

# APHL/CDC VACCINE PREVENTABLE DISEASES (VPD) REFERENCE CENTERS

## Who are the VPD Reference Centers?

The VPD Reference Centers are four public health laboratories that were selected through a competitive process to perform testing for seven VPDs using standardized methods developed by the US Centers for Disease Control and Prevention (CDC). The Reference Centers work closely with APHL and CDC to provide quality testing to other public health laboratories and public health departments free of charge.

### Providing testing for viral VPDs only (real time RT-PCR and genotyping):

- California Department of Public Health Laboratory
- New York State Department of Health: Wadsworth Center

### Providing testing for viral VPDs (real time RT-PCR and genotyping) and bacterial\* VPDs (detection PCR and molecular/serotyping/serogrouping):

- Minnesota Public Health Laboratory Division
- Wisconsin State Laboratory of Hygiene

Submitting sites are assigned to one or two of the VPD Reference Centers depending on the services requested.

## What testing is available at the VPD Reference Centers?

**Table 1: Vaccine Preventable Diseases Testing Availability**

Viral Diseases	real time RT-PCR	Genotyping**	Serology	Maximum Turn Around Times	Network
Measles	✓	✓		PCR: 2 days Genotyping: 10 Days	VPD Reference Centers
Mumps	✓	✓			
Rubella	✓	✓			
Varicella-zoster	✓	✓			
Bacterial Diseases	real time PCR	Serotyping/ Grouping	Serology	Maximum Turn Around Times	Network
<i>B. pertussis</i>	✓		✓	PCR: 2 Days	VPD Reference Centers
<i>H. influenzae</i>	✓	✓		Serology: 5 Days	
<i>N. meningitidis</i>	✓	✓		Serotyping/ grouping: 5 Days	
<i>S. pneumoniae</i> *	✓	✓		Serotyping/ grouping: 5 Days	AR Lab Network

\*\*Genotyping will be performed on all PCR positive specimens unless otherwise indicated as part of larger outbreak

### \*Testing for *Streptococcus pneumoniae* has moved to the AR Lab Network

*S. pneumoniae* testing (real time PCR and molecular serotyping) and result reporting are still available at the Minnesota Public Health Laboratory Division and Wisconsin State Laboratory of Hygiene, but have transitioned to the [Antibiotic Resistance \(AR\) Laboratory Network](#) effective July 1, 2017. Antibiotic susceptibility testing and result reporting will also be provided for positive specimens and isolates submitted for *S. pneumoniae* testing.

Your testing laboratories have not changed. **SUBMISSION INSTRUCTIONS AND SHIPPING PROCESSES HAVE CHANGED**

For current submission instructions, contact [Minnesota](#) or [Wisconsin](#).

## How are VPD Reference Center results reported?

The VPD Reference Centers should not alter the communication channels between the submitting laboratory and their jurisdictional epidemiologists. The VPD Reference Centers will receive specimens and perform the appropriate tests, with anticipated turn-around-times as listed in Table 1. Results will be reported, with patient identifiers, by the Reference Center to the submitting site through secure web portal, encrypted email, secure fax or over the phone. Results for all specimens tested will be reported to CDC by the Reference Center via electronic HL7 messaging or a secure FTP site; however, these data will not replace state notifications to CDC through the Nationally Notifiable Diseases Surveillance System (NNDSS), which should be submitted per the usual protocol.

**Table 2: VPD Reference Center Specimen and Shipping Recommendations**

Viral Disease Assay	Specimen Type	Min. Specimen Volume	Specimen Storage	Shipping Recommendations
Measles real time RT-PCR	<ul style="list-style-type: none"> <li>• Throat Swab in VTM</li> <li>• Nasopharyngeal Swab in VTM</li> <li>• Combined Throat/ Nasopharyngeal Swab in VTM</li> <li>• Urine</li> </ul>	250µl	Place swabs in 2mL standard viral transport media. Store at 4 °C and ship within 24 hours. If shipping is delayed, store at -70 °C.	Ship on cold packs if shipping within 24 hours, otherwise ship frozen.
Mumps real time RT-PCR	<ul style="list-style-type: none"> <li>• Buccal Swab in VTM</li> <li>• Nasopharyngeal Swab in VTM</li> <li>• Throat Swab in VTM</li> </ul>			
Rubella real time RT-PCR	<ul style="list-style-type: none"> <li>• Throat Swab in VTM</li> <li>• Nasopharyngeal Swab in VTM</li> </ul>			
Varicella-zoster virus real time RT-PCR	<ul style="list-style-type: none"> <li>• Skin Lesion Swab</li> <li>• Scab</li> </ul>	N/A	Store at room temperature.	Ship scabs and lesion swabs at ambient temperature.

\*Swabs must be synthetic. Do NOT use cotton swabs for viral specimen collection

Bacterial Disease Assays	Specimen Type	Min. Specimen Volume	Specimen Storage	Shipping Recommendations
<i>B. pertussis</i> Real time PCR	<ul style="list-style-type: none"> <li>• Nasopharyngeal swab or isolate</li> </ul>	600µl	Swabs should be refrigerated at 4 °C as soon as possible. Isolates should be stored refrigerated in Regan- Lowe transport medium or frozen on cryobeads.	Refrigerated specimens should be shipped on cold packs. Frozen specimens should be shipped on dry ice.
<i>B. pertussis</i> serology	<ul style="list-style-type: none"> <li>• Serum</li> </ul>	500µl	Serum should be separated and refrigerated at 4 °C within 24 hours of collection and can be stored for up to 7 days. If stored for longer than 7 days, serum should be frozen at -20 °C.	Refrigerated specimens should be shipped on cold packs. Frozen specimens should be shipped on dry ice.
<i>N. meningitidis</i> PCR and Serogrouping	<ul style="list-style-type: none"> <li>• CSF; or</li> <li>• Isolate</li> </ul>	500µl	Primary specimen should be frozen. Isolates should be transported on chocolate agar slants or frozen stock and stored at ambient temperature.	Isolates can be shipped at ambient temperature. Frozen primary specimens or isolates should be shipped on dry ice.
<i>H. influenzae</i>	<ul style="list-style-type: none"> <li>• CSF; or</li> <li>• Isolate</li> </ul>	500µl		
* <i>S. pneumoniae</i> Real time PCR or serotyping	<ul style="list-style-type: none"> <li>• CSF; or</li> <li>• Isolate</li> </ul>	250µl		

\*Testing for *S. pneumoniae* will continue to be performed by WI and MN as part of the AR Laboratory Network. Contact those laboratories for submission instructions.



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This project was 100% funded with federal funds from a federal program of \$1,401,568 million. This publication was supported by Cooperative Agreement #5NU600E000103 from the US Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.