



Don't settle for limited data

Data shows Illumina next-generation sequencing is the NIPT technology of choice

PUBLISHED SUPPORT OF NEXT GENERATION SEQUENCING (NGS)

Noninvasive prenatal testing (NIPT) provides accurate information about major chromosome abnormalities in a fetus as early as 10 weeks gestation using a single maternal blood draw.

- Next-generation sequencing (NGS) is the most-published method for performing NIPT^{1,2}
- 99.7% of NIPT samples in published studies were run on Illumina NGS technology (Table 1)

Table 1: 99.7% of NIPT Samples Run on Illumina NGS Systems

Test (Company)	Current technology platform	Platform provider	Number of published samples		
			Illumina NGS	Ion Proton NGS	Affymetrix array
Illumiscreen prenatal test (Illumina)	NGS	Illumina	114,163	0	0
MaterniT21 PLUS Test (Sequenom)	NGS	Illumina	302,544	0	0
NIFTY Test (BGI)	NGS	Illumina	174,145	0	0
Panorama Prenatal Screen (Natera)	NGS	Illumina	56,229	0	0
Other LDTs	NGS	Illumina	14,655	0	0
ONA® Test (Premaitha)	NGS	Ion Proton	0	684	0
Harmony Prenatal Test (Ariosa)*	NGS	Affymetrix	72,114	0	1,677
Total	NGS		733,850	684	1,677

A PubMed search for “cell-free, DNA, prenatal,” “noninvasive prenatal testing,” and “noninvasive prenatal screening” was performed on July 25, 2016. All validation and clinical studies using unique samples were included, where a current clinical NIPT provider performed sample analysis. Case studies, review articles, and studies published in a language other than English were excluded. A total of 76 published studies were surveyed. Data calculations on file Illumina, Inc. 2016. NGS = next-generation sequencing; either whole-genome or targeted LDTs = laboratory developed tests.

* In 2014, Ariosa switched from sequencing to arrays for clinical samples despite limited published data on this platform.

References

1. The American College of Obstetricians and Gynecologists. Committee Opinion: Cell-free DNA screening for fetal aneuploidy. www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Genetics/Cell-free-DNA-Screening-for-Fetal-Aneuploidy. Published June 26, 2015. Accessed August 5, 2015.
2. Benn P, Borell A, Chiu R, et al. Position statement from the Aneuploidy Screening Committee on behalf of the Board of the International Society for Prenatal Diagnosis. *Prenat Diagn.*, 2013;33:622-629. doi: 10.1002/pd.4139.

To learn more about NIPT using the Illumiscreen prenatal test, visit illumiscreen.co.nz