and efficacious chemicals or drugs with anti-SARS-CoV-2 properties. The objective of this research was to assess the in-vitro efficacy of Idoxuridine against SARS-CoV-2. Idoxuridine is an antiviral drug used for treating herpes infections. It is a derivative of deoxyuridine and has enough structural similarity with deoxyuridine to be integrated into the replication process of viral DNA. First, Vero cell lines were established. Then, SARS-CoV-2 virus was subsequently reproduced using the revived Vero cells. The anti-viral activity of SARS-CoV-2 was determined via $TCID_{50}$ Test. The non-cytotoxic concentration of Idoxuridine was opted for this test. At 5μM concentration of Idoxuridine, SARS-CoV-2 replication was reduced to $10^{2.50}$ $TCID_{50}$ and $10^{2.56}$ $TCID_{50}$ for the Passage-1 and Passage-2, respectively, in comparison to virus infected control cells $10^{3.31}$ $TCID_{50}$ and $10^{3.41}$ $TCID_{50}$. This study indicates that Idoxuridine has antiviral properties against SARS-CoV-2, hence justifying the need of further research.