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# Diagnostic Accuracy of Rapid SARS-CoV-2 PCR compared to Reverse Transcription Polymerase **Chain Reaction RT-PCR**





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#### INTRODUCTION

Malaysia had reached five million COVID-19 cases as of May 2023. Perak alone recorded 238,369 cases with 2,141 deaths. Due to the capability of producing results within 1-2 hours, rapid SARS-CoV-2 PCR (rapid PCR) is used to hasten case detection, hence improving the diagnosis and management of COVID-19 patients.

**OBJECTIVE** This study aims to determine the diagnostic accuracy of rapid PCR using reverse transcription polymerase chain reaction (RT-PCR) test as a reference standard.



GeneXpert - Xpert Xpress SARS-CoV 2



QIAstat – Dx Respiratory SARS-CoV-2

#### **METHOD**

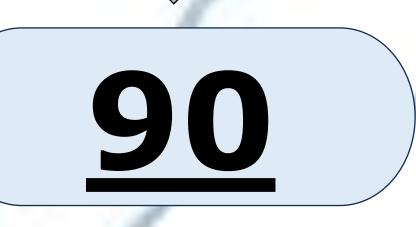
112, 442

\*cases in Perak were reported through SIMKA (Jan-Dec 2021)



**130** 

cases requested for rapid PCR paired with RT-PCR (excluding inconclusive result)



final cases selected for data analysis

Inconclusive RT-PCR
Inconclusive Rapid PCR

RESULTS

Rapio	i PCR	RT-PCR		
Detected	Not detected	Detected	Not detected	
4	28			
		2	6	

\* the case selection was made regardless of the purpose of testing; critically ill patients, urgent transplant cases, brought-in-dead (BID) patients, or others upon consultation.

### CONCLUSION

This study demonstrates that PCR rapid performance is consistent with RT-PCR.

Specificity 94.8%

Sensitivity

92.3%

95%CI: 70.3-99.5

95%CI: 88.3-98.4

PPV 75.0% 95%CI: 51.1-91.5

Accuracy

94.4%

95%CI: 87.5-98.2

NPV

98.6% 95%CI: 94.2-99.9

Cohen's Kappa 95%CI: 0.45-0.91

Phi

coefficient

0.80

95%CI: 0.52-0.91

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