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Submitting Samples to External Reference Laboratories - Blood Bank

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

This document will provide Blood Bank staff with guidance for the process to be used for ordering, resulting and billing for specimens submitted to reference laboratory for additional testing.

II. INTRODUCTION:

A. There are instances where it may be necessary to send specimens to a reference laboratory either for further serological workup, RBC molecular phenotype, or D variant analysis. These laboratories also may provide assistance with locating compatible units for patients with known antibody specificities or antigen. These laboratories are staffed with highly trained technologists in the field of serologic investigation and have access to a variety of rare test RBCs and units, as well as an international network of blood suppliers and reference labs.

B. The Blood Bank primarily utilizes the Versiti Michigan and Versiti Wisconsin Immunohematology Reference Laboratories (IRL) for testing. Alternatively, the American Red Cross (ARC) Immunohematology Reference Lab or the University of Michigan Hospitals and Health System may also be called upon to complete a patient workup when appropriate.

III. SCOPE:

A. The services of the Versiti IRLs or an alternative reference laboratory may be used when a technologist, after consultation with management or a medical director, determines that a difficult antibody or transfusion-related problem requires this additional service.

B. The reference laboratory may also be used to help find compatible units for patients with

known antibody specificities in situations where it may be difficult to find blood in the Blood Bank inventory; a sample may or may not be required to be sent in this situation.

C. Versiti Wisconsin will be used to perform RBC molecular genotyping, or D variant analysis.

IV. SPECIMEN COLLECTION AND HANDLING:

One red clot tube (6mL) and two purple or pink EDTA whole blood (10mL total) pre-transfusion specimens are usually acceptable for most reference lab testing. Post transfusion samples are acceptable for Molecular testing. Serum separator tubes are not acceptable. The reference laboratory may have other sample requirements; call the reference laboratory before collecting or sending patient samples for additional specimen requirements. All specimens must be properly labeled with patient last name, first name, site medical record number, date collected, time collected, and signature or tech code of person obtaining specimen.

V. FORMS

A. Versiti Michigan, Immunohematology Reference Lab Request

B. Versiti Wisconsin, Immunohematology Reference Lab Request

C. American Red Cross, Immunohematology Consultation Request

D. University of Michigan Hospitals and Health System, Request for Immunohematologic Studies

VI. SUPPLIES

A. Copy of all Blood Bank testing pertinent to the case

B. Shipping container

C. Plastic biohazard bag

D. Absorbent material

E. Parafilm™

VII. POLICIES:

A. Testing will be performed routine by the reference lab if the patient's hemoglobin is > 7.0 g/dL and there is no impending procedure for the patient.

B. STAT and after hours testing will be performed only when patient's hemoglobin is <7.0 g/dL.

C. Testing outside of routine hours requires confirmation of patient's clinical need for emergency transfusion via laboratory values and/or physician assessment.

VIII. PROCEDURE:

A. Placing in Order in LIS

1. Serological Send Out to Versiti Michigan

a. Place an order in Epic: **BB Referral to Versiti (LAB1230410)** using the same date and time of collection as the Type and Screen sample. Note: If a new specimen was collected use that collection date and time.

2. Molecular Send Out to Versiti Wisconsin
    a. Place an order in EPIC: **Reference Lab Send Out for Miscellaneous Tests (LAB848)** with the appropriate comments
        a. RBC Genotyping (Versiti 3530)
        b. D Variant Analysis (Versiti 3040 Weak D/IF NEEDED partial D 3240 Rh Analysis)

B. Confirming Sample Requirements

1. Call the reference laboratory to inform the reference laboratory of the degree of urgency, and ask if there are any special sample requirements.
    a. If a sample is being sent to Versiti Wisconsin for molecular genotyping, no phone call to the reference laboratory is necessary.

2. Determine if there is sufficient sample available to meet the requirements.
    a. If there is sufficient sample available, proceed to the procedure *Submission of Sample to Reference Lab*.
    Note: It is acceptable to retrieve and send a complete blood count sample (lavender top) on the patient. In addition, the Blood Bank's type and screen sample may be sent if the sample is no longer in-date, and the patient has not been transfused within the 7 day post collection.
    b. If additional sample is required, order a miscellaneous Blood Bank test (LAB1231200) in Epic and notify the phlebotomy area to request a stat blood draw, or notify the caregiver if phlebotomy does not collect the patient.
    Important Note: This miscellaneous Blood Bank test will autocomplete 4 hours after the samples have been collected and received into the laboratory.

C. Submission of Sample to Reference Lab

1. Complete the *Request Form* for the reference laboratory as completely as possible with:
    a. Diagnosis
    b. Transfusion History
    c. Pregnancy History
    d. Recent Hemoglobin
    e. Medication History

2. Attach a copy all pertinent laboratory testing results for the patient, and all applicable antigrams.
3. Make a copy of the *Request Form* for our records.

