

## **CHAPTER 7 NIDDK BIOSAMPLE REPOSITORY BLOOD COLLECTION, PROCESSING AND SHIPMENT**

Participants who enroll in the HFM Study are invited to volunteer to provide biological samples to be stored for use in possible future studies. A separate repository informed consent is required, although it may be part of the main consent form (Note: NIH approval is required for Repository Consents before specimens are shipped to the Repository). For those participants who consent to storage of biological specimens, serum and plasma are collected at the baseline and 2-week visit. (Although it is preferable to collect the 2-week sample at 2 weeks, samples can still be collected 2 weeks beyond the 2 week date). The 2-week blood draw is done whether or not anything has happened to the fistula (i.e. blood clot or abandonment). Blood is centrifuged and aliquoted into cryovials at the participating sites and periodically bulk shipped on dry ice to the NIDDK Biosample Repository at Fisher BioServices in Germantown, Maryland for long-term storage.

### **7.1 Supplies for Blood Collection and Shipment**

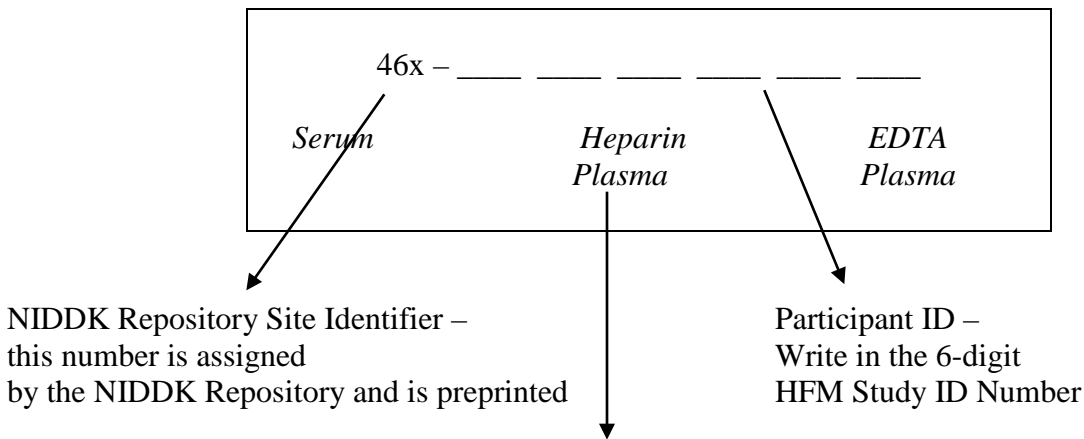
The NIDDK Biosample Repository automatically returns shipping kits when sites send samples. If shipping kits are not received for any reason, or extra kits are needed, send an e-mail to [bio-nidkrepository@thermofisher.com](mailto:bio-nidkrepository@thermofisher.com). In the e-mail, note the name of the study, what is needed, and where to send the supplies. Cryovials are not part of a standard shipping kit, so sites should contact the biorepository at the e-mail address above, when more vials are needed. Requests should be made before you are out of vials in case they are on back-order.

The NIDDK Biosample Repository provides the following materials for sample collection and shipment:

- 0.5ml cryovials for serum and plasma aliquots to be shipped to the Repository
- Barcode labels for cryovials
- Shipping kits that include:
  - Three 5”L x 5”W x 2”H specimen boxes each with a 9 x 9 cell divider
  - 3 absorbent sheets
  - 3 biohazard bags
  - 3 Tyvek envelopes
  - Inner cardboard box
  - Insulated shipper (STP 320)
  - Cardboard address piece
  - Repository “To” address label
  - UN 3373 Category B label
  - Class 9 miscellaneous dangerous goods label

