

**VIRAL DISEASES DIVISION
NATIONAL MICROBIOLOGY LABORATORY
PUBLIC HEALTH AGENCY OF CANADA**
Canadian Science Centre for Human and Animal Health
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BLOODBORNE PATHOGENS/HEPATITIS VIRUSES

		Telephone	Fax	E-mail
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	Dr. Runtao He	(204) 789-5018	(204) 789-2082	runtao_he@phac-aspc.gc.ca

Surveillance programmes for hepatitis viruses and other bloodborne viruses.

Emerging Bloodborne Pathogens

HEAD Dr. Runtao He
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The Emerging Pathogens group provides diagnostics for parvovirus B19 and human herpesvirus 8.

SERVICES PROVIDED

1. Parvovirus B19 PCR and serology tests (EIA on IgM and IgG using Biotrin kit)
REQUIRED SPECIMEN: 2 ml of serum/sample
TURNAROUND TIME: 10 working days
2. HHV-8 PCR and serology (IFA on IgG using Biotrin kit)
REQUIRED SPECIMEN: 2 ml of whole blood/sample
TURNAROUND TIME: 10 working days

D) HDV Marker Detection
Anti-HDV International Immunodiagnostics HDV Ab
HDV RNA In-house PCR
REQUIRED SPECIMEN: serum, plasma

E) HEV Marker detection
Anti-HEV IgG Genelabs Diagnostics HEV ELISA
Anti-HEV IgM Genelabs Diagnostics HEV IgM ELISA
REQUIRED SPECIMEN: serum, plasma

2. Proficiency testing for HBV and HCV markers
3. Outbreak investigations for HAV, HBV and HCV
4. Surveillance for HBV and HCV

ACCOMPANYING DOCUMENTATION:

Full patient case history
All laboratory results

NOTE: Specimens for molecular testing by PCR should be sent frozen on dry ice

ENTEROVIRUSES

HEAD **Dr. Tim Booth**

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SERVICES PROVIDED Note: all protocols were developed in-house.

Molecular surveillance typing of enteroviruses: Submission of any untypable enterovirus isolates, or any that test positive for polio virus or EV71.

RT-PCR Analysis: Primer sets to differentiate enterovirus versus non-enterovirus (PanEV), polio versus non-polio enteroviruses (PanPV), and wild-type (PV1, PV2, PV3) versus vaccine (Sabin) polio strains.

1. The VP1 region of enterovirus-positive isolates is amplified and the product sequenced to confirm the identity of the viral isolate.
2. Poliovirus: Primer sets directed against polio will be used on all polio-positive isolates. Sequence data to confirm the presence of a wild-type or vaccine strain.

REQUIRED SPECIMEN: Viral culture frozen on dry ice
CSF frozen on dry ice

INFLUENZA AND RESPIRATORY VIRUSES

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HEAD	Dr. Yan Li (204) 789-6045	(204) 789-2082	yan_li@phac-aspc.gc.ca
Scientists:	Dr. Nathalie Bastien (204) 789-6047	(204) 789-2082	nathalie_bastien@phac-aspc.gc.ca
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Surveillance and research on influenza and other respiratory viruses, and provides enhanced reference/diagnostic services on influenza and other respiratory pathogens.

SERVICES PROVIDED Note: all protocols were developed in-house.

1. Antigenic Characterization (typing and subtyping) of Influenza isolates by Hemagglutination-inhibition assay
REQUIRED SPECIMEN: culture isolate (1 ml)
TURNAROUND TIME: one to two weeks
2. Molecular Subtyping of Influenza Virus by RT-PCR and/or real-time PCR
REQUIRED SPECIMEN: original specimen or culture isolate
TURNAROUND TIME: one to two weeks
3. Influenza virus Amantadine Susceptibility testing by RT-PCR and sequencing
REQUIRED SPECIMEN: original specimen or culture isolate
TURNAROUND TIME: one to two weeks
4. Influenza virus Proficiency testing (includes virus identification and molecular genotyping). Specimens provided to participants
5. Enhanced diagnosis of Respiratory viruses by molecular testing (RT-PCR and/or real-time PCR)
REQUIRED SPECIMEN: original specimen or cultural isolate on dry ice
TURNAROUND TIME: one to two weeks

REQUIRED DOCUMENTATION - all specimens:

Laboratory and specimen number
Location and Date of specimen collection
Patient's age

Additional requested information:

Extent of Influenza activity; passage history; suggested identity; travel history (if relevant); date of collection relative to amantadine use.

VIRAL EXANTHEMATA

HEAD **Dr. Graham Tipples**

Telephone (204) 789-6080
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SERVICES PROVIDED

1. HCMV Ganciclovir Resistance Genotyping
 REQUIRED SPECIMEN: Blood: 1mL, Viral Isolate: 1-2 mL, CSF: 200 µL
 TURNAROUND TIME: seven days

2. HHV6 Ganciclovir Resistance Genotyping
 REQUIRED SPECIMEN: Whole Blood (preferred): 1mL, Viral Isolate: 1-2 mL,
 CSF: 200 µL, Serum/Plasma: 200 µL
 TURNAROUND TIME: seven days

3. HHV6 PCR (6a and 6b differentiation)
 REQUIRED SPECIMEN: Whole Blood (preferred): 1 mL, Serum/Plasma/CSF:
 200 µL
 TURNAROUND TIME: five days

