

ORDER NAME

Maternal Cell Contamination Study, STR analysis (EPIC Order Code=LAB11972)

- Two separate orders are required, one prenatal and one maternal.
- If EPIC is not an option, complete and submit paper requisitions to Genomicslab@upmc.edu
Paper requisitions can be found on the INFONET. Search for “genetics requisition form.”

BACKGROUND

Contamination of a fetal or cord blood specimen by maternal cells is a potential source of error in molecular and biochemical diagnostic prenatal testing. Although contaminating maternal blood can be visualized in 1% to 2% of amniotic fluid samples and in up to 38% of pelleted amniocytes following centrifugation, the origin of this blood—fetal or maternal—cannot be reliably assessed.

INDICATIONS FOR TESTING

- Amniocentesis
- Chorionic Villi Sampling
- Cord Blood

RESULT

Maternal cell contamination Not Detected or Positive with the approximate amount of contamination.

METHOD

STR (short tandem repeat) loci are amplified by PCR in a multiplex reaction and the products are detected and quantified by capillary electrophoresis. STR alleles unique to the maternal sample are used to assess the level of maternal cell contamination in the fetal DNA sample. The level of contamination is estimated by averaging relative peak heights of informative alleles and then rounding to the nearest 5%.

LIMITATIONS

The sensitivity of the assay is approximately 5%; maternal contamination below this level may not be detected. The reported contamination levels are a relative estimate of the amount of contamination. The presence or absence of maternal cell contamination in the tested specimen does not rule out the presence or absence of contamination in another specimen or sub-specimen obtained from the fetus.

SPECIMEN REQUIREMENTS

Both a maternal specimen and a prenatal specimen are required.

Maternal Specimen Type: Maternal peripheral blood, Lavender top (EDTA) or yellow top (ACD), 3 mL, Ambient (preferred)/Refrigerated or DNA sample.

Prenatal Specimen Type: Cord blood or DNA from cord blood, amniotic fluid, cultured amniocytes, or chorionic villi.

TURNAROUND TIME

3 days

CPT CODE

81265