- Preprinted FedEx air bill
- The participating sites provide the following supplies and equipment for sample collection and shipment:
  - Centrifuges
  - -70°C freezer
  - Laboratory supplies such as biohazard bags, gloves, sterile pipettes, pipettors, and sterile pipette tips – Information regarding the 4736-8025 manual repeating pipet can be found at <http://www.usascientific.com/index.asp?PageAction=viewprod&prodid=426>. Make sure to order the correct positive displacement tips for the amount you want to aliquot.
- Vacutainers® (SSTs, PSTs and K<sub>2</sub>EDTA tubes)
- Dry ice pellets
- Packing tape for shipping boxes
- Participating site return address labels
- The Data Coordinating Center provides the following supplies for sample collection and shipment:
  - Preprinted labels for Vacutainers®

The paper label will consist of the NIDDK clinical center identifier, the patient ID and the sample type (Serum, Heparin Plasma or EDTA Plasma) and will look like this:



Specimen type (Serum, Heparin Plasma or EDTA Plasma) will be preprinted – circle the appropriate one

Note that each person shipping biological specimens should be trained and certified according to DOT and IATA regulations.

## 7.2 Blood Collection

Participating sites are responsible for obtaining the Vacutainer® Blood Collection Tubes for repository serum and plasma samples. The following table notes the types of specimens and collection tubes, the collection schedule, and the volumes to be collected.

Vacutainer® Name	Tube Color	Additive	BD Reference number	Collection Periods	
				Baseline	2-week
Serum tube	Red top	Clot activator	367820	2 x 10 ml	2 x 10 ml
Plasma tube	Green top	Lithium heparin	367880	2 x 10 ml	2 x 10 ml
K <sub>2</sub> EDTA plasma tube	Lavender top	Spray coated K <sub>2</sub> EDTA	366643	2 x 10 ml	2 x 10 ml
<b>Total Blood Draw</b>				<b>60 ml</b>	<b>60 ml</b>

When drawing blood, fill the Vacutainers® to capacity. Draw blood from the subject using tubes in the following order:

1. 2 x 10ml serum tubes
2. 2 x 10ml plasma tubes
3. 2 x 10ml EDTA tubes

Immediately after drawing the samples, gently invert the Vacutainers to mix the clot activator or anticoagulant with the blood. **For the serum tubes, allow the blood to clot in an upright position at room temperature for 30 minutes.** Review the following table for the number of tube inversions, spin times and g-force settings for the centrifuge.

Tube Type	# of Inversions	Spin Times		G-force
		Swing Bucket Centrifuge	Fixed Angle Centrifuge	
Serum	5	10	15	1100 – 1300G
Lithium heparin	8-10	10	15	1100 – 1300G

plasma				
EDTA plasma	8-10	10	15	1100 – 1300G

### 7.3 Cryovial Labels for Aliquots

The NIDDK Biosample Repository provides barcode labels for the aliquots to be shipped to the Repository. The labels are pre-printed with a unique barcode, a visit (baseline or 2-week) and the specimen type (serum, EDTA plasma or heparin plasma). Each label set for one subject visit contains the following labels.

Aliquot Labels for...	# of Labels	Visit
EDTA plasma	40	Baseline or 2-week
Heparin plasma	40	Baseline or 2-week
Serum	40	Baseline or 2-week

The label sheets contain 5 labels in each row and are perforated between each row for easy separation of labels by patient, visit and/or specimen type. Per patient visit, there are 8 rows of EDTA plasma labels, 8 rows of heparin plasma labels and 8 rows of serum labels. Follow the instructions below to apply labels to cryovials.

1. Apply labels to 0.5 ml vials (for serum and plasma) with clean, dry hands.
2. Attach the label to the vial when the vial is at room temperature and before the sample is aliquoted into the vial.
3. Leave the cap on the vial when labeling; the inside of the vial is sterile.
4. Apply the label to the vial so that the long edge of the label is parallel to the floor when the vial is held in an upright position. The label should not trail off the bottom of the vial or over the cap.
5. While holding the vial in an upright position, affix the white portion of the label to the vial first, with the human readable text to the right of the barcode.
6. Wrap the clear tail around the perimeter of the vial. The end of the clear tail should overlap the white portion of the label to help secure it to the vial.
7. Verify that all edges of the label adhere to the vial.

