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DEPARTMENT OF HEALTH AND HUMAN SERVICES

DIVISION OF PUBLIC AND BEHAVIORAL HEALTH

Helping people. It's who we are and what we do.



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Date: July 2, 2021

Topic: COVID-19 Sequencing Update - Clinical Laboratories to Submit all Positive SARS-CoV-2 Samples to the Nevada State Public Health Laboratory

Contact: Melissa Peek-Bullock, State Epidemiologist, Office of Public Health Investigations and Epidemiology

To: Laboratories, Medical Facilities and Hospitals, State and Local Health Authorities

Due to the rapid and continuous emergence of highly infective new variants of the COVID-19, clinical laboratories that identify SARS-CoV-2 via a laboratory-based molecular testing mechanism, must submit all positive samples with a cycle threshold (Ct) < 30 to the Nevada State Public Health Laboratory (NSPHL) for genomic sequencing. Laboratory-based molecular testing mechanisms for SARS-CoV-2 include all nucleic acid amplification tests (NAATS)¹:

- Reverse transcription polymerase chain reaction (RT-PCR)
- Isothermal amplification including:
 - Nicking endonuclease amplification reaction (NEAR)
 - Transcription mediated amplification (TMA)
 - Loop-mediated isothermal amplification (LAMP)
 - Helicase-dependent amplification (HDA)
 - Clustered regularly interspaced short palindromic repeats (CRISPR)
 - Strand displacement amplification (SDA)

Background:

Viruses are constantly changing, including SARS-CoV-2, the virus that causes COVID-19.² Genomic sequencing of all positive cases identified in Nevada through molecular-based tests will provide more complete data on the variants circulating within the state. Nevada Administrative Code (NAC) 441A.235 requires clinical/medical laboratories to submit microbiological cultures, subcultures, or other specimens or clinical material to the State Public Health Laboratory or other laboratory designated by the health authority for confirmation or further testing if requested by the health authority.³

Specimen Submission:

¹ <https://www.cdc.gov/coronavirus/2019-ncov/lab/naats.html>

² <https://www.cdc.gov/coronavirus/2019-ncov/variants/variant-surveillance.html>

³ <https://www.leg.state.nv.us/nac/nac-441a.html#NAC441ASec235>

For updated COVID-19 guidance, please review the DPBH Technical Bulletin [website](#) and Nevada’s COVID-19 response [website](#) regularly. Email dpbhepi@health.nv.gov with questions about COVID-19 guidance. Questions about NSPHL lab sequencing should be directed to mpandori@med.unr.edu.^{4,5}

Nevada State Public Health Laboratory (NSPHL)

SARS-CoV-2 Whole Genome Sequencing (this test includes an assessment for virus variants)

Data	Value
Method	Whole Genome Sequencing
Test Scope	Detection of SARS-CoV-2 variants from specimens of interest
Preferred Specimen	Original specimen in viral transport medium or saline. Specimen should be previously tested positive with a positive Ct value of 30 or lower. Extracted RNA is also acceptable if original specimen is no longer available
Specimen Container	Screw-cap viral transport tube; extracted RNA can also be submitted in any vessel type
Specimen Identification	Label tube with patient’s first and last name, DOB and date/time of collection.
Special Instructions	Include the date the sample was collected. Please denote Ct values on requisition form if already known.
Shipping Requirements	Store and transport original specimens refrigerated at 2-8° C. Frozen is also acceptable. Specimens can be transported frozen on cold packs/ice. Shipping options include: <ol style="list-style-type: none"> 1. Federal Express: Please use account number 1046-0029-8 2. The Nevada State Public Health Laboratory Courier Service (call 775-688-1335 for details) 3. Specimens can be brought to the NSPHL between 0800 and 1700 hrs., M-F Specimens should be shipped to: <p>Nevada State Public Health Laboratory 1660 N. Virginia St. Reno, NV 89557, Mail Stop 385 (775) 688-1335</p>

⁴ https://dpbh.nv.gov/Resources/Technical_Bulletins-New/

⁵ <https://nvhealthresponse.nv.gov/>

Data	Value
Sample Rejection Criteria	Specimens without confirmed reactivity ('positive') or with Ct values above 30 (see above) Specimen not refrigerated Mislabelled/unlabeled specimen
Turn-around-time	96 hours



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