



Date: February 10, 2021
To: All Health Care Providers
From: Alberta Precision Laboratories (APL) – Public Health Laboratory
Re: SARS-CoV-2 Variants of Concern

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Message:

- Since the emergence of SARS-CoV-2 variants of concern in December 2020, APL – Public Health Laboratory (ProvLab) has been testing targeted COVID-19 positive cases, such as incoming international travelers, for variants of concern.
- As of February 3, 2021, ProvLab has been prospectively testing all COVID-19 positive samples for SARS-CoV-2 variants of concern.
- Variant testing is performed on already-collected specimens – new collections are not required.
- Results are only reported to Public Health for surveillance purposes at this time (as well as Infection Prevention and Control [IPC] for admitted patients) and not to the submitting physician or the patient.

Background:

- SARS-CoV-2 is constantly evolving resulting in new lineages, some of which have mutations of potential significance.
- ProvLab has been performing surveillance for variants since the pandemic began using whole-genome sequencing (WGS) on select samples.
- While the clinical significance of all new variants is not fully understood, some variants may have enhanced transmissibility and the ability to escape natural or vaccine-induced immunity.
- Current variants of concern are the B.1.1.7, B.1.351, and P.1 lineages – quickly detecting them is a priority and essential for Public Health containment strategies.
- ProvLab has developed high-throughput nucleic acid screening tests faster than WGS to detect variants of concern in samples soon after they test positive for COVID-19.
- All COVID-19 positive samples will be screened for the variants of concern – this includes samples tested at all APL and DynaLIFE laboratories and those collected from all patient populations, regardless of admission status. However, variant screening is not always possible for samples with low viral loads – some samples will not be able to undergo variant analysis due to this limitation.
- Nucleic acid sequencing methods, primarily WGS, are being used to further characterize isolates in samples positive for variants of concern.
- ProvLab is increasing its WGS capacity to enhance our ability to detect new variants of concern as they emerge.

Actions required:

- No action is required.
- Variant screening in all COVID-19 positive samples is being performed automatically.
- Variants of concern are reported directly to Public Health (and IPC for admitted patients).



References:

- World Health Organization - SARS-CoV-2 Variants:
<https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/>
- US Centers for Disease Control – Emerging SARS-CoV-2 Variants:
<https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/scientific-brief-emerging-variants.html>
- European Centre for Disease Control - Risk related to the spread of new SARS-CoV-2 variants of concern in the EU/EEA – first update (Jan 21, 2021):
<https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-risk-related-to-spread-of-new-SARS-CoV-2-variants-EU-EEA-first-update.pdf>

Inquiries and feedback may be directed to:

- Dr. Nathan Zelyas, Medical Microbiologist, APL - Public Health Laboratory,
nathan.zelyas@aplabs.ca

Approved By:

- Dr. Graham Tipples, Medical Scientific Director, Public Health, APL