

MLS Laboratory Update: New testing methods for enteroviruses at MDH

APRIL 11TH, 2023

Purpose of this Message:

To inform laboratory partners in the state of Minnesota of new *Enterovirus* genus diagnostic and surveillance capabilities within the Infectious Disease Laboratory (IDL) at Minnesota Department of Health Public Health Laboratory (MDH-PHL).

Action Items:

Please review the following information and share with other laboratorians and clinical partners at your institution.

Background:

MDH-IDL will begin to use a new testing strategy to confirm and characterize enteroviruses to support diagnostic and surveillance activities. MDH-IDL has validated a *Rhinovirus/Enterovirus* differentiation real-time RT-PCR (RV/EV). Specimens confirmed to have *Enterovirus* RNA present will undergo further genotyping by next generation sequencing (NGS) of VP1 gene amplicon.

Results from the RV/EV assay will be reported as:

Lab Test (LOINC)	Result	Result SNOMED Code
Enterovirus PCR Result (29591-5)	negative	260415000
	POSITIVE	260373001
	not tested	373121007
	inconclusive, specimen unsatisfactory	125154007
Rhinovirus PCR Result (7993-9)	negative	260415000
	POSITIVE	260373001
	not tested	373121007
	inconclusive, specimen unsatisfactory	125154007

Results of VP1 NGS will be reported to the genotype level (e.g., Coxsackievirus A11, Enterovirus D68)

Additional Information:

Samples for RV/EV may be submitted using the *General Infectious Disease Laboratory Submission Form* located at [Forms for the Infectious Disease Laboratory](https://www.health.state.mn.us/diseases/idlab/forms.html) (<https://www.health.state.mn.us/diseases/idlab/forms.html>).

Submission guidance can be found on the MDH Infectious Disease Laboratory's guide to service located at [Enterovirus](https://www.health.state.mn.us/diseases/idlab/gts/testse.html#enterovirus) (<https://www.health.state.mn.us/diseases/idlab/gts/testse.html#enterovirus>).

References

- Österback R, Tevaluoto T, Ylinen T, Peltola V, Susi P, Hyypiä T, Waris M. 2013. Simultaneous Detection and Differentiation of Human Rhino- and Enteroviruses in Clinical Specimens by Real-Time PCR with Locked Nucleic Acid Probes. *J. Clin. Microbiol.* 51(12), 3960-3967. doi:10.1128/JCM.01646-13.
- Oberste MS, Maher K, Kilpatrick DR, Flemister MR, Brown BA, Pallansch MA. 1999. Typing of human enteroviruses by partial sequencing of VP1. *J Clin Microbiol.* 37:1288–93. doi: 10.1128/JCM.37.5.1288-1293.1999.

Questions

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