

In response to inquiries by our clients, we are providing the following information for your consideration in sending diagnostic specimens to VRL.

## **NON-HUMAN PRIMATE SPECIMENS:**

### **SERA (for Viral antibody test/Chemistry):**

One-half milliliter of serum is usually adequate to perform most serological studies for viral antibodies and leave a small amount of serum for storage. One milliliter allows more flexibility, if additional testing is required. Stored sera are kept for a period of three months, allowing repeat or additional testing during that time. A longer storage period can be maintained by sending a request to [laboratory@vrl.net](mailto:laboratory@vrl.net).

We are aware that it is not always possible to obtain the desired amount of serum from smaller primate species (e.g. tamarins and marmosets). Please let us know if you have problems obtaining the requested amounts of serum. We will do as much as we can with the available serum.

Serum should be removed from clotted blood by centrifugation before shipment to our laboratory. Vacutainer tubes that contain serum separators (tiger top) may be sent intact, after centrifugation, if you do not want to save any of the serum. Put separated serum into a screw-cap tube with rubber seal or nonbreakable vial and seal to prevent leakage. Send the serum on ice packs, and double the amount of cold packs used to ship during the summer months. Be sure the shipping container is sturdy enough to prevent crushing the specimen. Overnight transportation should be used, e.g. FedEx, UPS, or USPS. Sera that have been stored frozen or maintained at refrigerator temperatures are satisfactory for testing.

**For chemistries, failure to remove the serum from the clot may cause erroneous results. Samples that are received in this manner will have a disclaimer added to the final report. VRL cannot guarantee the results of samples that have not been processed correctly.**

### **CBC(Complete Blood Count):**

Collect specimens for CBC in K2-EDTA (lavender top, vacutainer tube in any size). Do not collect blood specimens in heparin, as the heparin interferes with the test. Invert sample 8 times immediately after collection. Do not centrifuge the whole blood after collection. Make sure the EDTA tube is as close to full as possible. 1ml of EDTA whole blood will be adequate to perform CBC. Erroneous results may occur if EDTA tube is not full. Samples received that are short or are not as close to full as possible will have a disclaimer added to the final report. Send the EDTA whole blood with cold packs (make sure that the ice packs do not touch the samples

directly but can keep samples cool). Do not freeze or ship frozen on dry ice.

## **B VIRUS/SRV ISOLATION:**

Specimens which are suitable for B virus isolation, include buccal cavity, corneal, genital swabs and organ biopsies. Swab the collection sites vigorously enough to collect some cells. Once the swabs are obtained, place them in a suitable viral transport medium use a viral Culturette to collect the specimens for virus isolation.

Do not send virology swabs frozen unless it is not possible to send them on the day of collection. If overnight storage or longer is required before shipment, the swabs can be frozen and sent on dry ice. Be sure to enclose Culturettes in a zip lock bag to limit exposure to the carbon dioxide that is released from the dry ice.

Collect biopsies or post mortem organ specimens with sterile instruments in such a way as to prevent contamination from fecal material or the animal's coat. Collect pieces of organ from sites with apparent pathology. They should be about one cm<sup>3</sup> in size. Place the tissue fragments in a screw capped vial containing cell culture medium (Eagle's Medium, RPMI 1640) containing 10% bovine or horse serum and antibiotics when possible. It is important that tissue specimens be kept moist, therefore, if cell culture medium is not available; place the specimens in physiological saline before shipment. The tissue specimens should be shipped on ice packs overnight. They should not be frozen, unless it is not possible to send the specimens on the day of collection. Then the tissues should be frozen and shipped on dry ice.

Collect blood specimens for SRV/D isolation in lithium heparin (green top Vacutainer), sodium heparin (blue top Vacutainer) or ACD (yellow top Vacutainer). Send the Vacutainers on an ice pack (-20° C) by overnight express. Do not freeze! We would appreciate advanced notice of shipments containing large numbers of blood specimens, so that we can adequately prepare for processing them.

In summary, collection of a satisfactory swab for use in the isolation of a virus is dependent on four things:

- 1.The choice of the proper swab site for the particular virus being sought.
- 2.Collection of the swab at an appropriate time during the disease.
- 3.Use of the proper technique in collecting the specimen.
- 4.Handling of the swab after collection.