The picture below shows a properly labeled vial.



### 7.4 Aliquoting Specimens

Aliquot samples filling only 0.25 ml per vial as soon as possible according to your institution's guidelines and safety practices. If you can not aliquot immediately after

centrifugation, store the Vacutainers® at 4°C. Please do not send hemolyzed samples to the Repository. If possible, redraw the specimen.

Once the samples are aliquoted, freeze them immediately on dry ice or in a -70°C freezer. Store the aliquots in an upright position in cardboard boxes with 9 x 9 cell dividers provided by the Repository. Place up to 81 x 0.5 ml cryovials in each specimen box. Include the vein specimens (RNA Later and Proteomics) that go with this patient. When packing vials, place them in the specimen boxes left to right, top to bottom. Group vials together by patient and visit. Label the specimen boxes with permanent marker or an adhesive label. Information on the label should include name of study, contact person and phone number, and running list of IDs, alpha codes, and dates of blood draw for each patient. Store the samples in a -70°C freezer until shipment to the Repository. Ship samples when enough vials are collected to fill a shipper (~486 vials) or monthly.

### 7.5 Creating a Shipment Log

Follow the instructions below for entering specimen data into the HFM Study specimen shipment log.

1. Open the excel spreadsheet created by the DCC which corresponds to this PID and this visit. The name of the spreadsheet is as follows:

HFMStudy\_NIDDK Site ID\_PID\_Visit.xls

For example, the name of the excel spreadsheet for the repository specimen collection for the baseline visit for PID 011001 will be:

[HFMStudy\\_460\\_011001\\_BL.xls](#)

2. Verify that the barcode on the vial matches the barcode in Column A (Barcode #) for each vial.
3. Column B contains your three-digit HFM Study NIDDK Site ID in (NIDDK Site ID) for each specimen. The site IDs are:

Site Number	Site Name
460	Boston University Medical Ctr.
461	University of Cincinnati
462	University of Florida
463	UT Southwestern University at Dallas
464	University of Utah Health Sciences Center
465	University of Washington
466	University of Alabama

1. Verify that the six-character Patient ID in Column C (Patient ID) matches the Patient ID for each specimen. The Patient ID consists of the two-digit center number (01 – 06), the one-digit unit number, the three-digit patient number. For example, 061003.
2. Column D (Sample ID) will self-populate based on the entries in columns B and C. Please do not change the formula for Column D.
3. Enter the draw date in Column E (Date Collected) for each specimen in the following format: mm/dd/yyyy
4. Verify that Column F (Visit) contains the correct code for the visit: “BL” for baseline or “2W” for 2-week visit for each specimen.
5. Verify that Column G (Specimen Type) contains the appropriate specimen code (e.g., S = serum, P = plasma) for each specimen.
6. Verify that Column H (Condition) contains the appropriate condition code (if applicable) in (e.g., E=EDTA plasma, H= plasma with heparin).
7. Verify the volume of specimen in milliliters in Column I (e.g., 0.25). Do not enter “ml” in this column.
8. Delete the extra rows for the barcodes that were not used.
9. Save the file as an Excel spreadsheet. Name the file using the following format:  
HFMSStudy\_NIDDK Site ID\_date of shipment.xls  
For example, [HFMSStudy\\_465\\_113099.xls](#)
10. Upload the file to the Data Coordinating Center database following instructions (to be provided).
11. E-mail the file (instruction will be provided how to retrieve the file from the Data Coordinating Center database) to the Repository at [Bio-NIDDKRepository@thermofisher.com](mailto:Bio-NIDDKRepository@thermofisher.com) as an attachment to a shipment notification. Also remember to include the FedEx tracking number in the e-mail.
12. Print a hard copy of the file and include it with your shipment to the Repository.
13. Email questions/requests to us at the above email address.

## **7.6 Shipping Specimens to the NIDDK Biosample Repository at Fisher BioServices**

Follow the instructions below for packing samples, assembling the shipping kit and mailing samples to the NIDDK Biosample Repository at Fisher BioServices.

