

# Fetal RHD Screen (cffDNA)

## Test Request Form

BLOOD GROUP GENETICS LABORATORY

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 Irish Blood  
Transfusion Service  
Seirbhís Fuilaeistriúcháin Éireann

*For RhD-negative pregnant women with NO alloanti-D.*

*Please supply ≥8ml EDTA-coagulated whole blood.*

*Store and transport at room temperature.*

Please ensure there are at least three (3) points of matching identification on this form and sample tube(s).

Samples must be either hand-written at time of phlebotomy or labelled using demand-printed labels.

### PATIENT'S DETAILS

(shaded areas are not essential. Demand-printed label will suffice if it contains other required information)

Surname		EDD, Gestation of Current Pregnancy	
First Name		Details of Previous Pregnancies	
(Maiden Name)		Known Blood Groups	
Gender		Known Antibodies	
DoB		Hospital	
MRN		Consultant	
Ethnic Origin		Sample Type, Date & Time	
Address		Referring Laboratory Sample Number	

Clinical Details and Other Useful Information (e.g. transfusion, transplantation, medication, diagnosis).

### Requester's Details

Print Name

Signature

Position

Date

### For IBTS Use Only

Sample Labelled	Date & Time Received by IBTS	IBTS Laboratory Number
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Comments

IBTS/MBG/FORM/0001

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DRP: 30 Years

Medium: Hardcopy

**Hospitals wishing to refer for the first time must contact the Blood Group Genetics Laboratory before sending the sample to discuss the appropriateness of the proposed investigation.**

**Sample Requirements**

1. Maternal peripheral blood ( $\geq 8$ ml) collected in an EDTA tube from RhD-negative pregnant women, at Booking.
2. These women **MUST NOT** have made alloanti-D.
3. The pregnancy should be at  $\geq 11$  week's gestation.
4. The sample tube **MUST NOT** be opened following phlebotomy.
5. The sample **MUST NOT** be used for any other testing.
6. The sample tube **MUST** only be stored at room temperature.
7. The sample tube **MUST** be labelled with the following information:
  - a. Three unique sample identifiers including: Full name (first name and surname), date of birth, and hospital number (these **MUST** be identical to the Test Request Form).
  - b. Expected date of delivery and gestation (indicate if scan-confirmed or estimated by LMP).
  - c. Samples **MUST** be labelled, dated and signed by the person taking them.
8. *Addressograph* labels are **NOT** acceptable on sample.
9. Samples **MUST** either have handwritten labels, or demand-printed labels produced at the time of phlebotomy.
10. Hand written alterations on either the sample or Test Request Form may make the sample invalid for testing.
11. Any minor alterations must be initialled by the person taking the sample to be acceptable for testing.

**Transport Requirements**

1. Samples **MUST** arrive at the IBTS to allow processing within 5 calendar days of phlebotomy.
2. Samples **MUST** be stored and transported at room temperature.
3. Samples **MUST** be transported in an appropriate IATA-compliant container and labelled with an IBTS address label.

**Test Guide**

The Fetal *RHD* Screen is designed to determine the *RHD* type of cell-free DNA in maternal peripheral plasma. It is to be used as a guide for administration of prophylactic anti-D (for all *Potential Sensitising Events*, and second trimester *Routine Antenatal Anti-D Prophylaxis (RAADP)*).

The assay used by the IBTS targets *RHD* exons 7 and 10, and is designed and optimised as a screen to identify the presence of *RHD* sequences in cfDNA extracted from maternal plasma. Assay sensitivity (and therefore reduced false negative) is prioritised. False positive fetal *RHD* predictions may occur and are likely to be due to silenced *RHD* or *RHD-RHCE* hybrid genes (e.g. *RHD $\Psi$*  in Africans), or rarely due to vanishing twins.

Similarly silenced *RHD* or *RHD-RHCE* hybrid genes present in cfDNA of maternal origin, will mask any fetal cfDNA present; determination of fetal *RHD* type in these cases will not be possible.

The test is accurate from 11 weeks gestation on. Results will be reported as follows:

- If *RHD*-positive, a report will be issued stating '*RHD*-positive Fetus' (irrespective of gestation)
- If *RHD*-negative AND  $\geq 11/40$  weeks, a report will be issued stating '*RHD*-negative Fetus'
- If *RHD*-negative AND  $< 11/40$  weeks, a report will be issued stating 'Inconclusive Result' and requesting a repeat sample taken at  $\geq 11/40$

***Please refer to User Guide for additional information.***

The following can be found at <https://healthprofessionals.giveblood.ie/clinical-services/transfusion-transplantation/blood-group-genetics/sample-labelling-test-requirements/>

- Red Cell Genotyping – Test Request Form (RED)
- Fetal *RHD* Screen – Test Request Form (YELLOW)
- IBTS Address Label Template
- Customer Manual (IBTS/MBG/CM/0002)
- Other useful information

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