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POC

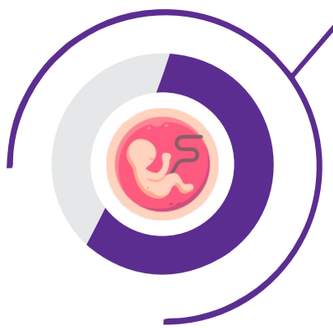
PRODUCTS OF CONCEPTION

Next-Generation Sequencing (NGS) to analyze fetal tissues

NCGM is now offering POC analysis via NGS utilizing our vast clinical experience with NGS and molecular genetics.

Depending on maternal age, miscarriages occur in 65% of human pregnancies, therefore analysis of the chromosomes from the products of conception (POC) is indicated. Until now, conventional karyotyping was used to analyze POC specimens, however, this method requires tissue culture and up to 70% of these cultures fail to grow. Tissue culture of POC specimens is also prone to maternal cell contamination which leads to over-reporting of 46,XX (normal female) karyotypes. Our strategy can detect or rule out Maternal Cell Contamination with >99% accuracy.

In couples in which there has been a spontaneous abortion it is crucial to know the cause that led to pregnancy loss. The information from POC testing can be helpful for patients and physicians to understand the cause of miscarriage and to develop a plan to support a future successful pregnancy.



60% of first trimester pregnancy losses are due to

CHROMOSOME ABNORMALITIES

POC aneuploidy screening
using Next Generation Sequencing

POC testing is often used determine the cause of recurrent pregnancy loss and help build a strategy to promote a successful pregnancy in the future. This test can be carried out in the following situations:

- Abnormal ultrasound findings
- Repeated pregnancy loss

Why use NGS for POC testing?

It can detect aneuploidy (10 MB gain/losses) in all 23 pairs of chromosomes. Moreover, we can also detect partial aneuploidies. This highly sensitive technique has the detection rate of 99%.

Advantages

- POC testing with NCGM does not require cell culturing and thus reduces the test failure rate.
- Accurate results are obtained in more than 98% of tests performed.
- Multiple dissections will be made to detect or rule out maternal cell contamination (MCC) with >99% accuracy.
- Results are available in 2 weeks.
- POC testing with NGS technology has greater resolution than the conventional karyotype.

Transportation of Sample

The sample should be collected in sterile container with normal saline with 4-5 drops of gentamicin.

NOTE:
NGS cannot detect balanced translocation. Also this test is only developed for aneuploidy screening. For mutation analysis/single gene disorders we have separate tests on ORION platform.