1. Place each specimen box and an absorbent sheet inside a plastic biohazard bag. Seal the bag.
2. Place each plastic bag inside a white Tyvek envelope by placing the box inside the long pocket of the envelope. Near the middle of the envelope, crease and fold the envelope over, and place the long pocket of the envelope inside the short pocket. Push the box firmly into the short pocket.
3. Place a thin layer of dry ice in the bottom of the shipper. Place up to 6 Tyvek envelopes containing specimen boxes on the dry ice.
4. Fill the rest of the space in the shipper with dry ice pellets. Leave 3.5” (height) empty in the top of the shipper for the foam insert.
5. Place the foam insert on top of the dry ice in the opening. Place a copy of the shipment log along with a copy of the Form 606 on top of the foam insert. Close and tape the outer box.
6. Affix the repository “To:” address label to the side of the box in the upper left corner.
7. Affix the dry ice label to the same side of the box in the upper right corner. Enter the weight of dry ice on the label in kilograms.
8. Affix the “UN3373 BIOLOGICAL SUBSTANCE, CATEGORY B” label to the left of the dry ice label.
9. Use the pre-printed Fed Ex air bill to ship specimens to the NIDDK Repository:
  - a. Section 1: Fill in your name, return address, phone number and the date. Leave “Sender’s FedEx Account Number” blank.
  - b. Section 6, Special Handling: Check “Yes, Shippers Declaration not required”. Check the “Dry Ice” block; enter “1” and the weight of dry ice in kilograms.
  - c. Section 7: Enter “1” under “Total Packages” and the total weight of the package.
  - d. Follow the peel-and-stick instructions on the back of the air bill. As shown, affix the air bill to the side of the box beneath the dry ice label.
10. Call Federal Express, 1-800-GO-FEDEX (1-800-463-3339). Give them the account number (in Section 7, Payment) on the preprinted FedEx air bill and your pickup address. FedEx will dispatch a courier to pick up the package. Please schedule shipments Monday through Wednesday to avoid weekend shipment delays. **Do not ship frozen packages on Friday; the repository is closed on weekends.**
11. Send a shipment notification to the repository via email at [BIO-NIDDKRepository@thermofisher.com](mailto:BIO-NIDDKRepository@thermofisher.com) on the day the package is picked up by FedEx. Include the 12-digit FedEx tracking number in the notification. Also attach the shipment log to the e-mail.
12. Contact the NIDDK Repository via email or call Heather Higgins (240-793-0353) or Sandra Ke (240-686-4702) regarding questions about packaging and shipping.



## Appendix A – Instructions for Mailing Test Kits to the NIDDK Biorepository

- Test kits will be mailed to the Centers by the NIDDK Biorepository. Follow the instructions in Chapter 7 for aliquotting and mailing samples, but use *water* instead of blood to fill the 0.5 ml cryovials.
- Apply labels to the 0.5 ml vials (use all 15 of the labels provided by the NIDDK)
- Aliquot the samples filling only 0.25 ml per vial
- Create a shipment log (provided by the DCC). Helpful hint: keep the sheets with the un-used labels and then delete the extra rows for the barcodes which weren't used.
- Follow the instructions in Section 7.6 of the MOP for packing samples, assembling the shipping kit and mailing samples to the NIDDK Biosample Repository at Fisher BioServices. Dry ice should be used for the test kit to mimic an actual shipment to the repository. Send only one specimen box with the 15 cryovials.
- Complete (but *do not enter* ) Form 606 – Mailing of Serum to Biosample (NIDDK) Biorepository- and put it on top of the foam insert in the shipping box along with the shipment log. Keep a copy of the Form 606 for your files.



