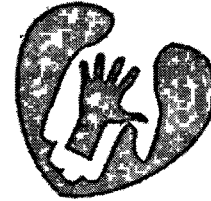


# STEM CELL LABORATORY (STCL)



<b>DOCUMENT NUMBER:</b> STCL-EQUIP-003
<b>DOCUMENT TITLE:</b> Operation of Sorvall RC-3C Plus Series Refrigerated Centrifuges
<b>DOCUMENT NOTES:</b>

## Document Information

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<b>Author:</b> WATE02	<b>Owner:</b> WATE02
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# **STCL-EQUIP-003**

## **OPERATION OF SORVALL RC-3 PLUS SERIES REFRIGERATED CENTRIFUGES**

### **1 PURPOSE**

- 1.1 The purpose of this procedure is to provide users with basic instructions regarding the operation of the Sorvall RC-3B Plus refrigerated centrifuge. This procedure will be used in conjunction with the Sorvall Operator's Manual and Sorvall HBB-12 Rotor Manual.

### **2 INTRODUCTION**

- 2.1 This Sorvall centrifuge is large capacity, versatile, quiet, and reliable for low speed work designed to meet the needs of research and clinical laboratories, blood banks, and plasmapheresis centers. This centrifuge is equipped with many safety features designed to promote long life for the bearings, use environmentally-friendly CFC-free refrigerant, provide an automatic shut off of the drive motor to prevent damage and overheating, and prevent the chamber door from being opened while the rotor is in motion. In order to ensure that this equipment functions properly, all operators must follow the basic instructions outlined in this procedure.

### **3 SCOPE AND RESPONSIBILITIES**

- 3.1 The Stem Cell Laboratory Medical Director, Laboratory Manager, and Stem Cell Laboratory staff are responsible for ensuring that the instructions for use of this piece of equipment are followed.

### **4 DEFINITIONS/ACRONYMS**

- 4.1 STCL Stem Cell Laboratory
- 4.2 PPE Personal Protective Equipment
- 4.3 CFC chlorofluorocarbons

### **5 MATERIALS**

- 5.1 N/A

### **6 EQUIPMENT**

- 6.1 Sorvall RC-3B Plus Refrigerated Centrifuge

### **7 SAFETY**

- 7.1 Use all applicable personal protective equipment (PPE) when handling potentially hazardous blood and body fluids to include, but not limited to, lab coats, gloves, goggles, etc.

### **8 PROCEDURE**

- 8.1 Set the main power switch to "ON".

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8.2 Check to make sure the centrifuge is set according to these guidelines:

- 8.2.1 TEMP SET: "+7"
- 8.2.2 TEMP °C should read between 3-5°C
- 8.2.3 REV/MIN x1000: 1.8 (*to reflect a spin speed of 1800 RPMs*)
- 8.2.4 TIME: 20 (*to reflect a spin time of 20 minutes*)
- 8.2.5 BRAKE: 4

**NOTE:** These settings will ONLY need to be changed when performing selection/depletion procedures to reflect room temperature, a centrifugation speed of 1200, a centrifugation time of 15 minutes, and 0 brake. After the selection/depletion procedure is complete, settings should be changed back to reflect information listed in sections 8.2.1 - 8.2.5.

8.3 Open the chamber door.

**NOTE:** Be sure to hold the door open so that it does not slam shut.

8.4 Insert buckets on opposite sides of one another to ensure they are balanced within +/- 5 grams of each other before starting the centrifuge.

8.5 Press the START switch.

**NOTE:** For emergency shut off, press the **STOP** switch.

8.6 Upon completion of the run, remove cellular products and close the chamber door in order to maintain the refrigerated temperature inside the chamber.

**NOTE:** Open and close the door slowly and CAREFULLY; do not allow the door (lid) to slam shut as it can cause damage to the shocks that hold the lid open.

8.7 Clean any visible spills immediately using a mild, non-alkaline dishwashing liquid, then rinse and dry with a soft absorbent cloth. Refer to cleaning procedures in the Operator's Manual and avoid using chlorines as they are extremely harmful to aluminum alloy rotors and can cause stress corrosion cracking.

8.8 Refer to the specific Sorvall Operator's Manual for specific instructions regarding programming, troubleshooting, etc.

8.9 Refer to *STCL-FORM-033 Centrifuge Daily/Weekly/Monthly QC Log* for a list of the daily, weekly, and monthly centrifuge maintenance requirements. Refer to *STCL-FORM-022 Centrifuge Bi-Annual Verification of Function* for a list of quarterly centrifuge maintenance requirements.

8.10 Annual maintenance is performed by Clinical Engineering at Duke University Medical Center and/or by other external facilities (ie. Spectrofuse, etc). Clinical Engineering can be contacted, when needed, to provide the STCL will documentation of maintenance procedures they perform.

