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Policy & Procedure Manual	_	_
Section: Virology Manual	Subject Title: Tissue/Biopsy Specimens	
Issued by: LABORATORY MANAGER	Original Date: March 14, 2001	
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TISSUE/BIOPSY SPECIMENS

I. <u>Introduction</u>

The following viruses may be detected from various tissue or biopsy sources:

Lung: Adenovirus/CMV/enterovirus/respiratory viruses

Liver: CMV/non-culturable viral hepatitis Brain: HSV/VZV/enterovirus/measles

Kidney: CMV Heart: Enterovirus Postpartum: CMV Bone Marrow: CMV

For other viruses requested, refer to Appendix XV (Virus isolation and identification) to ensure the appropriate media is inoculated.

II. Collection and Transport

The sample should be collected directly adjacent to the affected tissue and placed in viral transport medium. If a delay in transport or processing is anticipated, keep the specimen at 4°C.

III. Procedure

A. Processing of Specimens:

- a) If the tissue is received in a dry container, add 1-3 ml of maintenance medium.
- b) Macerate the tissue using the small tissue grinder.
- c) If a large amount of tissue/cellular material is present, transfer suspension to a sterile 15 ml centrifuge tube and spin at 700 x g for 10 minutes
- c) Use the supernate as inoculum.

If Fetal / Post-partum tissue is received and Parvovirus PCR is requested, forward specimen to the Hospital for Sick Children for processing.

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B. Direct Examination:

Not usually performed.

C. Isolation and Identification:

Specimens	Methods	Cell Lines ^a	Incubation at 36°C	Stain used/Read
Lung ^b Liver/Bone	Shell	MRC-5	2 days	CMV-IE
Marrow/Kidney/	Vial	MRC-5 (if requested)	1 day	HSV1
FetalTissue		MRC-5 (if requested)	1 day	HSV2
		MRC-5 (if requested)	2 days	VZV
	Tube	CMK ^b	14 days	3 x Reads/week
				^b RS/HSV-
		HFF	14 days	bvalent
		RD	7 days	3 x Reads/week
				3 x Reads/week
Brain	Shell	MRC-5	2 days	CMV-IE
	Vial	MRC-5	1 day	HSV-bivalent
		MRC-5	2 days	VZV
	Tube	CMK	14 days	3 x Reads/week
		HFF	14 days	3 x Reads/week
		RD	7 days	3 x Reads/week

^aMRC-5 = Human Fibroblast cells; CMK = Cynomolgus Monkey Kidney; HFF= Human Foreskin Fibroblast cells; RD = Rhabdomyosarcoma cells

See Appendix II for detailed shell vial procedure. See Appendix III for detailed tube culture procedure.

^b CMK tube inoculated with **Lung tissue** should be **read** for 2 weeks **and** if no CPE is observed, **stain** a double Cytoprep with SimulFluor Respiratory virus Screen and HSV bivalent monoclonal antibody stains.

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IV. Reporting Results

Shell Vial:	Negative Report:	"Negative forvirus."		
	Positive Report*:	"POSITIVE forvirus."		
Tube Culture:	Negative Report:	"No virus isolated"		
	Positive Report*:	"virus isolated."		
Toxicity Report:	"Virology Tube Cul	ture: Specimen toxic to cell culture		
Contaminated Report	contaminated with	"Virology Tube Culture: Specimen is heavily contaminated with bacteria and/or fungus. Unable to perform Virology Tube Culture.		

V. References

- 1. Leland D. 1996. Clinical Virology. W.B. Saunders Company.
- 2. Gleaves, Curt A. et al. Cumitech 15A "Lab Diagnosis of Viral Infections". American Society for Microbiology, August 1994.

^{*} Telephone all positive results to ward/ordering physician.

^{*}When entering positive results in the Lab Information System (LIS), enter the virus name in the isolate window (under F7). See LIS Manual for entering results.