## Appendix B – Quick Summary of Baseline and Two-Week Blood Draws

### HFM Study Baseline Blood Draw

#### A. Label the vacutainer tubes and cryovials

#### B. Draw blood from the patient into 10ml vacutainer tubes in the following order:

- **2 Red top tubes** (with clot activator additive- for serum)
- **2 Green top tubes** (with Lithium Heparin additive- for plasma)
- **3 Lavender top tubes** (with K2 EDTA additive- for plasma) (2 for NIH Biorepository and 1 for NIH DNA Repository)

#### C. Gently invert the tubes immediately after drawing blood:

- **2 Red top tubes** – invert 5 times each
- **2 Green top tubes** – invert 8-10 times each
- **3 Lavender top tubes** – invert 8-10 times each

**Within 5 minutes of drawing the blood, take it to the place where you will be processing it.**

#### D. After inverting the tubes:

- **2 Red top**
  - Let these two tubes stand for 30 minutes in upright position at room temperature to clot.
- **2 Green top tubes + 2 Lavender top tubes** (for NIH Biorepository)

Centrifuge these four tubes immediately in a refrigerated centrifuge- for 10min @ G-force of 1100-1300 if using a Swing Bucket Centrifuge or for 15min if using a Fixed Angle Centrifuge. **Note: if you can't centrifuge the green and lavender top tubes immediately because you are not near your centrifuge, you need to put them on ice until you get them there.**

- **1 Lavender top tube** (for NIH DNA Repository)
  - Let it sit at room temperature. **Do not centrifuge. Do not refrigerate or freeze at any time.**

#### E. Within 5 minutes after time of “D”

- Aliquot 40 x 0.25ml (250µl) from **2 Green top tubes** and 40 x 0.25ml (250µl) from **2 Lavender top tubes** into pre-labeled 0.5ml (500µl) cryovials.
- Freeze aliquots immediately either by putting them into a -70°C freezer or on dry ice.
- If you can't aliquot immediately after centrifugation, store the vacutainer tubes at 4°C, but be sure to aliquot and freeze on the day of the draw!

#### **F. Exactly 30 minutes after time of “D”**

- Centrifuge the **2 Red top tubes** using a refrigerated centrifuge- for 10min @ G-force of 1100-1300 if using a Swing Bucket Centrifuge or for 15min if using a Fixed Angle Centrifuge.
- Aliquot 40 x 0.25ml (250µl) into pre-labeled 0.5ml (500µl) cryovials.
- Freeze aliquots immediately either by putting them into a -70°C freezer or on dry ice.

#### **Shipping:**

- DNA samples will be sent in right away.
- Biorepository samples will be batched.
- FedEx Mailing Labels will be provided in the Biorepository and DNA kits.
- Shipping details are found in Sections 7 & 8 of the MOP.

#### **HFM Study Forms to Complete:**

- Form 606 – Mailing of Serum Specimen to Fisher (NIDDK) Biosample Repository Form
- Form 607 – Mailing Blood to NIDDK DNA Repository Form

#### **HFM Study Two Week Blood Draw**

##### **A. Label the vacutainer tubes and cryovials**

##### **B. Draw blood from the patient’s arm into 10ml vacutainer tubes in the following order:**

- **2 Red top tubes** (with clot activator additive- for serum)
- **2 Green top tubes** (with Lithium Heparin additive- for plasma)
- **2 Lavender top tubes** (with K2 EDTA additive- for plasma)

##### **C. Gently invert the tubes immediately after drawing blood:**

- **2 Red top tubes** – invert 5 times each
- **2 Green top tubes** – invert 8-10 times each
- **2 Lavender top tubes** – invert 8-10 times each

**Within 5 minutes of drawing the blood, take it to the place where you will be processing it.**

##### **D. After inverting the tubes:**

- **2 Red top tubes**
  - Let these two tubes stand for 30 minutes in upright position at room temperature to clot.
- **2 Green top tubes + 2 Lavender top tubes** (for NIH Biorepository)

Centrifuge these four tubes immediately in a refrigerated centrifuge- for 10min @ G-force of 1100-1300 if using a Swing Bucket Centrifuge or for 15min if using a Fixed Angle Centrifuge. **Note: if you can't centrifuge the green and lavender top tubes immediately because you are not near your centrifuge, you need to put them on ice until you get them there.**

**E. Within 5 minutes after time of “D”**

- Aliquot 40 x 0.25ml (250µl) from **2 Green top tubes** and 40 x 0.25ml (250µl) from **2 Lavender top tubes** into pre-labeled 0.5ml (500µl) cryovials.
- Freeze aliquots immediately either by putting them into a -70°C freezer or on dry ice.
- If you can't aliquot immediately after centrifugation, store the vacutainer tubes at 4°C, but be sure to aliquot and freeze on the day of the draw!