8.11 It is the responsibility of laboratory personnel to document maintenance procedures that are performed. All maintenance-related documentation will be filed in the laboratory or off-site and maintained indefinitely.

**9 RELATED DOCUMENTS/FORMS**

- 9.1 STCL-FORM-033 Centrifuge Daily/Weekly/Monthly QC Log
- 9.2 STCL-FORM-022 Centrifuge Bi-Annual Verification of Function

**10 REFERENCES**

- 10.1 Sorvall RC-3B Plus Operating Instructions
- 10.2 Sorvall HBB-12 Rotor Manual
- 10.3 Sorvall Centrifuges Instruction Sheet
- 10.4 Sorvall RC-3B Condensed Operating Instructions

**11 REVISION HISTORY**

Revision No.	Author	Description of Change(s)
04	B. Waters-Pick	<p>Changed "Sorvall RC-3C Plus" to "Sorvall RC-3B Plus" everywhere mentioned.</p> <p>Section 1.1—Deleted "and RC-3BP"</p> <p>Section 2.1—Changed the paragraph to reflect the use of only one Sorvall refrigerated centrifuge in the STCL.</p> <p>Deleted Section 6.2.</p> <p>Section 8.1—Changed "I" to "ON"</p> <p>Section 8.2—Changed "Select the P PRGM SELECT switches for the file number (P0-P9) of the desired programmed run. The PROGRAM ACTIVE light will come on, indicating that the run parameters (control set points) are being taken from the program memory file (of selected program) and not from control panel switches. Prerecorded set run conditions can be displayed by pressing the PROGRAM DISPLAY switch (see page 4-9, Program Display, in the Operator's Manual). <b>NOTE:</b> A list of programs (<i>STCL-EQUIP-003 JA1 Programs for Sorvall 3C Series Centrifuges</i>) affixed to the top of each centrifuge for your reference. Each program includes the rpms, time, temperature, and whether the brake is ON or OFF)." to "Check to make sure the centrifuge is set according to these guidelines:"</p> <p>Added Sections 8.2.1-8.2.5</p> <p>Added "<b>NOTE:</b> These settings will ONLY need to be changed when performing selection/depletion procedures to reflect room temperature, a spin speed of 1200, a spin time of 15 minutes, and 0 brake. After the selection/depletion procedure is complete, settings should be changed back to reflect Sections 8.2.1-8.2.5." to Section 8.2.</p> <p>Section 8.3—Added "Be sure to hold it open so that it does not slam shut."</p> <p>Section 8.4—Changed "Make sure that buckets spun</p>

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		<p>opposite of one another are balanced +/- 10 grams of each other before starting the centrifuge.” to “Insert <u>buckets opposite of one another and make sure that they are balanced +/- 5 grams of each other before starting the centrifuge.</u>”</p> <p><u>Section 8.5—Deleted</u> “(The ROTOR CODE message indicator light will flash for a few seconds as a reminder to set the proper ROTOR CODE number). Both centrifuges used in the laboratory have been preset to use Rotor Code <u>HBB-12.</u>”</p> <p><u>Section 8.6 NOTE</u>—Added “Open and”</p> <p>Section 9.1—Deleted “STCL-EQUIP-003 JA1 Programs for Sorvall 3C Series Centrifuges.” All other Section 9 statements shifted up.</p> <p>Section 10.2—Deleted “Sorvall RC 3BP Operating Instructions.” All other Section 10 statements shifted up.</p>
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**Signature Manifest****Document Number:** STCL-EQUIP-003**Revision:** 04**Title:** Operation of Sorvall RC-3C Plus Series Refrigerated Centrifuges

All dates and times are in Eastern Time.

**STCL-EQUIP-003 Operation of Sorvall RC-3C Plus Series Refrigerated Centrifuges****Author**

Name/Signature	Title	Date	Meaning/Reason
Barbara Waters-Pick (WATE02)		11 Jan 2018, 07:31:31 PM	Approved

**Manager**

Name/Signature	Title	Date	Meaning/Reason
Barbara Waters-Pick (WATE02)		11 Jan 2018, 07:31:42 PM	Approved

**Medical Director**

Name/Signature	Title	Date	Meaning/Reason
Joanne Kurtzberg (KURTZ001)		12 Jan 2018, 11:03:57 AM	Approved

**Quality**

Name/Signature	Title	Date	Meaning/Reason
Richard Bryant (RB232)		16 Jan 2018, 07:27:30 AM	Approved

**Document Release**

Name/Signature	Title	Date	Meaning/Reason
Sandy Mulligan (MULLI026)		30 Jan 2018, 07:16:54 PM	Approved