Diagnosis of Fetomaternal Hemorrhage based on Flow Cytometry

Fetal Cell Count™ Kit

Special features

- Unique quantification of Fetomaternal Hemorrhage by flow cytometry (1,2)
- Results in 90 minutes
- Complete assay for routine diagnosis of Fetomaternal Hemorrhage (1,2)
- Detection as low as 0.02% fetal cells in maternal blood
- Detection of fetal hemoglobin (HbF) and Carbonic Anhydrase (CA)
- For use with flow cytometer

Applications

- Determination of Fetomaternal Hemorrhage (1,2)
- Pregnancy with suspected RhD incompatibilities (1)
- Abdominal trauma (2)
- Recognizes fetal cells in maternal Thalassemia circulation (3)

References

**Background information**

Fetomaternal Hemorrhage (FMH), the transplacental passage of fetal red blood cells (fRBCs) into the maternal circulation, can be caused by complications in abdominal trauma, suspected placental injury or after a caesarean section. Severe FMH may lead to intra-uterine death. In case of antigen (RhD) incompatibility between mother and child, FMH may result in Haemolytic Disease of the Newborn. In this case, correct enumeration of the amount of fRBCs is essential for (prophylactic) anti-D therapy.

Several methods exist to quantify the extent of FMH by enumeration of fRBCs, including the Kleihauer-Betke acid-elution test and single HbF flow cytometry test. For both methods, correct interpretation of results might be compromised due to the presence of adult RBC’s that contain HbF (F cells). These F cells may be present in patients suffering from thalassemia, sickle cell anaemia or hereditary persistence of fetal haemoglobin.

**Principle of the Fetal Cell Count™ Kit**

The Fetal Cell Count™ kit is based on a patented combination of two antibodies. One is directed against HbF while the second is specific for carbonic anhydrase, an enzyme present in adult RBCs and, at very low detectable level, in late pregnancy stage. This unique combination allows clear discrimination between fRBCs and (carbonic anhydrase containing) adult cells and F cells.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Package size</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal Cell Count™ Kit</td>
<td>Complete assay for routine diagnosis of Fetomaternal Hemorrhage using anti-HbF and anti-CA</td>
<td>25 tests</td>
<td>IQP-363</td>
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</tbody>
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**Related Products**

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<tbody>
<tr>
<td>FMH QuikQuant</td>
<td>Rapid assay for Fetomaternal Hemorrhage Quantification</td>
<td>100 tests</td>
<td>QQF-100</td>
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<tr>
<td>FMH Kit</td>
<td>FITC conjugated Anti-RhD reagent for determination of Fetomaternal Hemorrhage</td>
<td>100 tests</td>
<td>9447</td>
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<tr>
<td>FETALtrol™</td>
<td>Tri-level stabilized blood controls with known human fetal erythrocytes content in human adult blood.</td>
<td>3 levels, two 2 mL vials each level</td>
<td>FH101</td>
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[IVD] in vitro diagnostic medical device. The products are registered as IVD in the countries belonging to the European Union

1 Distributed outside the UK for IBGRL, Bristol, UK
2 Distributed for R&D Systems, USA