**F. Exactly 30 minutes after time of “D”**

- Centrifuge the **2 Red top tubes** using a refrigerated centrifuge- for 10min @ G-force of 1100-1300 if using a Swing Bucket Centrifuge or for 15min if using a Fixed Angle Centrifuge.
- Aliquot 40 x 0.25ml (250µl) into pre-labeled 0.5ml (500µl) cryovials.
- Freeze aliquots immediately either by putting them into a -70°C freezer or on dry ice.

**Shipping:**

- Biorepository samples will be batched.
- FedEx Mailing Labels will be provided in the Biorepository kit.
- Shipping details are found in the MOP.

**HFM Study Forms to Complete:**

- Form 606 - Fisher (NIDDK) Biosample Repository Form

## **Appendix C – Troubleshooting Blood Draw and Processing Problems**

### **Gelatinous serum/plasma causes per Becton Dickenson technical support:**

- A patient's illness or condition
- Not properly processing the tubes
- Reaction between medication/drug and the clot activator in the Vacutainer
- Fibrin formation in the blood when collected during dialysis

Allow the blood to clot for 45min – 1 hour, but this should not cause the serum to be gelatinous.

Check the temperature of the refrigerated centrifuge

### **For problems getting all 40 vials of 250 microliters each:**

- Make sure that you are using 10 ml tubes and not 8.5 ml tubes. The common SST tube used to be 8.5 ml.
- Make sure to fill the tube completely. Phlebotomists may be used to using smaller tubes and may not wait until it is filled.
- If you are getting more plasma aliquots than serum aliquots: There are two reasons this might be the case. SST are 8.5 ml and EDTA are 10 ml – easy to fix – or they are drawing EDTA tubes first and vein is collapsing towards end of draw. SST needs to be drawn first so it is not contaminated with EDTA.
- Make sure you are spinning tubes for required time. The SST tubes should be able to go right down to the gel to get all the serum out. It is sometimes harder to get plasma out, but usually buffy coat forms scum on top that prevents one from aspirating red cells.
- How are you aliquoting 250 ul samples? The samples need to be pretty close to this volume, particularly the EDTA samples where metal may need to be added back to perform assays.

Repeating pipetters can be sent to the manufacturer for calibration. The manufacturer will clean and replace any parts as needed.

## Appendix D - Helpful Hints for Creating Shipment Logs and Shipping Specimens to the NIDDK Biosample Repository

Label cryovials and place into white boxes:

- Order the barcodes as follows: Serum tubes, EDTA Plasma tubes, Heparin Plasma tubes. Label each tube and place into the white box, so the tubes stay in order. Each white box will fit 90 cryovials- enough space to put in 40 cryovials, leave one space, and put in 40 more cryovials. Then move on to the next box and put in the last 40 cryovials.
- When processing blood, keep the cryovials in order, making it easier to record which tubes (barcode numbers on the Excel spreadsheet) remain for each patient.

