Specimen Requirements for Viral Culture and Identification
Revised on June 12, 2007

Methodology:	Viral culture and identification.
Performed:	Culture for respiratory viruses including Influenza, Parainfluenza, and Adenovirus; Enteroviruses; Herpes; CMV; and other viruses. A variety of cell lines are inoculated and held for up to 4 weeks to detect characteristic cytopathic effects (CPE) followed by identification using biochemical and immunological methods.
Turn-Around-Time:	Results are reported out from 2 to 8 weeks.
Specimen (type) required:	Appropriate clinical specimen. Refer to Table I – Specimens for Isolation of Viruses
Specimen Collection:	Swab specimens submitted in an appropriate viral transport medium (VTM). Acceptable VTM include the following commercially available M4 medium, Tryptose Phosphate Broth, and Stuart's medium; and viral transport medium supplied by the Virology Section. Specimens not requiring a transport medium include: urine, stool, cerebrospinal fluids and tissue specimens. **Note: Specimens should be collected as soon as possible in the course of illness. Recovery of viruses diminishes markedly >72 hours after onset of symptoms.**
Specimen storage, packing and transport:	Specimens should be stored at 2° to 8°C immediately after collection. If transport to the laboratory is delayed freeze at -20° to -70°C unless contraindicated for the suspected virus (i.e. Cytomegalovirus) Tissue specimens may be submitted in sterile 50% glycerine-saline solution if the specimen cannot be shipped on dry ice.

Ideally specimens submitted for viral culture and identification should be submitted to the laboratory frozen unless contraindicated for the suspected virus. Respiratory specimens submitted for molecular tests such as PCR for influenza should be submitted on refrigeration/ice packs to keep the specimen at 4°C. It is recommended that specimens for viral culture be transported to the laboratory on refrigeration packs in a leak-proof container.

Follow instructions for Class B – Biological Substance of the U.S. Department of Transportation (U.S. DOT) and International Air Transport Association (IATA) for packing and shipping.

Specimen submission: Submitters (Clinical Laboratories, Epidemiology Specialists with the DOH Disease Investigation Branch).

Requisition Form: MMB Form 81.3 or
DIB Influenza Surveillance Laboratory Submission Form (current Influenza Surveillance Period)

Specimen must have a completed submission form (MMB Form 81.3 or DIB Influenza Surveillance Laboratory Submission Form) with the following information including but not limited to the patient's name or unique identifier, submitter's name and address, specimen site/specimen type, date of onset of illness, and date of collection. Additional information including clinical signs and symptoms, virus suspected, travel history, immunization history, and other pertinent information should be provided.

PLEASE INDICATE SUSPECTED VIRUS(ES) ON MMB FORM 81.3.

Unacceptable conditions:

- Specimen that is leaking;
- Unlabeled specimens;
- Illegible form or specimen label;
- Specimen quantity is insufficient to perform the tests;
- Improperly filled requisition MMB Form 81.3;
- Specimen label does not match the requisition;
- Improper container or handling;

- Expired transport tube.

Stability:	Specimens should be stored at 2° to 8°C immediately after collection. Specimens should be frozen at -20° to -70°C unless contraindicated for the suspected virus (i.e. Cytomegalovirus) if transport to the laboratory is delayed (>48 hours). Transport specimen to the laboratory as soon as possible.
Normal Value:	No virus isolated.
Result Notification:	Laboratory results are reported to the submitters
Test performed at:	Virology Section, Medical Microbiology Branch State Laboratories Division Department of Health 2725 Waimano Home Road, 2nd Floor Pearl City, Hawaii 96782
Contact:	Robert T. Ueki, Supervisor, Virology (808) 453-6705 Gail Y. Kunimoto, Chief, Medical Microbiology (808) 453-6700

Approved by:

A. Christian Whelen

A. Christian Whelen, Ph.D.
State Laboratories Division Administrator June 15, 2007

TABLE I

SPECIMENS FOR ISOLATION OF VIRUSES

Clinical Manifestations and Common Etiological Agents	Sources of Specimens for Viral Isolation: Clinical	Sources of Specimens for Viral Isolation: Postmortem
Upper Respiratory Tract Infections		
Parainfluenza Mycoplasma* Rhinovirus*	Throat swab or nasal secretions Acute and convalescent serum	
Adenovirus Enterovirus Reovirus*	Throat and rectal swab Acute and convalescent serum	
Lower Respiratory Tract Infections		
Influenza Adenovirus Parainfluenza Mycoplasma*	Throat swab or sputum Acute and convalescent serum	Lung
Pleurodynia		
Coxsackie	Throat and rectal swabs Acute and convalescent serum	
Cutaneous and Mucus Membrane Diseases		
Vesicular		
Herpes Simplex Varicella-Zoster Smallpox and Vaccinia**	Vesicle fluid and scrapings Acute and convalescent serum *****NOTIFICATION OF DISEASE INVESTIGATION BRANCH***	Liver, spleen, lung, and brain
Enterovirus	Vesicle fluid, throat and rectal Swab Acute and convalescent serum	
Exanthematous		
Measles Rubella	Throat swab, urine, and blood*** Acute and convalescent serum	
Enterovirus	Throat and rectal swab Acute and convalescent serum	

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Clinical Manifestations and Common Etiological Agents	Sources of Specimens for Viral Isolation: Clinical	Sources of Specimens for Viral Isolation: Postmortem
Central Nervous System Infections		
Enterovirus	Throat and rectal swab, CSF Acute and convalescent serum	Brain and intestinal contents
Mumps	Acute and convalescent serum	Brain
Herpes simplex	Throat swab	
Arbovirus* Lymphocytic choriomeningitis*	CSF and blood*** Acute and convalescent serum	Brain
Parotitis		
Mumps	Throat swab Acute and convalescent serum	
Congenital Anomalies		
Cytomegalovirus Rubella	Throat swab, urine, and CSF Acute and convalescent serum	Lung, kidney, spleen, and other tissues

* Testing Not Done at the State Laboratories Division, Medical Microbiology Branch.

** Notification of the Disease Investigation Branch of the DOH Disease Outbreak Control Division at (808) 586-4586. Testing for these agents referred to the SLD Bioterrorism Response Laboratory (BTRL). Notification to the BTRL Coordinator, Ms. Rebecca Sciulli, at (808) 368-3373 or (808) 453-5990 must be made prior to the submission of any specimens.

*** Blood drawn is placed in two separate tubes. One is frozen for isolation attempts and the other is refrigerated for serology.