

**Specimen Requirements for Real-Time (TaqMan®) RT-PCR Assay for the  
Detection of Measles Virus RNA in Clinical Samples**

<b>Methodology:</b>	Measles virus Real-time (rti) RT-PCR
<b>Performed:</b>	The real-time (rti) Reverse-Transcriptase Polymerase Chain Reaction (RT-PCR) TaqMan® Assay is a CDC-developed test to detect the N gene of the measles virus. Confirmatory testing may be performed at the CDC.
<b>Criteria for testing:</b>	Clinical signs and symptoms compatible with measles and/or specimens meeting the case definition set by the Disease Investigation Branch (DIB) of the Disease Outbreak Control Division (DOCD) of the Department of Health.
<b>Turn-Around-Time:</b>	Results are reported 1-2 working days after approval and receipt of specimen(s)
<b>Specimen type required:</b>	<p>Throat (oropharyngeal), nasal or nasopharyngeal (NP) swabs are the preferred specimens for measles real-time RT-PCR. Specimens must be collected on the first day of rash through the 3 days following onset of rash. Place the swab in viral transport medium</p> <p>Urine samples collected after 4 days from onset of symptoms may also be submitted. Collect a minimum of 10-50 ml of urine in a sterile cup for testing.</p>
<b>Specimen storage and transport:</b>	<p>Use only Dacron® tip swabs with an aluminum or plastic shaft. Calcium alginate swabs or cotton swabs with wooden sticks are unacceptable because they may cause PCR inhibition and may contain substances that may inactivate or may be toxic.</p> <p>Swabs must be collected in viral transport medium (VTM) and maintained at 2-8°C. Ship (swabs in VTM and urine) samples on cold packs (i.e. 4°C) within 24 hours.</p> <p>Follow packing and shipping instructions of the U.S. Department of Transportation (U.S. DOT), and the International Air Transport Association (IATA) for Biological Substance, Category B.</p>

<b>Specimen submission:</b>	Submitters (Clinical Laboratories and Epidemiology Specialists of the Disease Investigation Branch). Notification of DIB and the laboratory is requested prior to the submission of specimens.
<b>Criteria for rejection:</b>	<ul style="list-style-type: none"> <li>• Specimen is received in a container that is leaking;</li> <li>• Specimen is not collected in a proper container or special handling instruction is not followed;</li> <li>• Viral transport media is expired;</li> <li>• Use of improper swab or swab not in viral transport medium</li> <li>• Specimen is not received at 4°C or packed in blue ice;</li> <li>• Specimen quantity is insufficient to perform the tests;</li> <li>• Unlabeled specimens;</li> <li>• Incomplete specimen labeling/documentation</li> </ul>
<b>Stability:</b>	All specimens must be refrigerated at 2-8°C immediately after collection. If the specimen cannot be transported to the State Laboratories Division within 48 hours after collection, it should be frozen at -40°C or -70°C freezer. If 40°C or -70°C freezers are not available, keep the sample at 2-8°C. Avoid repeated freeze-thaw cycles. Frozen samples should be shipped on dry ice.
<b>Requisition Form:</b>	<p>Each specimen submitted must have a completed Form 81.3. Submitter is responsible for completing SLD Form 81.3 (including but not limited to the following information: patient identifier, date of onset of illness, signs and symptoms, travel history, immunization history, name and address of submitter).</p> <p>Requisition forms shall be placed in a separate bag and shall not be packed with the specimen(s).</p>
<b>Normal Value:</b>	No Measles Virus Nucleic Acid Detected
<b>Result Notification:</b>	Laboratory results are reported to the submitters by electronic reporting system or via FAX. Laboratory reports for the Disease Investigation Branch (DIB) of the DOH Disease Outbreak Control Division (DOCD) will be posted to the DOCD SharePoint.

Test performed at:

Biological Response Section (BRS)  
Laboratory Preparedness and Response Program  
State Laboratories Division  
Department of Health  
2725 Waimano Home Road  
Pearl City, Hawaii 96782

Contact:

Rebecca Sciulli M.Sc., MT at 808-453-5993 or  
808-368-3373  
Remedios Gose at 808-453-5984

Approved By:



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A.Christian Whelen, Ph.D.  
Administrator, State Laboratories Division

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Date