4. Package the patient sample(s) in a manner to contain leakage. Wrap test tubes in parafilm or absorbent material, place test tubes in a biohazard bag. Place sealed bag in padded envelope or Styrofoam box.
5. Arrange for transport to the reference laboratory.
    a. Call Versiti Michigan Farmington Hills Distribution Center at 1-248-741-3010 to arrange for a specimen transport to the Versiti IRLs.
    b. Call Client Services at 1-248-577-9600 to arrange a cab for delivery to the American Red Cross IRL or The University of Michigan Hospitals and Health System if sending samples to these reference laboratories.
6. Royal Oak/Troy Only: Document the *Log of Samples Submitted to a Reference Laboratory*.
7. Place all paperwork in the *Sent to Reference Lab / Waiting for Preliminary Reference Lab Report* file or in the designated area/ communication bench.
8. When the reference laboratory calls or faxes the preliminary report, retrieve the lab copies of the *Request Form* and then update the computer record (and antibody card if applicable).
   Note: If a patient sample was submitted to Versiti Wisconsin for molecular testing there will be no preliminary reports
    a. Serological Testing
        i. Add the **REFLAB: Reference lab work-up result [Enter preliminary results]** to the patient profile stating the findings from Versiti IRL.
        ii. Determine if additional testing needs to be ordered and resulted in the BBIS.
            - **REFABID:** Reference Antibody ID; new antibody

            Note: Use result comment: MIBL "Testing performed by Versiti MI Blood" for each result
        iii. Initial and date the preliminary report to indicate that the record was updated.
        iv. Submit copies of all paperwork for supervisory review. Supervisory review may be started before the final laboratory report is received, but not should not be completed until receiving the final reference report.
    b. Molecular Testing
        i. RBC Genotype
            1. Add the note **MPF: Molecular Phenotype on File** to the patient's profile
            2. Add the phenotype results to the "Extended Typings" tab in the BBIS
        ii. D Variant Analysis; refer to D Variant Testing for Pregnant Females in Transfusion Medicine procedure, Weak D Testing.
    c. If it is unclear how to interpret a reference report (i.e. there are variations or

mutations present in a molecular genotype report, or extensive testing performed in a workup with difficult methodology) consult the Supervisor, Lead Technologist, or Medical Director for evaluation.

9. A copy of the reference lab report should be included in all CABID (Consult Antibody Identification with the Blood Bank Medical Director).
10. Bill the patient for the reference work performed if available.
    a. The Versiti IRL's will send a Billing Worksheet either with the preliminary or final report.
    b. The charges will be entered into Epic by designated personnel.
11. When the final report is received by the Blood Bank, review the report to confirm it matches the preliminary report, and that the computer record is correct.
12. The technologist will initial and date the final report and submit the report for completion of supervisory review.
13. After review, file the report alphabetically in the designated *Reference Lab file* in the department.

IX. NOTES:

A. If antibody identification is complete and the request is for provision of blood units only (antigen tested RBCs), then a sample may not be required by the reference laboratory. A phone call to the distribution center or performing an online antigen inquiry will usually suffice, and paperwork is generally not required. However, if compatible blood units are extremely rare and the antibody is sufficiently reactive to be useful in screening blood units, a sample may be requested. Such units will only be released if the reference laboratory has confirmed the antibody identification.

B. See the individual Request Forms for IRL hours of operation, phone numbers, and further information regarding sample requirements.

C. Samples designated for testing at Versiti Wisconsin may also be forwarded direct to the Royal Oak Send Out department for processing.

X. REFERENCES:

1. AABB, *Technical Manual,* current edition.

Attachments

Log of Samples Submitted to a Reference Laboratory

Approval Signatures

Step Description	Approver	Date
	Ann Marie Blenc: System Med Dir, Hematopath	8/9/2024
	Muhammad Arshad: Chief, Pathology	8/8/2024
	Kristina Davis: Staff Physician	8/8/2024
	Hassan Kanaan: OUWB Clinical Faculty	7/31/2024
	Masood Siddiqui: Staff Pathologist	7/30/2024
	Jeremy Powers: Chief, Pathology	7/29/2024
	Ryan Johnson: OUWB Clinical Faculty	7/29/2024
	John Pui: Chief, Pathology	7/29/2024
Policy and Forms Steering Committe (if needed)	Kelly Sartor: Mgr, Division Laboratory	7/27/2024
	Katherine Persinger: Mgr, Laboratory	7/24/2024
	Suzanne Chahine: Medical Technologist Lead	7/23/2024
	Teresa Lovins: Supv, Laboratory	7/21/2024
	Ashley Beesley: Mgr, Laboratory	7/19/2024
	Kristen DiCicco: Mgr, Laboratory	7/19/2024
	Fatima Bazzi: Medical Technologist Lead	7/19/2024
	Karrie Torgerson: Medical Technologist Lead	7/19/2024
	Hilary Morey: Medical Technologist Lead	7/19/2024
	Kelly Sartor: Mgr, Division Laboratory	7/19/2024

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Applicability

Dearborn, Farmington Hills, Grosse Pointe, Royal Oak, Taylor, Trenton, Troy, Wayne