

Harmony[®] prenatal test

Understanding NIPT results

What type of Harmony Prenatal test report was issued?	Why was that report issued?	What is clinically indicated next?
Low-probability result	<ul style="list-style-type: none"> ▪ NIPT results indicate a low-probability result ▪ Most likely fetus is unaffected¹ ▪ Very low chance of false negative¹ 	<ul style="list-style-type: none"> ▪ Review results with patient² ▪ Continue standard prenatal care²
High-probability result	<ul style="list-style-type: none"> ▪ NIPT result indicates a high-probability result for specified condition ▪ Explanations include the fetus may be affected, false positive, or maternal factors¹ 	<ul style="list-style-type: none"> ▪ Genetic counseling is recommended² ▪ Consideration of additional testing options² ▪ Call Client Services with questions: 1-855-927-4672
Specimen redraw request	<ul style="list-style-type: none"> ▪ Reliable NIPT analysis could not be performed³ ▪ Insufficient sample³ ▪ Problem with sample or blood collection tubes³ ▪ Low fetal fraction^{3,4} ▪ Laboratory processing or specimen issues³ ▪ Failure to meet thresholds for quality control³ 	<ul style="list-style-type: none"> ▪ Take all clinical factors into account and consider obtaining another patient sample for testing⁵ ▪ Review the Redraw Request report to understand the reason the result could not be obtained. ▪ Call Client Services with questions: 1-855-927-4672
Test canceled	<ul style="list-style-type: none"> ▪ Patient doesn't meet requirements for testing (examples: gestational age less than 10 weeks, triplet gestation)^{3,6} ▪ Incomplete test requisition form (TRF) after several attempts to contact office ▪ Assay failure 	<ul style="list-style-type: none"> ▪ Take all clinical and logistic factors into account and consider re-ordering the patient's Harmony test.² ▪ Consider alternative prenatal screening or diagnostic testing.² ▪ Call Client Services with questions: 1-855-927-4672
Low-probability trisomy 21, 18, and 13, but test is inconclusive for fetal sex and/or sex chromosome aneuploidy panel	<ul style="list-style-type: none"> ▪ Technical reasons may include variance in the assay data ▪ Biological reasons may include demised co-twin, mosaicism (placental, fetal, or maternal) or copy number variant 	<ul style="list-style-type: none"> ▪ An inconclusive fetal sex and/or sex chromosome aneuploidy panel does not affect the accuracy of the trisomy screen. ▪ Repeat testing is not recommended (Repeat NIPT analysis would not be expected to yield a result) ▪ Consider alternative testing for fetal sex, such as ultrasound, and/or alternative testing for sex chromosome aneuploidies, such as diagnostic testing. ▪ Call Client Services with questions: 1-855-927-4672

Common reasons for a specimen redraw request

LOW FETAL FRACTION

Approximately three percent of samples will not obtain a result, and the most common cause is due to low fetal fraction. Low FF can happen for a variety of biological reasons, including maternal weight, gestational age, and other factors that aren't well understood: ethnicity, exercise, medications, etc. Fetal cfDNA increases with gestation, decreases with increasing maternal weight, and generally provides a successful result upon second blood draw when the first attempt had insufficient fetal cfDNA.⁴

Some studies have indicated that samples with a low fetal fraction may have some higher risk of aneuploidy.^{3,7}

Measuring the fetal fraction is an essential quality metric that ACOG and ACMG recommend all NIPTs should perform.

FAILURE TO MEET THRESHOLDS FOR QUALITY CONTROL

There are often technical reasons the test could not obtain a result. There may not be enough cfDNA in the sample or cfDNA of high enough quality. There may not be enough informative SNPs to accurately measure the fetal fraction in a given sample. Or there are biological factors, such as an undiagnosed vanishing twin, that can affect the results.

SPECIMEN HANDLING

The reasons for a redraw request can include having an insufficient sample size, improperly labeled tubes, and incorrect notation of twins or egg donor.

Approximately 2/3 of patients who receive a redraw request from the Harmony prenatal test will receive a successful result upon redraw.^{5,9}

**FOR MORE INFORMATION, GO TO [HARMONYTESTUSA.COM](https://www.harmonytestusa.com),
EMAIL SJC.CLIENTSERVICES@ROCHE.COM, OR CALL 1-855-927-4672.**

The Harmony prenatal test was developed by Ariosa Diagnostics, a CLIA-certified laboratory. As with other lab-developed tests, it has not been cleared or approved by the FDA and is not available for sale as an IVD in the US. Non-invasive prenatal testing (NIPT) based on cell-free DNA analysis is not diagnostic; results should be confirmed by diagnostic testing.

References: 1. Stokowski et al. *Prenat Diagn.* 2015; 35: 1243-1246. 2. ACOG Committee Position 640. *Obstet Gynecol.* 2015 Sep;126(3):e31-7. 3. Norton et al. *NEJM.* 2015 Apr; 372(17):1589-97. 4. Wang et al. *Prenat Diagn.* 2013 Jul;33(7):662-6. 5. Revello et al. *Ultrasound Obstet Gynecol.* 2016 Jun;47(6):698-704. 6. Bevilacqua et al. *Ultrasound Obstet Gynecol* 2015; 45: 61-66. 7. Pergament et al. *Obstet Gynecol* 2014; 124(2 Pt 1):210-8. 8. ACMG statement, 2016. 9. Schmid et al. Fetal aneuploidy screening results in maternal plasma samples redrawn due to insufficient fetal cfDNA in the initial sample.