NCGM
—by Neuberg—

PAN Test

Prenatal Aneuploidy NGS Test

MCC required for all prenatal tests

1 in every
150 live births

has a chromosomal abnormality that can result in an abnormal phenotype in fetus or newborns[1]

Emerging genetic technologies such as next-generation sequencing (NGS) can offer testing options to clinicians and families seeking a definitive diagnosis.

Why NGS Trumps QFPCR in Prenatal Diagnostic Testing

Research has shown that next-generation sequencing-based testing may help identify genomic abnormalities in **20—30%** of fetuses for which standard testing options show normal results.

NGS, thus, helps in

Detecting copy number variations in all 22 pairs of chromosomes

Identifying chromosomal aneuploidies in sex chromosomes

Initiating quick intervention or response in at-risk mothers

Providing the best assistance before childbirth or the right therapeutic approach before or immediately after the birth of the baby

> In fact, both the American College of Obstetricians and Gynecologists (ACOG) and the Society of Maternal-Fetal Medicine (SMFM) have stated that prenatal genetic screening **and invasive testing by chorionic villi sampling (CVS) or amniocentesis should be offered in case of fetuses with structural abnormalities and other high-risk pregnancies[2].**

Introducing

PAN Test

Prenatal Aneuploidy NGS Test

A complete and sophisticated test for in-depth analysis of fetal DNA and health during pregnancy

What Is PAN Test?

Utilizing extensive clinical experience in NGS and molecular genetics, the Neuberg Center for Genomic Medicine (NCGM) has introduced PAN Test, a revolutionary prenatal next-generation sequencing-based test.

A successfully validated diagnostic test, the PAN test primarily involves four steps.

1. **Sample Collection** (amniocentesis or chorionic villus sampling)
2. **Wet-lab Assays** (DNA extraction, library preparation, and sequencing)
3. **Bioinformatic Analysis** (Alignment, normalization, and aneuploidy detection)
4. **Reporting** (Review and interpretation)

What to Expect from the PAN Test?

What It Covers

Trisomies and monosomies in all 23 pairs of chromosome

Microdeletions and duplications (up to 2 Mb) in all 22 pairs of chromosomes. The most common being

- Wolf Hirschhorn syndrome (4p16.3)
- Di-George Syndrome (22q11.2 deletion)
- Prader-Willi (15q11.2)
- William Syndrome (7q11.23 deletion)

What It Does Not Cover

- Balanced translocations
- Single-gene disorders or mutations
- Differentiation between mosaic or true gain/losses
- Partial mosaicism
- Could not detect other microdeletions/duplications in sex chromosomes

Turnaround time

Results within 5 to 7 working days

> Based on our validations results and the given comparable turnaround time, higher throughput, a significant reduction in the technical repeat rate, and the amount of DNA required for the assay, NGS-based prenatal test provides compelling evidence as an alternative to QFPCR.

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When to Recommend the PAN Test?

One or more major structural fetal abnormalities in ultrasound

Advanced maternal age (>35 years)

An abnormal prenatal screening test

A prenatal carrier of a chromosomal abnormality

A previous pregnancy with chromosomal abnormality

Why Clinicians and Parents Should Consider the PAN Test?

Unlike QF-PCR, NGS detects aneuploidies in all chromosomes and provides in-depth information

Detects additional copy number variations (up to 2 MB gain/losses) in all 22 pairs of chromosomes, in addition to trisomies

Eliminates the need for cell culture, thus, reducing the failure rate

Offers pre- and post-test support

Ensures quick turnaround time

Affordable, comprehensive, and a validated diagnostic test

Experience. Competency. Accuracy

Choose the PAN Test for definitive prenatal diagnosis

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To know more or book the test,

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