Milena/DCC sends a new batch of barcodes:

- Each batch comes in with the following filename:  
HFMStudy\_460\_MMDDYY\_batch#
- Save a copy of the original file with the filename:  
HFMStudy\_460\_CURRENT\_batch#
- This will be your working copy. Work on the 'CURRENT' file to add blood draw dates to the Excel spreadsheet, and keep saving as you go along. Once blood draw dates have been added for every patient whose samples will be mailed, save the spreadsheet again (with the same CURRENT filename).
- Now save a copy of the completed CURRENT file, replacing the word CURRENT with the date of shipment. For example, something mailed on 11/22/11 is saved with the filename (using your Center's Site ID):  
HFMStudy\_460\_112211\_batch#
- Go into this new file and delete all the spaces that DO NOT have a blood draw or vein tissue collection date. Save the file. This file contains all the patients whose serum, plasma, and vein tissue are included in this particular shipment. The file is now ready to be e-mailed and sent with the shipment. E-mail the file to the Repository at [BIO-NIDDKRepository@thermofisher.com](mailto:BIO-NIDDKRepository@thermofisher.com) AND copy the DCC ([fm-dcc@bio.ri.ccf.org](mailto:fm-dcc@bio.ri.ccf.org)) as an attachment to a shipment notification. Remember to include the FedEx tracking number in the e-mail. Print a hard copy of the file and include it with your shipment to the Repository.
- Go back to the CURRENT file and delete all the spaces that DO have a blood draw or vein tissue collection date. Save the file. This file contains all the patients whose serum, plasma, and vein tissue have not yet been collected. The file will be saved and worked on again the next time there is a shipment to be mailed.

## Appendix E – Examples of Center Collection Logs

<p>Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>	<p style="text-align: right;">Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>
<p>Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>	<p style="text-align: right;">Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>
<p>Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>	<p style="text-align: right;">Blood Collection Times Mailed _____</p> <p>Subject ID _____</p> <p>Blood collection date _____</p> <p>0. Blood collection time _____</p> <p>1. Serum (Red) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>2. Plasma EDTA (Purple) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p> <p>3. Plasma Heparin (Green) Placed in Centrifuge _____</p> <p style="padding-left: 20px;">Box# _____ Transferred to -80° freezer _____</p> <p style="padding-left: 40px;"># Vials _____ From _____ To _____</p>

Blood Collection Times Mailed \_\_\_\_\_

Subject ID \_\_\_\_\_

Blood collection date \_\_\_\_\_

0. Blood collection time \_\_\_\_\_

1. Serum (Red) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

2. Plasma EDTA (Purple) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

3. Plasma Heparin (Green) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

Blood Collection Times Mailed \_\_\_\_\_

Subject ID \_\_\_\_\_

Blood collection date \_\_\_\_\_

0. Blood collection time \_\_\_\_\_

1. Serum (Red) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

2. Plasma EDTA (Purple) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

3. Plasma Heparin (Green) Placed in Centrifuge \_\_\_\_\_

    Box# \_\_\_\_\_ Transferred to -80° freezer

        # Vials \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>	<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>
<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>	<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>
<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>	<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>
<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>	<p>Vein Tissue Collection Times Mailed_____ Subject ID_____</p> <p>0. Tissue collected_____</p> <p>1. Placed in Formalin(Green)_____</p> <p style="padding-left: 20px;">Transferred to Ethanol(Yellow)_____</p> <p>2. Placed in RNA Later(Red)_____</p> <p style="padding-left: 20px;">Transferred to +4° fridge_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p> <p>3,4. Clear and Proteomics(Blue) frozen in LN2_____</p> <p style="padding-left: 20px;">Transferred to -80° freezer_____</p> <p style="padding-left: 20px;"># _____</p>



Collection DATE: \_\_\_ / \_\_\_ / \_\_\_\_\_

Collection time: \_\_\_\_\_

	Time spun	Time in freezer	# aliquots
Serum	:	:	/40
Heparin	:	:	/40
EDTA	:	:	/40

Barcodes not used:

Serum		Heparin		EDTA	

PT ID: 06\_\_ \_\_ \_\_ \_\_ Person processing \_\_\_\_\_

Collection DATE: \_\_\_ / \_\_\_ / \_\_\_\_\_

Collection time: \_\_\_\_\_

	Time spun	Time in freezer	# aliquots
Serum	:	:	/40
Heparin	:	:	/40
EDTA	:	:	/40

Barcodes not used:

Serum		Heparin		EDTA	