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

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

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:

-Informed Consent for Genetic Testing (T576)

-Informed Consent for Genetic Testing-Spanish (T826)

Specimen Minimum Volume

Amniotic Fluid: 10 mL
Blood, Cord Blood: 0.5 mL
Chorionic Villus: 5 mg

Reject Due To

All specimens will be evaluated by Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Varies		

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 interpretive report will be provided.

Cautions

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

Clinical Reference

Nagan N, Faulkner NE, Curtis C, et al: Laboratory guidelines for detection, interpretation, and reporting of maternal cell contamination in prenatal analyses a report of the association for molecular pathology. J Mol Diagn 2011 Jan;13(1):7-11

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

Test ID	Test Order Name	Order LOINC Value
MATCC	Maternal Cell Contamination, B	40704-9

Result ID	Test Result Name	Result LOINC Value
53285	Result Summary	50397-9
53286	Result	40704-9
53287	Interpretation	69047-9
53288	Reason for referral	42349-1
53289	Specimen	31208-2
53290	Source	31208-2
55150	Method	49549-9
53291	Released By	18771-6