ABSTRACT

Prevention and detection of COVID-19 in most countries have been strictly constricted to detection via qRT-PCR. We need to find better and more efficient methods to detect respiratory viruses in case another outbreak like SARS-CoV-2 ever happens again. Quick identification and isolation is key to preventing the spread of respiratory viruses. The more convenient the methods, the more likely we are able to control the spread. RT-LAMP is a great alternative that can help solve problems such as lack of resources or time. Saliva sample collection is also a preferable method compared to nasopharyngeal swab due to the effectiveness and simplicity of it. We would like for this project to be a base study for further research in creating techniques using RT-LAMP that is cheap, accurate, and high-throughput. Also give an insight as to what is possible with simpler and cheaper methods. The study by Hayden, Kuentzel & Chittur, 2021 showed replicability and high sensitivity (LoD: 0.67 copies/ µL) due to their strategy in saliva sample treatment as well as the multiplexing of genes that they have implemented.

***Keywords**: RT-LAMP; SARS-CoV-2; COVID-19; Saliva*