4. HHV7 PCR
 REQUIRED SPECIMEN: Whole Blood (preferred): 1 mL, Serum/Plasma/CSF:
 200 µL
 TURNAROUND TIME: five days

5. HHV6 Serology IgG and IgM
 REQUIRED SPECIMEN: Serum: 100 µL
 TURNAROUND TIME: seven days

6. Measles Isolation
 REQUIRED SPECIMEN: Nasopharyngeal and throat swabs collected within 4
 days of rash onset in Viral Transport Media: 1-2 mL, Urine collected within 7 days of
 rash onset: 50 mL
 TURNAROUND TIME: 28 days

7. Measles RT PCR Genotyping
 REQUIRED SPECIMEN: Nasopharyngeal and throat swabs collected within 4
 days of rash onset in Viral Transport Media: 1-2 mL, Urine collected within 7 days of
 rash onset: 50 mL
 TURNAROUND TIME: seven days

8. Measles SSPE Diagnostics

REQUIRED SPECIMEN: Paired Serum: 200 µL and CSF: 500 µL. Total IgG and total Albumin concentrations (mg/L) in both serum and CSF must be provided
TURNAROUND TIME: five days

9. Measles Serology IgM
REQUIRED SPECIMEN: Serum/Plasma collected within 3 –28 days of rash onset: 100 µL
TURNAROUND TIME: five days
10. Mumps RT PCR Genotyping
REQUIRED SPECIMEN: Urine collected within 2 weeks post onset: 50mL, Saliva collected from 9 days pre-onset to 8 days post onset: 200 µL, Viral Isolate: 1-2 mL
TURNAROUND TIME: seven days
11. Rubella Avidity Serology IgG
REQUIRED SPECIMEN: Serum/Plasma: 100 µL
TURNAROUND TIME: five days
12. Rubella Isolation
REQUIRED SPECIMEN: Nasopharyngeal and throat swabs collected within 7 days of rash onset: 1-2 mL
TURNAROUND TIME: 28 days
13. Rubella RT PCR Genotyping
REQUIRED SPECIMEN: Nasopharyngeal and throat swabs collected within 4-5 days of rash onset: 1-2 mL, Viral Isolate: 1-2 mL
TURNAROUND TIME: five days
14. Rubella Serology IgM
REQUIRED SPECIMEN: Serum/Plasma collected within 3 –28 days of rash onset: 100 µL
TURNAROUND TIME: five days
15. VZV Real Time PCR Strain Differentiation
REQUIRED SPECIMEN: Viral isolate or Lesion swab in Viral Transport Media: 1-2 mL, Blood: 1 mL, Vesicular Fluid: 50 µL, CSF 200 µL
TURNAROUND TIME: five days
16. VZV Acyclovir Resistance Genotyping
REQUIRED SPECIMEN: Viral isolate or Lesion swab in Viral Transport Media: 1-2 mL, Blood: 1 mL, Vesicular Fluid: 50 µL, CSF 200 µL
TURNAROUND TIME: seven days
17. Measles Serology Proficiency IgG and IgM
18. Rubella Serology Proficiency IgG and IgM

ACCOMPANYING DOCUMENTATION - all specimens:

Laboratory and specimen number
Laboratory address and contact person (FAX number)
Date of specimen collection
Type of specimen
Date of illness onset

Additional required documentation:

Relevant history such as: recent travel, contact with infected persons, etc.

PACKAGING AND TRANSPORTATION: should meet the requirements for Transportation of Dangerous Goods. Prior notification by fax or e-mail of incoming specimens.

VIRAL STDs

HEAD Dr. Alberto Severini

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Diagnostics and research on herpes simplex viruses, human papillomaviruses and the human polyomaviruses JC and BK. We participate in epidemiological studies and test development for HPV and HSV.

SERVICES PROVIDED

1. Human papillomavirus detection by PCR and typing by direct sequencing
REQUIRED SPECIMEN: swabs, cytobrushes, liquid-base cytology specimens, biopsies, fixed tissue (call ahead)
TURNAROUND TIME: 10 working days
2. BK virus and JC virus detection by qualitative PCR
REQUIRED SPECIMEN: urine, plasma (2 mL), CFS, biopsy specimens
TURNAROUND TIME: 10 working days
3. HSV-1 and HSV-2 type-specific serology by Western Blot
REQUIRED SPECIMEN: serum at 4°C (min 200 µL)
TURNAROUND TIME: test performed the last week of every month
4. Herpesvirus PCR.
REQUIRED SPECIMEN: CSF, lesion and biopsy specimens
TURNAROUND TIME: Call to book
5. Non-human primate simplexvirus serology by Western Blot
REQUIRED SPECIMEN: Serum at 4°C (min 200 µL)
TURNAROUND TIME: Call to book

ACCOMPANYING DOCUMENTATION - all specimens:

Laboratory and specimen number

Laboratory address and contact person (FAX number)

Date of specimen collection

Type of specimen

Additional required documentation:

Relevant history for biopsy specimens and specimens for herpesvirus PCR or non-human primate simplexvirus serology.

PACKAGING AND TRANSPORTATION: should meet the requirements for Transportation of Dangerous Goods. Prior notification by fax or e-mail of incoming fresh tissue and biopsy specimens.