Guidance for Carbapenem-resistant organism (CRO) Colonization Test Sampling and Specimen Handling Methods

Purpose

The Cepheid GeneXpert Carba-R test is the only FDA-approved commercial test for the molecular detection of carbapenem resistant organisms (CROs) in human rectal swab specimens and has a rapid turnaround time for results. Proper sampling and specimen handling are critical for obtaining accurate results.

NOTE: Prior approval from AR Lab Network Central Region Lab is required before collection and shipping of specimens. arlnmn@state.mn.us

Sample Collection

Specimen collection and transport—CRO colonization kit, provided by Minnesota Department of Health Public Health Laboratory (MDH PHL).

Contents of the Kit:

- Copan Dual Swab (Copan Transystem™ Sterile transport system; Copan Diagnostics, Murrieta, CA)
- One SafTPak (STP-210) box (pre-assembled so that “Biological Substance, Category B” signage is facing outward)
- One SafTPak (STP-710) white Tyvek® bag
- One SafTPak (STP-711) clear bag
- One absorbant pad
- MDH submission form
- Guidance for Carbapenem-resistant organism (CRO) Colonization Test Sampling and Specimen Handling Methods packet (this document)

Procedure for Collecting the Swab

1. Before initiating collection, perform hand hygiene and don appropriate personal protective equipment (PPE) as indicated by the patient or resident’s clinical care team. (e.g., gloves, gown, mask).
2. Open the outer packaging of Copan Transystem™ Sterile Transport Swab on the end that says “PEEL HERE” (the opposite end from the cotton tips).

3. Carefully remove the tube from the plastic packaging and label the tube (see label instructions below)
   a. While labeling, leave the dual swab enclosed in the plastic packaging to prevent contamination

4. Pull the dual swab from the plastic packaging, being careful not to touch the cotton tips.

5. The dual swab may be moistened with sterile saline or transport medium only
   a. Do NOT use tap water or lubricating gel.
6. Carefully insert both swab tips approximately 1 cm beyond the anal sphincter and gently rotate against the walls of the rectum 3 times. See figure (next page) for proper swab depth.

![Image](image_url)

a. Diapered infants: The cotton swab may be used to swab the stool present in the soiled diaper.
b. Patients with an ostomy: Use the cotton applicator to obtain specimen from the stoma site.

7. Confirm swab is not overloaded or underloaded. See figures below for reference.

Acceptable Specimens

![Image](image_url)

Unacceptable Specimens

![Image](image_url)
8. Remove cap from tube by twisting.

9. Insert dual swab into tube and firmly close cap. Seal with Parafilm if available.

10. Ship immediately to MDH-PHL, Central Region AR Lab Network laboratory. Swabs in the transport tube must be shipped at 15–28 °C (room temperature) and tested within five (5) days of collection.

**Labeling**

Specimens must be clearly labeled with:

1. A minimum of 2 patient identifiers. Acceptable identifiers include:
   a. Patient’s full name
   b. Date of birth
   c. Medical record number
   d. Sample ID number
2. Date of specimen collection
3. Site of collection

**Transportation to MDH-PHL**

1. Fill out submission form paperwork
   - If using the single form:
     - Ensure all fields are filled out
     - MDH will provide the Project # to write on the top of the form
     - For specimen source, check “Swab” and specify the body site (e.g., rectal)
     - Under Test Required, check the “Project 2179” box
If using the Excel Spreadsheet:
  - Ensure all fields are filled out
  - Ensure MDH submitter information is complete and accurate at the top of the form

2. Package swabs according to normal laboratory processes if sending by courier. If shipping via Fed-Ex, see shipping instructions on next page.
3. Place filled-out paperwork inside box, close flap, and seal with tape.
4. Send the swabs to the MDH-PHL with your standard courier, or if no courier, see Fed-Ex shipping instructions on next page.

Shipping

1. Place the swabs (in their transport tubes) in the clear Saf-T-Pak bag (STP-711) along with the absorbent pads provided in the kit. Up to 10 swabs can be placed into a single bag provided they fit. See photo.

2. Fold tape closure over so that the white paper liner is visible and remove the liner to expose adhesive.
3. Gently lay tape over the bag opening and smooth with fingers to seal tightly.

4. Place clear Saf-T-Pak bag (STP-711) sealed with its contents into white Saf-T-Pak envelope (STP-710). See photo.

5. Fold tape closure over so that the white paper liner is visible and remove the liner to expose adhesive.
6. Gently lay tape over the bag opening and smooth with fingers to seal tightly.
7. Place white Saf-T-Pak (STP-710) envelope, sealed with its contents into cardboard box (STP-210) folded so that “Biological Substance, Category B” is outwardly showing. See photo.

8. Place filled-out paperwork inside box, close flap, seal with tape, and continue onto Fed-Ex shipping instructions on next page.

Questions? Contact:
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Updated 9/26/19