Test Definition: MATCC
Maternal Cell Contamination, B

Overview

Useful For
Ruling out the presence of maternal cell contamination within a fetal specimen

This test is required for all prenatal testing performed in Mayo’s molecular and biochemical genetics laboratories

Genetics Test Information
Required in conjunction with molecular and biochemical prenatal testing only.

Reflex Tests

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULFB</td>
<td>Fibroblast Culture for Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>CULAF</td>
<td>Amniotic Fluid Culture/Genetic Test</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>_STR1</td>
<td>Comp Analysis using STR (Bill only)</td>
<td>No</td>
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<tr>
<td>_STR2</td>
<td>Add'l comp analysis w/STR (Bill Only)</td>
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</table>

Testing Algorithm

For prenatal specimens only: If amniotic fluid (nonconfluent cultured cells) is received, amniotic fluid culture/genetic test will be added and charged separately. If chorionic villus specimen (nonconfluent cultured cells) is received, fibroblast culture for genetic test will be added and charged separately.

If this test is ordered in conjunction with CMAP / Chromosomal Microarray, Prenatal, Amniotic Fluid/Chorionic Villus Sampling or CMAPC / Chromosomal Microarray, Autopsy, Products of Conception, or Stillbirth, and no other molecular testing is ordered, test will be changed to PPAP / Parental Sample Prep for Prenatal Microarray Testing.

Special Instructions
- Informed Consent for Genetic Testing
- Informed Consent for Genetic Testing (Spanish)

Method Name
Polymerase Chain Reaction (PCR)-based comparison of Microsatellite Markers

NY State Available
Yes

Specimen

Specimen Type
Varies
Advisory Information
If a prenatal specimen has already been submitted as part of another diagnostic test, a second prenatal specimen is not required. If a prenatal specimen has not yet been submitted, submit only 1 prenatal specimen.

Additional Testing Requirements
A maternal specimen and a prenatal specimen are both required.

-This test must be ordered on both the prenatal and maternal specimens under separate order numbers.

Shipping Instructions
Specimen preferred to arrive within 96 hours of collection.

Specimen Required

Patient Preparation: A previous bone marrow transplant from an allogenic donor will interfere with testing. Call 800-533-1710 for instructions for testing patients who have received a bone marrow transplant.

Specimen Type: Maternal blood

Container/Tube:

Preferred: Lavender top (EDTA) or yellow top (ACD)

Acceptable: Any anticoagulant

Specimen Volume: 3 mL

Collection Instructions:
1. Invert several times to mix blood.
2. Send specimen in original tube.

Specimen Stability Information: Ambient (preferred)/Refrigerated

Prenatal Specimens:

Submit only 1 of the following specimens:

Specimen Type: Cord blood

Container/Tube:

Preferred: Lavender top (EDTA) or yellow top (ACD)

Acceptable: Any anticoagulant

Specimen Volume: 3 mL

Collection Instructions:
1. Invert several times to mix blood.

2. Send specimen in original tube.

**Specimen Stability Information:** Ambient (preferred)/Refrigerated

**Specimen Type:** Amniotic fluid

**Container/Tube:** Amniotic fluid container

**Specimen Volume:** 20 mL

**Additional Information:** A separate culture charge will be assessed under CULAF / Culture for Genetic Testing, Amniotic Fluid.

**Specimen Stability Information:** Refrigerated (preferred)/Ambient

**Specimen Type:** Cultured amniocytes

**Container/Tube:** T-25 flask

**Specimen Volume:** 2 full flasks

**Collection Instructions:** Submit confluent cultured cells from another laboratory.

**Specimen Stability Information:** Ambient (preferred)/Refrigerated

**Specimen Type:** Chorionic villi

**Container/Tube:** 15-mL tube containing 15 mL of transport media

**Specimen Volume:** 20 mg

**Additional Information:** A separate culture charge will be assessed under CULFB / Fibroblast Culture for Genetic Testing, Tissue.

**Specimen Stability Information:** Refrigerated

**Specimen Type:** Cultured chorionic villi

**Container/Tube:** T-25 flasks

**Specimen Volume:** 2 full flasks

**Collection Instructions:** Submit confluent cultured cells from another laboratory.

**Specimen Stability Information:** Ambient (preferred)/Refrigerated

**Forms**

**New York Clients-Informed consent is required.** Document on the request form or electronic order that a copy is on file. The following documents are available in Special Instructions:
Clinical and Interpretive

Clinical Information

One of the risks associated with prenatal testing is maternal cell contamination (MCC), which can occur when a fetal specimen comes into contact with maternal blood or tissue. The risk of MCC is associated with procedures such as chorionic villus sampling, amniocentesis, or extraction of fetal blood from the umbilical cord (cord blood). If MCC is present, the maternal DNA may mask the results of any genetic testing performed on the fetal DNA. Therefore, the results of prenatal testing may be compromised.

To rule out the presence of MCC, a maternal blood specimen is necessary for comparison of maternal and fetal chromosomal markers. The presence of both maternal and nonmaternal alleles for each fetal marker indicates the fetal specimen is not contaminated. MCC is confirmed when both alleles in the fetus are maternal.

Reference Values
An interpretative report will be provided.

Interpretation
An interpretative report will be provided.

Cautions
This test does not rule out the presence of low-level maternal cell contamination (<5%).

Clinical Reference

Performance

Method Description
The maternal blood genotype is compared to the fetal genotype, derived from amniocyte DNA or chorionic villus
DNA, utilizing a PCR-based assay with a set of microsatellite repeat markers. (Unpublished Mayo method)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

 BATCHED, performed most weekdays

**Analytic Time**

5 days

**Maximum Laboratory Time**

11 days

**Specimen Retention Time**

Whole Blood: 2 weeks (if available) Extracted DNA: 3 months

**Performing Laboratory Location**

Rochester

**Fees and Codes**

**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

81265

Fibroblast Culture for Genetic Test

88233-(if appropriate)

88240-(if appropriate)

Amniotic Fluid Culture/Genetic Test

88235-(if appropriate)

88240-(if appropriate)

Each additional specimen

81266

**LOINC® Information**
### Test Definition: MATCC
Maternal Cell Contamination, B

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<tr>
<th>Test ID</th>
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<th>Order LOINC Value</th>
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<td>Maternal Cell Contamination, B</td>
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