

1 September 2021

Sue Grey

By email: suegreylawyer@gmail.com
Ref: H202110511

Tēnā koe Sue

Response to your request for official information

Thank you for your request under the Official Information Act 1982 (the Act) on 14 August 2021 for information relating to the response you received in OIA H202100070. You requested specifically:

“Please could you provide information to help interpret the attached OIA response, and to show how covid PCR test results are interpreted including the maximum cycle threshold which is reported as a positive result. Please also provide information to show how the testing and analysis to classify results as the delta strain of Covid or as other strains”

The majority of polymerase chain reaction (PCR) tests are performed using commercial assays that have in-built software systems to interpret the PCR result. The laboratory must report results in accordance with the recommendations of the commercial manufacturer. The PCR reaction amplifies a specific target region that is unique to the SARS-CoV-2 genome. Each amplification reaction is known as a cycle, and in general assays will run between 35 – 45 cycles. Each PCR assay has a cut-off for the number of cycles it runs (for example 40 cycles), at which point the software for the PCR analyser will stop the test. If the amplified sample contains COVID-19 viral RNA, a fluorescence signal will be emitted. The cycle number at which the signal first reaches a certain threshold is known as the Ct value. The maximum number of cycles at which a sample will be reported as positive will vary from method to method. However, for all positive results, including those for which the Ct value is late in the RT-PCR run (such as 38 cycles), the laboratories follow rigorous result validation and verification processes to ensure that only validated positive results are reported.

The variants of COVID-19 (including the delta variant) are determined by Whole Genome Sequencing. Detailed information on genome sequencing can be found on the genome sequencing Q&A on the Institute of Environmental Scientific Research (ESR) website at: www.esr.cri.nz/our-expertise/covid-19-response/new-news-page/.

Under section 28(3) of the Act, you have the right to ask the Ombudsman to review any decisions made under this request. The Ombudsman may be contacted by email at: info@ombudsman.parliament.nz or by calling 0800 802 602.

Please note that this response, with your personal details removed, may be published on the Ministry of Health website at: www.health.govt.nz/about-ministry/information-releases.

Nāku noa, nā

A handwritten signature in black ink, appearing to be 'Darryl Carpenter', written in a cursive style.

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Darryl Carpenter
Group Manager
COVID-19 Immunisation, Testing & Supply