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Genetic Resource Centre Guideline for Standardized Specimen Type

APPLICABILITY

This document applies to all healthcare providers who are requesting funding pre-approval and coordinating a send-out for out-of-province molecular diagnostic testing through the Genetic Resource Centre (GRC).

This document does not apply to send-outs for genetic testing on prenatal, tissue, or tumour specimens. Send-outs for RNA studies or cytogenetic testing may require an alternate specimen type and can be handled on a case by case basis.

PURPOSE

This guideline provides information regarding the standardized specimen type for GRC send-outs.

BACKGROUND

The GRC underwent a process improvement project facilitated by the Alberta Precision Laboratories Process Excellence Team from February - May 2020. During this project, a recommendation was made to have a standardized specimen type for GRC send-outs. It was determined that whole blood is the preferred specimen type for the following reasons:

- Whole blood collected in an EDTA tube is accepted by all external laboratories used by the GRC
- The number of test failures and repeat send-outs will be reduced as external laboratories have optimized their DNA extraction method for their testing
- Less time to prepare send-outs which increases the capacity to manage increasing send-out volumes
- Sending banked DNA requires re-accessing the specimen
- Cost of DNA extraction is assumed by external laboratory
- Decreased opportunity for specimen incidents
- Whole blood can be frozen and stored for the duration of the GRC funding approval

All whole blood send-outs will be processed through the Calgary Genetics and Genomics Lab, which further standardizes the current send-out process.

GUIDELINE

1) The standardized specimen type for GRC send-outs through the Calgary Genetics and Genomics Lab is whole blood.

2) The Calgary or Edmonton Genetics and Genomics Labs are able to facilitate a send-out of banked DNA when at least one of the following conditions are met:
    a. The patient is deceased
    b. Blood collection is contraindicated for the patient. Some examples include, but are not limited to:
        i. Patient requires sedation during blood collection
        ii. Patient needs to be restrained during blood collection
        iii. Previous trauma related to blood collection
    c. It is not possible to obtain the required volume of blood for a GRC send-out. Some examples include, but are not limited to:
        i. Patient is a newborn
        ii. Patient is critically ill
    d. The patient previously had an allogeneic stem cell transplant
    e. The patient is unable to access a blood collection site (e.g. lack of transportation)
    f. Results are needed within an urgent time frame and proceeding with a blood collection would significantly delay the send-out

3) Saliva is not a preferred specimen type, and the Calgary Genetics and Genomics Lab will not accept saliva specimens for send-outs. In extenuating circumstances, saliva send-outs can be coordinated at the discretion of the ordering clinician. The ordering clinician **must notify the GRC of the plan for send-out in the GRC requisition**. It is the responsibility of the ordering clinician to facilitate specimen send-out and tracking.

RESPONSIBILITY

Ordering healthcare providers and the GRC personnel are responsible for implementing this guideline.

RELATED DOCUMENTS

Genetic Resource Centre EPIC Procedure