

## GUIDANCE FOR MEASLES LABORATORY TESTING

Measles is a highly contagious acute febrile rash illness caused by the measles virus. Measles is characterized by a generalized maculopapular rash after a prodrome of fever, malaise, cough, coryza and conjunctivitis. The rash typically appears 14 days after exposure, starting on the face and spreading to the trunk and limbs, lasting 4–7 days. Patients are contagious from 4 days before to 4 days after rash onset.

Healthcare providers should include measles in the differential diagnosis for patients presenting with compatible clinical symptoms, especially if they are unvaccinated, partially vaccinated or immunocompromised, and if there is potential exposure risk, such as recent travel to endemic regions or known contact with a case of measles.

All suspected measles cases **MUST** be reported immediately to Public Health by telephone prior to collecting specimens. Complete test orders must include patient’s symptoms and date of onset, exposure history, recent travel history (if applicable) and vaccination history.

Test Request (Mnemonic Code)	Specimen Types	Collection Kits	Storage/Transport	Turnaround time
Measles qRT-PCR*  (MEAVRP)	Nasopharyngeal (NP) or throat swab (within 7 days of rash onset)	Universal Transport Medium (UTM)  or  Viral Transport Medium (VTM)	Store at 2-8°C and ship on ice pack for arrival at the PHML promptly, ideally within 24 hours.  Specimens may be stored at 2-8°C for up to 72 hours, otherwise freeze at - 20°C or lower and ship frozen on dry ice.	Majority of measles PCR results will be available within 24 hours from receipt at the PHML.  Results may take up to 3 business days during peak volumes.
	Urine (within 14 days of rash onset)	Sterile, leak-proof container (10-50 ml)	Store at 2-8°C and ship on ice pack for arrival at the lab within 72 hours from collection.	
Measles IgM and IgG**  (MEAVABP)	Serum (>3 days of rash onset)	SST (gold-top tube)	Store at 2-8°C and ship on ice pack for arrival at the lab within 6 days from collection. Otherwise, freeze at -20°C or lower and ship frozen on dry ice.	Up to 5 business days from receipt at the PHML.

\*PCR is the preferred test during acute illness due to higher sensitivity than serology. PCR is most sensitive when specimens are collected within 1-3 days of rash onset.

\*\* Collect serology as per MOH guidance for acute measles investigations. Blood collected < 3 days after rash onset may yield false negative IgM. If the measles IgM is negative and measles is still strongly suspected, send a convalescent sample 7-10 days after the acute sample if indicated.