

Fetal Genotyping on Maternal Plasma Testing Criteria and Instructions

Canadian Blood Services, Diagnostic Services Laboratory in Edmonton will refer samples for fetal genotyping on maternal plasma to the International Blood Group Reference Laboratory (IBGRL) in Bristol, UK.

It is imperative that Canadian Blood Services, Edmonton is notified prior to sample collection and samples must be sent to Diagnostic Services Edmonton for processing. Do NOT send samples directly to IBGRL.

1. Testing Criteria for Fetal Genotyping

Fetal genotyping will be provided in cases where:

- The antibody is anti-D, anti-C, anti-c, anti-E, at a critical titre level, and the mother is at **16 weeks gestation** or later, OR
- The antibody is anti-K, regardless of titre level, and the mother is at **28 weeks gestation** or later, OR
- There has been a previous fetus/newborn affected by hemolytic disease of the fetus/newborn (HDFN), AND
- The father is heterozygous for the corresponding antigen (or unknown).

2. Notify Canadian Blood Services Edmonton, of sample collection

- Prior to sample collection, notify perinatal supervisor, Gerri Barr by phone 780-431-8724 or email perinatal@blood.ca and provide the following details:
 - Patient's full name and PHN
 - Date of sample collection
 - Sample collection location

3. Sample Requirements

- Mother: 4 X 7 mL EDTA samples
- Father: 1 X 7 mL EDTA sample, if testing for RhD (maternal anti-D is present)

4. Complete the International Blood Group Reference Laboratory requisition

- Required for mother's sample only
- Must be signed by the requestor

5. Complete CBS Perinatal Follow-up Testing for Red Blood Cell Serology requisition(s)

- Always required for mother's sample. Required for father sample, if testing for RhD (maternal anti-D is present).
- Indicate on requisition(s) "For Fetal Genotyping. Keep Specimens at Room Temperature."
 - For mother's requisition
 - Mother – Follow-up when antibody present, for specimen type
 - Change draw instructions to draw **Four** 7mL EDTA specimens
 - For father's requisition, if testing for RhD (maternal anti-D is present)
 - Father, for specimen type

6. Complete Consent for Release of Neonatal Test Results to Canadian Blood Services

- Attach to International Blood Group Reference Laboratory requisition
- **Samples not accompanied by a signed consent will not be processed**

7. Provide mother with:

- Completed requisitions
 - International Blood Group Reference Laboratory
 - CBS Perinatal Follow-up Testing for Red Blood Cell Serology
- Completed Consent for Release of Neonatal Test Results to Canadian Blood Services (attached to requisition)
- Fetal Genotyping on Maternal Plasma Collection Site Instructions

8. Send parent(s) to laboratory collection site

- Collection can occur Monday to Wednesday only
- Notify CBS ASAP if predetermined sample collection date or location changes