




KPJ SELANGOR

**DR IZHWAN @ SUFYAN HAERDY B. MOHAMAD**

MEDICAL OFFICER

KPJ Selangor Specialist Hospital, Lot 1, Jalan Singa 20/1,  
Section 20, Shah Alam

<b>Patient Name : MOHD ZAINURIN BIN MAT ARIP</b>			
Ward / Clinic	: Accident & Emergency Department	Lab No.	: 1923670489
Age	: 55Y	Sex	: Male
IC No.	: 680428-06-5385	Date Received	: 06/12/2023 22:42
		MRN	: 563892
		Date Reported	: 07/12/2023 17:59
		Report Status	: Final

	Result	Unit	Reference range
<b>PCR for COVID-19 / SARS-CoV-2 DETECTION</b>			
Sample type	Nasopharyngeal and Oropharyngeal Swab		
** Sarbecovirus Envelope, E gene	<b>Detected</b>		( <i>ct value: 22.15</i> )
** COVID-19 Nucleocapsid, N gene	<b>Detected</b>		( <i>ct value: 25.07</i> )
** COVID-19 RdRp gene & S gene	<b>Detected</b>		( <i>ct value: 24.58</i> )
** COVID-19 S gene mutations	<b>Detected</b>		( <i>ct value: 24.57</i> )
** COVID-19/SARS-CoV-2 RNA	<b>Detected</b>		
	<i>Probable Omicron variant detected.</i>		

**Note:**

*Covid-19 rRT-PCR assay unable to differentiate between viable and non-viable virus.  
Please correlate clinically.*

**Methodology:**

By Seegene Allplex SARS-CoV-2 Master Assay  
This multiplex real-time RT-PCR assay simultaneously detects four wild-type SARS-CoV-2 genes (E gene, RdRP gene, N gene, and S gene) and five notable S-gene mutations: HV69/70 deletion, Y144 deletion, E484K, N501Y, and P681H. A false negative result may occur if a specimen is improperly collected, transported, handled, inadequate material in quality or volume, the presence of interfering substances or PCR-inhibitor in the sample, and sampling & testing being carried out outside the diagnostic window. A single negative COVID-19 test (especially if from upper respiratory tract specimen) does not exclude COVID-19 infection. The rate of PCR positivity in different biological sources collected from patients with COVID-19 are as follows: BAL >90%, sputum 70-80%, nasopharyngeal & oropharyngeal swabs 70-80%, nasal swab 40-70%, and pharyngeal swab 30-50%. If there is a strong clinical, radiological, and/or epidemiological suspicion of COVID-19 infection, the submission of a new specimen is highly recommended. Positive result indicates active SARS-CoV-2 infection, or the detection of non-viable/ dead fragments of SARS-CoV-2 specific genes, but does not rule out other viruses and/or bacterial co-infection. The positive result should be interpreted in correlation with clinical history, signs and symptoms, epidemiologic evidence and other relevant diagnostic information.

**References:**

- World Health Organization. Novel Coronavirus (2019-nCoV) technical guidance. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance> (Accessed on January 04, 2022).
- Corman V, Bleicker T, Brünink S, Drosten C, Landt O, Koopmans M, et al. Diagnostic detection of Wuhan coronavirus 2019 by real-time RTPCR 2020 [17 January 2020]. Available from: <<https://www.who.int/docs/default-source/coronaviruse/wuhan-virus-assay-v1991527e5122341d99287a1b17c111902.pdf>>
- G. Lippi et al. Vulnerabilities in the diagnosis of COVID-19. Clin Chem Lab Med 2020 58(7):1070-1076.
- US Food and Drug Administration (US FDA). SARS-CoV-2 Viral Mutations: Impact on COVID-19 Tests. 2021. <https://www.fda.gov/medical-devices/coronavirus-covid-19-and-medical-devices/sars-cov-2-viral-mutations-impact-covid-19-tests>



KPJ SELANGOR

**DR IZHWAN @ SUFYAN HAERDY B. MOHAMAD**

MEDICAL OFFICER

KPJ Selangor Specialist Hospital, Lot 1, Jalan Singa 20/1,  
Section 20, Shah Alam

**Patient Name : MOHD ZAINURIN BIN MAT ARIP**



Ward / Clinic : Accident & Emergency Department

**Lab No. : 1923670489**

Age : 55Y

Sex : Male

Date Received : 06/12/2023 22:42

IC No. : 680428-06-5385

MRN : 563892

Date Reported : 07/12/2023 17:59

Report Status : Final

Result

Unit

Reference range

*Validated by Dr. Muhammad Nazri Aziz (Medical Microbiologist) on 07/12/2023 5:59:41 PM*

*Consultant Pathologist:-*

*Dr. Muhammad Nazri Bin Aziz; MD (USM), MPath. Med. Microbiology (UKM), Consultant Medical Microbiologist*