

Frederick National Laboratory for Cancer Research <small>sponsored by the National Cancer Institute</small>	HPV Serology Laboratory Standard Operating Procedure	
Use and Maintenance of the Optima XPN Ultracentrifuge System		
Document ID: HSL_EQ_024	Version 1.0	Page 1 of 7

Released by/Date Effective:

Author Name	Title	Signature/Date

Approver Name	Title	Signature/Date

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1. PURPOSE

- 1.1. The purpose of this procedure is to describe the use and maintenance of the Optima XPN ultracentrifuge system.

2. SCOPE

- 2.1. This procedure applies to the HPV Serology Laboratory located at the Advanced Technology Research Facility, Room C2007.

3. REFERENCES

- 3.1. Beckman Optima XPN series user manual
- 3.2. HSL_EQ_024.01: Optima XPN Ultracentrifuge Use and Maintenance Form
- 3.3. HSL_GL_001: Waste Disposal at the Advanced Technology Research Facility
- 3.4. HSL_GL_002: Equipment Qualification and Calibration in the HPV Serology Laboratory
- 3.5. HSL_GL_003: Good Documentation Practices for the HPV Serology Laboratory
- 3.6. HSL_GL_006: Reagent Preparation for the HPV Serology Laboratory
- 3.7. HSL_GL_007: Reagent and Chemical Expiry in the HPV Serology Laboratory
- 3.8. HSL_GL_008: Laboratory Flow and Gowning Procedures for the HPV Serology Laboratory
- 3.9. HSL_GL_009: HPV Serology Laboratory BSL-2 Procedures
- 3.10. HSL_GL_010: Control and Request of Documents in the HPV Serology Laboratory

4. RESPONSIBILITIES

- 4.1. The Research Associate, hereafter referred to as analyst, is responsible for reviewing and following this procedure.
- 4.2. The Scientific Manager or designee is responsible for training personnel in this procedure and reviewing associated documentation.
- 4.3. The Quality Assurance Specialist is responsible for quality oversight and approval of this procedure.

5. REAGENTS, CHEMICALS AND EQUIPMENT

- 5.1. Ster-ahol (VWR, Cat # 14003-358 or equivalent)

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5.2. Wypalls paper towel (Warehouse, Cat # 79300335 or equivalent)

6. HEALTH AND SAFETY CONSIDERATIONS

- 6.1. Proper safety precautions should be taken while working in a laboratory setting. This includes, but is not limited to, proper protective equipment such as lab coats, safety glasses, closed-toe shoes, and non-latex gloves.
- 6.2. Refer to the respective SDS when working with any chemicals.
- 6.3. Refer to “HSL_GL_001: Waste Disposal at the Advanced Technology Research Facility” regarding waste disposal processes at the ATRF.

7. DEFINITIONS

Term	Definition
FME	Facilities, Maintenance and Engineering
HPV	Human Papillomavirus
HSL	HPV Serology Laboratory
RCF	Relative Centrifugal Force
RPM	Revolutions per minute
SDS	Safety Data Sheets
SOP	Standard Operating Procedure

8. OPERATION

- 8.1. Start at the **Home** Page. If your screen shows any other page, select the **Home Page** Button in the upper left corner of the screen. See Home Page screen picture below.



- 8.2. Set the Speed and Rotor
 - 8.2.1. Select the **Set Speed** Display/Button on the **Home** Page to go to the **Set Speed** Page.

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8.2.2. If you need to record rotor selection, select the Select **Rotor Button** to go to the **Select Rotor** and Labware Page.

8.2.3. Select the rotor and labware for the run from the library.

Note: If the desired rotor is not in the library, a system Administrator or Super User must add it.

8.2.4. Select the **OK** Button to return to the **Set Speed** Page.

8.2.5. If you plan to set the speed in units of relative centrifugal field (RCF), select the RPM/RCF Button.

Note: The RPM/RCF button is only enabled when you have selected a rotor.

8.2.6. Use the keypad to set the desired speed.

Note: **Back** and **Clear** keys can be used to make corrections when entering speed.

8.2.7. Select the **OK** key to accept your entry and dismiss the page.

8.3. Setting Acceleration and Deceleration Profiles

8.3.1. Select the **Accel and Decel** Display/Button to go to the **Set Acceleration/Deceleration** Profiles Page

8.3.2. Select the desired Acceleration and Deceleration profiles.

8.3.3. Select the OK key to accept your entries and dismiss the page.

8.4. Setting the Time

8.4.1. Select the **Set Time** Display/Button to go to the **Set Time** Page.

8.4.2. Use the keypad to set the desired time in hours and minutes.

Note: **Back** and **Clear** keys can be used to make corrections

8.4.3. You can also use the **Hold** key to set the time to a hold state with no countdown to an automatic end. When you select **Hold**, the run does not end until you select the **Stop** key (or until the maximum time of 999 hours and 59 minutes has been reached).

8.4.4. You can use the **Delay Start** button to set a future start or stop time. Select **Delay Start** to display the Delay Start Page.

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8.4.4.1. Select **Start At** or **Stop At** to set a starting or stopping time. Then you can set the date and time in the fields above. Select **OK** to return to the **Set Time** Page.

8.4.5. Select the OK key to accept your entry and dismiss the page.

8.5. Setting the Temperature

8.5.1. Select the **Set Temp** Display/Button to go to the **Set Temperature** Page.

8.5.2. Use the keypad to set the desired temperature in degrees Celsius.

Note: **Back** and **Clear** keys can be used to make corrections

8.5.3. Select the **OK** key to accept your entry and dismiss the page.

8.6. Starting the Run

Note: If you have entered a delayed start, you must select the Start button to begin the countdown to the delayed start.

8.6.1. Prepare your samples and place them in the rotor following all proper procedures, including balanced weight distribution.

8.6.2. Close and lock the chamber door. For preconditioning, select the Vacuum Display/Button and wait until the chamber reaches the set temperature.

8.6.3. Once the run values are set, start the run.

8.6.4. Press the **Start** button.

8.6.5. Record the run details on HSL_EQ_024.01: Optima XPN Ultracentrifuge Use and Maintenance Form.

9. MAINTENANCE

9.1. Monthly

9.1.1. Clean instrument surfaces and rotors, by pre-wetting paper towel with cavicide then wiping clean.

9.1.2. Record maintenance performed on form HSL_EQ_024.01: Optima XPN Ultracentrifuge Use and Maintenance Form.

9.2. Annual

9.2.1. Centrifuge must be calibrated annually by FME/Vendor.

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9.2.2. Record maintenance performed on form HSL_EQ_024.01: Optima XPN Ultracentrifuge Use and Maintenance Form.

10. ATTACHMENTS

10.1. Not applicable

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11. REVISION HISTORY

Revision Start Date	Version #	Changes	Reasons
04May17	New	Create New SOP for the Use and Maintenance of the Optima XPN Ultracentrifuge System	New equipment SOP

Optima XPN Ultracentrifuge Use and Maintenance Form

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Equipment ID:	Calibration Date:	Calibration Due Date:
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Date	Initials	Disinfectant Lot #	Activity Performed	Rotor Type / Serial #	RPM	Temp (°C)	Run Length (hh:mm)
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				
		<input type="checkbox"/> N/A <input type="checkbox"/> Cavicide, Lot #:	<input type="checkbox"/> N/A				

Comments: N/A

Review By/Date:	
QA Review By/ Date:	