## **PCR (Polymerase Chain Reaction):**

Collect specimens for PCR in EDTA (purple top vacutainer). Do not collect blood specimens for PCR in heparin, as the heparin interferes with the test. 2ml of EDTA whole blood will be adequate to perform most PCR tests. Do not centrifuge the whole blood after collection. Send the EDTA whole blood with cold packs (make sure that the cold packs do not touch the samples directly but can keep samples cool). Overnight shipping at ambient temperature is acceptable if it is not in warm and hot weather. Do not freeze or ship frozen on dry ice.

For other specimen types, such as stool, tissues, swabs, serum/plasma....etc., please refer to specimen required note in each specific PCR test menu.

**Note:** The pooling of samples may decrease the sensitivity of the test. Opening the EDTA tube after collection to make the pool may lead to cross contamination of the samples. The pooling of samples is not recommended. Samples that are known to have been processed in this manner will have a disclaimer added to the report. VRL cannot guarantee the results of samples that have been pooled.

## **MICROBIOLOGY:**

The integrity of a Bacteriology test depends on the quality of the specimens submitted. Before collecting the sample, please review the sample collection procedures, sample storage after collection, packaging and transport to the laboratory.

Please make sure the sample container must be properly marked with patients name, date and time of sample collection.

Swabs for bacteriology should be placed in a suitable transport medium (such as Stuart's, Amies, Cary- Blair) without antibiotics. When swabs are collected, send them by overnight shipping with cold packs for aerobic bacterial culture. If samples are intended for anaerobic bacterial culture, send them at ambient temperature by overnight shipment to the laboratory. Be sure to break the glass ampule containing a wetting agent if a Culturette is used.

### **Aerobic bacterial cultures**

#### **Respiratory (throat swab, nasal swab, bronchial washings, bronchial lavage, bronchial brushes, transtracheal aspirates, and sputum) specimens:**

Collect throat samples on a sterile Dacron- tipped swab transport system to the laboratory. Samples should be collected by pressing tongue with a tongue blade. Swab the posterior pharynx and tonsillar surfaces. If there is any exudate, make sure to swab that area with the swab and transport the specimen to the laboratory on ice packs.

Collect early morning sputum sample from a deep cough into a sterile wide mouth leak proof container. Transport in a biohazard bag to the laboratory on cool packs.

## **Abscess and aspirate specimens:**

Disinfect the surface site with alcohol and collect the content into a sterile tube and transport to the laboratory on ice packs.

## **Lesions, wounds, sore, drainage:**

Collect by swabs or sterile containers and transport them to the laboratory on ice packs.

## **Anaerobic bacterial cultures**

All anaerobic culture samples should be transported on an anaerobic transport system at room temperature. The ideal samples for anaerobic culture are abscesses containing pus, body fluids (pleural, pericardial, peritoneal, synovial fluid), biopsy materials and transtracheal aspirates.

## **Stool Cultures:**

For enteric pathogen isolation a fecal transport medium is recommended to transport the stool sample. Collect the sample in a clean plastic container and transfer a small portion in to the transport medium (such as Cary-Blair). Keep the collected sample refrigerated and transport on cool packs. The sample can be screened for Salmonella, Shigella, Yersinia, Campylobacter, Vibrio and E.coli 0157:H7.

## **Mycobacterial isolations and Acid-fast stains:**

- a) Direct Acid-fast stain.
- b) All mycobacterial culture will be forwarded to the reference laboratory for culture.

## **Specimens:**

### **Bronchial aspirate**

(5 ml), fasting gastric aspirate (5 ml) If sample is collected on a sterile swab, place it in a transport medium and ship to the laboratory.

**Lesion tissue (2 cm<sup>3</sup>), biopsy of skin, CSF (5 ml), bone marrow (5 ml), body fluid (50 ml), urine (50 ml), stool (10 ml):**

Place specimens in sterile containers and ship on ice packs.

## **Blood:**

# Specimen Collection and Processing



Collect 10 ml of blood in Heparinized tube. Mix well and transport to the laboratory at room temperature.