



National Institutes of Health

National Institute of Neurological Disorders and Stroke
National Institute on Aging

MarkVCID2 Shipping Human Biospecimens Guideline

v3.13.23
MarkVCID Consortium
www.markvcid.org

By the MarkVCID1 Fluid-based Biomarkers Subcommittee (Co-chairs Donna Wilcock, PhD, and Pia K. Webb, MD, PhD) and Coordinating Center (Steven M. Greenberg, MD, PhD).

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MarkVCID Shipping Human Biospecimens Guideline

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1. Purpose

The purpose of this document is to provide guidelines for the shipping of MarkVCID biological specimens.

2. Scope

The policies and procedures described in this document pertain to all MarkVCID Consortium members who will be responsible for shipping biological specimens.

3. Procedures

3.1. Trainings

All staff who ship biosamples must maintain current training and certification in the shipping and handling of biological specimens as mandated by their institution.

All site staff who receive and process samples, print labels, scan and input information into the MarkVCID virtual repository must complete the virtual biorepository training.

(<https://markvcid.partners.org/4-virtual-biorepository-training>)

3.2. Shipping Requirements

Human samples fall under Category B “Infectious Substances.”

Please follow the instructions for Processing Shipped Samples in the Biorepository Training Manual.

3.3. Shipping and Handling Overview

1. Remove samples from -80C and place on dry ice
2. Wrap each tube with parafilm
3. Place samples in tube boxes and keep on dry ice
4. Label boxes accordingly
5. Place boxes in a leak proof biohazard sample bag
6. Fill the cooler with dry ice completely
7. Attach a printed, itemized list of the included samples to the top of the cooler with 24-hour contact name and number
8. Place cooler in corrugated outer box. Do NOT air-seal the outer box. CO2 must be allowed to vent.
9. Place a shipment request with FedEx following guidelines below
10. Place shipping label on the top of the box with both the UN3373 Biological Substance, Category B and UN 1845 Dry ice and weight labels

3.4. Shipping and Handling Details

3.4.1. Packaging Specimens

1. Put specimen in leak-proof primary container (cryovials for plasma/serum/CSF: [DWK W985874](#)) and wrap individually (screw cap lid with parafilm around seal)
2. Use absorbent material sufficient to absorb entire contents of primary container ([SAF-T-PAK STP-152 SKU:34834](#))
3. Use a leak proof secondary container – Leak proof Biohazard sample bag ([VWR 11215-682](#))
4. Use a corrugated box around Styrofoam cooler
5. Include a manifest of items using the template under Section 4.2.
 1. *Print, place in a plastic sheet protector, and place the manifest between the secondary and outer container.*
 2. *Email a digital copy of the manifest to the recipient and Coordinating Center.*
 3. *Store a local copy electronically for your site's records.*
 4. *Make sure to include a 24hr contact name and number.*

3.4.2. Labeling Outer Container

1. Include two labels in each package. The site packaging supplier will provide the following:
 - UN3373 label with adjacent statement “Biological Substance, Category B”
 - Completed Dry Ice UN 1845 label



**Biological
Substances,
Category B**

A rectangular shipping label form for dry ice. The top half features a triangular hazard label with vertical black and white stripes. Text on the left includes "Dry Ice UN 1845" and instructions for airbills. On the right, there are fields for weight in kg and lb. The bottom half contains fields for "Shipper:" and "Recipient:" with horizontal lines for text entry. A large number "9" is centered at the bottom. The reference number "106426 9/11 RRD" is in the bottom left corner.

**Dry Ice
UN 1845**

Airbills must have the following:

1. Dry Ice; UN 1845
2. _____ x _____ kg,
(Number (wt)
pkgs)

_____ kg
2 lb = 1 kg

Shipper: _____

Recipient: _____

9

106426 9/11 RRD

3.4.3. Shipping Label

1. Login to [FedEx](#). Request the login and password from the Coordinating Center. Note you must be the designated MarkVCID site representative to use this account.
2. Click on Shipping > Create a Shipment > Edit highlighted fields in EXAMPLE:

Sender and Recipient MUST be registered with the Coordinating Center before any shipments are sent or received.

Click on "From" and use the "Saved Senders" dropdown menu.

Click on "To" and select the "Contact name" dropdown menu.

Please always doublecheck your recipient's address with the point of contact via email.

Select "MASS GENERAL BRIGHAM-645" and enter the account number

Use this feature to notify the site recipient of a shipment

Dry ice must be marked

Use feature as needed

Once fields are complete, click "Ship" to print the label



The screenshot shows the FedEx Ship Manager interface for creating a shipment. The form is divided into several sections:

- 1. From:** Includes a 'Saved senders' dropdown menu.
- 2. To:** Includes fields for Country/Territory (United States), Company (University of Kentucky), Contact name (Tiffany Lee), Address 1 (800 S LIMESTONE ST), Address 2 (Sanders-Brown 233), ZIP (405360001), City (LEXINGTON), State (Kentucky), and Phone no. (859-218-2389).
- 3. Package & Shipment Details:** Includes Ship date (07/24/2018), No. of packages (1), Pricing option (FedEx Standard Rate), Weight (3 lbs), Declared Value (U.S. Dollars), Service type (Priority Overnight), Package type (Your Packaging), and Dimensions (Select).
- 4. Billing Details:** Includes Bill transportation to (MASS GENERAL BRIGHAM-645) and Bus UACT or BusU- (1200-000000-240887).
- Special Services (optional):** Includes Dry ice (checked), Dangerous goods, and Lithium Batteries/Cells.
- FedEx Delivery Signature Options:** Includes Signature type (None specified) and Hold at FedEx location.
- Pickup/Drop-off (optional):** Includes Schedule a pickup (checked), Drop off package at a FedEx location, and Use an already scheduled pickup at my location.
- Shipment Notifications (optional):** Includes Notify Sender via (Email (HTML) selected) and Notification type (Delivery checked).
- Notify Recipient via:** Includes Email (HTML) selected, Recipient Email (tsudd2@uky.edu), and Delivery checked.
- Rates & Transit Times (optional):** View your rates and transit times based on your selections.
- 5. Complete your Shipment:** Includes Create a Shipment Profile and Send a Mobile Shipping Label.

Annotations include red arrows pointing to specific fields and text boxes providing instructions. A red arrow points to the 'Ship' button at the bottom right.

- To avoid accidental misuse of the account, **please do not save the FedEx login and password in your browser**
- Once the form is submitted, the website will create a printable label.
See example below:

FedEx Shipping Tracking Printing Services Locations Support

Prepare a shipment
 1 Enter shipping information 2 Print label(s)

Thank you for shipping with FedEx. Your tracking number: 772802409652

Label
 Receipt | [View](#)

Print Create return shipment Edit shipment Cancel shipment Repeat last Create new Schedule a Pickup

ND LEXA
 TRK# 7728 0240 9652
 WED - 25 JUL 10:30A
 PRIORITY OVERNIGHT ICE
 40536
 KY-US SDF

FedEx
 TO: TIFFANY LEE
 UNIVERSITY OF KENTUCKY
 800 S LIMESTONE ST
 SANDERS-BROWN 233
 LEXINGTON KY 40536
 (859) 218-2388 REF: 100029271

ORIGINAL DESTINATION:
 SHANNON TUOZZO
 MASSACHUSETTS GENERAL HOSPITAL
 300 OAKMOUNT ST
 BOSTON MA 02114
 (817) 943-4839

SHIP DATE: 24 JUL 18
 ACT WT: 2.00 LB
 DRY ICE: 0.48 KG
 BILL SENDER

- Verify the information is correct and print the label
- Keep a receipt of your shipment
- Attach the shipping label to the package and ensure the required UN3373 and Dry Ice labels are also attached (see labels in Section 3.4.2.). Add information to the Dry Ice label as appropriate
- Track your shipment as needed through the FedEx online tracker
- If you cannot access the online FedEx label generator, please contact the Coordinating Center project manager

4. Attachments

4.1. Approved Site Addresses

For the recipient's name and contact information, click [here](#).

4.2. Template Manifest (use word document or excel sheet for table below)



1. Enter the information below for each item (use word document or excel sheet). Site ID can be found in the [Site IDs & Approved Shipping Contacts Table](#) on the MarkVCID Resource Hub.
2. Print, place in a plastic sheet protector, and include this document in each shipment.
3. Email a digital copy of the manifest to the **recipient and Coordinating Center**.
4. Store a local copy electronically for your site's records.

SITE ID#	_ _ _ _
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Items included in this shipment:

Shipment Date	Subject ID	Vial ID	Sample Type	Sample Volume

Shipping site's 24-hour contact: _____

Phone #: _____

Document History

Summary of Changes MarkVCID2 Shipping Human Biospecimen Guideline			
Version	Description of Changes	Reason for Change	Version Date
1.0	N/A – original version	N/A	12.14.2021
2.0	Revised manual to reflect updated guidance including: <ul style="list-style-type: none">• Section 3.4.3: Updates to section 4. Billing Details on the example shipping label and addition of guidance to not save the CC FedEx login or password on the browser• Section 4: Addition of link to the Site IDs & Approved Shipping Contacts Table	Revised to reflect updated MarkVCID2 procedures	03.13.2023