NIPD GENETICS
VERAgene® comprehensive NIPT

VS

CONVENTIONAL PRENATAL TESTS

Cell-free DNA extracted from mother's blood and paternal DNA sample

Can detect several fetal genetic disorders

HIGH ACCURACY
> 99% detection rate for aneuploidies

SAFE
No risk of fetal miscarriage

EARLY
Can be done from the 10th week of pregnancy

Screening combines biochemical results, ultrasound findings and other parameters

Most microdeletions and monogenic diseases do not have biochemical and ultrasound markers

LOW ACCURACY
80-95% detection rate for aneuploidies

RISK
of miscarriage through amniocentesis or CVS (0.5%)

Screening for aneuploidies after the 12th week of pregnancy

NIPD GENETICS

CAP ACCREDITED

ISO 13485:2016

NIPD Genetics Public Company Ltd
www.nipd.com
info@nipd.com

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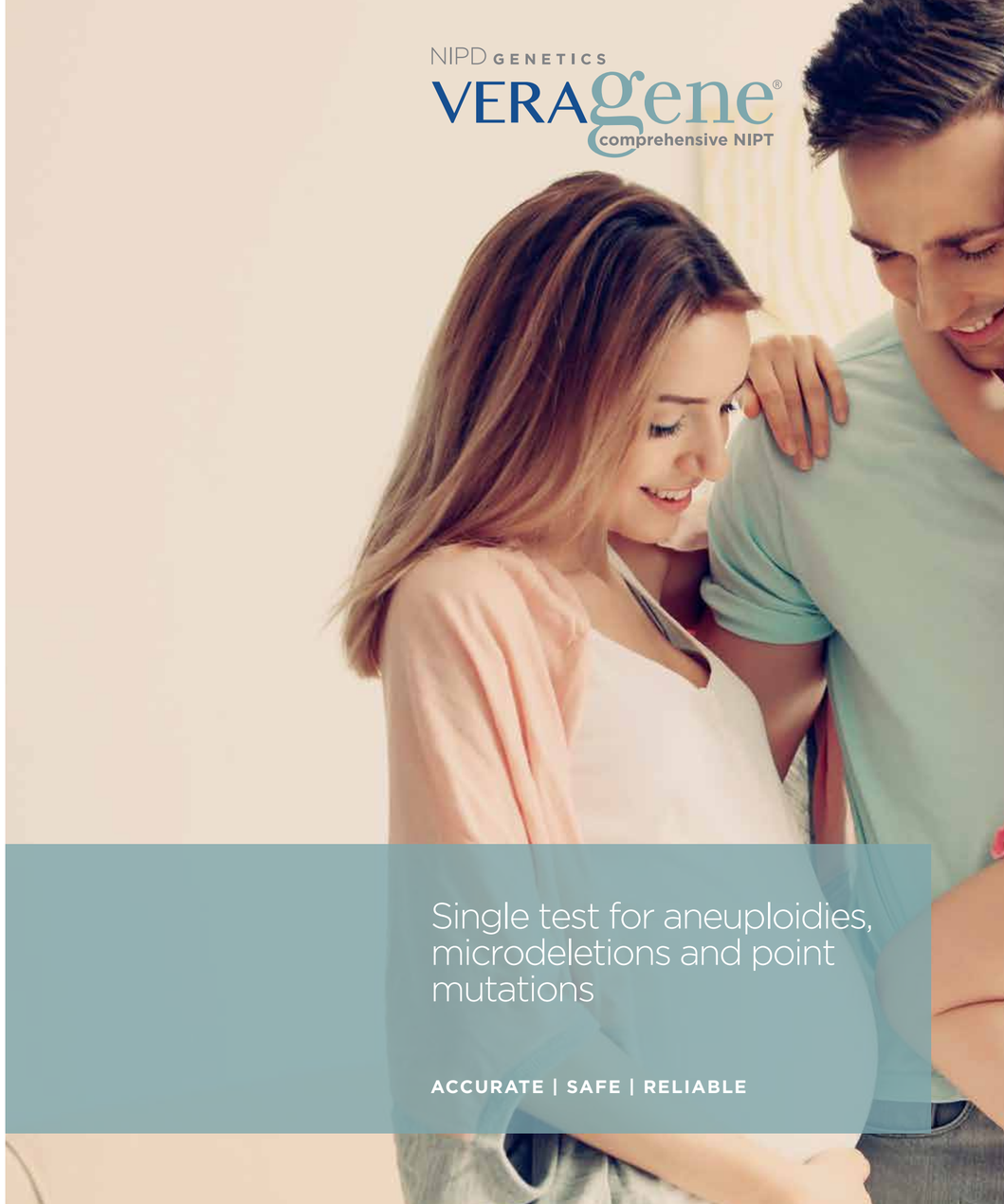
VERAgene® comprehensive NIPT



Single test for aneuploidies, microdeletions and point mutations

ACCURATE | SAFE | RELIABLE

VERAgene NIPT

Can be done from the **10th week of pregnancy**

Single screening test for aneuploidies, microdeletions and point mutations

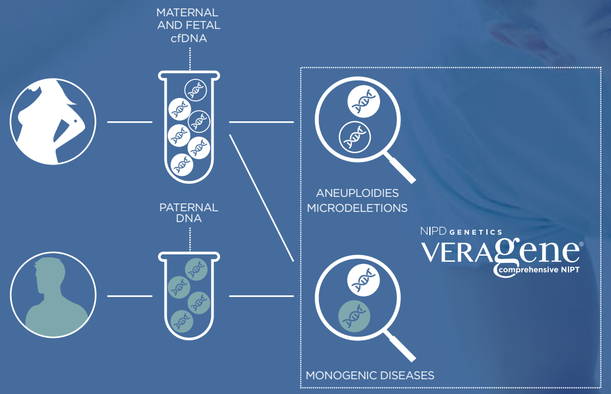
Validated for **singleton** and **twin** pregnancies

Applicable also for **IVF** pregnancies

WHAT IS **VERAgene** NIPT?

VERAgene is the first comprehensive non-invasive prenatal test (NIPT) that can simultaneously screen for aneuploidies, microdeletions and point mutations. The diseases screened by VERAgene are often severe with significant impact on the quality of life. Besides aneuploidies and microdeletions, VERAgene targets 2000 mutations to screen for 100 monogenic diseases. By combining detection of aneuploidies and microdeletions with the screening of monogenic diseases, VERAgene provides a comprehensive picture of the pregnancy using a single test.

HOW DOES **VERAgene** WORK?



VERAgene needs a maternal blood sample during pregnancy, and a buccal swab sample from the biological father. The maternal blood contains cell-free DNA (cfDNA) from both the mother and the fetus. The cfDNA is isolated and analyzed independently for aneuploidies and microdeletions, and concurrently with the paternal DNA sample for parental carrier status determination for monogenic diseases using our proprietary technology. Sophisticated algorithms are then used to compute the risk of the fetus having an aneuploidy, microdeletion or monogenic disease. The results are sent to the clinician who communicates them to the parents and provides the necessary counselling.

WHAT DOES **VERAgene** TEST FOR?

AUTOSOMAL ANEUPLOIDIES

Down syndrome *(Trisomy 21)*
Edwards syndrome *(Trisomy 18)*
Patau syndrome *(Trisomy 13)*

SEX CHROMOSOME ANEUPLOIDIES

Turner syndrome *(Monosomy X)*
Triple X syndrome *(Trisomy X)*
Klinefelter syndrome *(XXY)*
Jacobs syndrome *(XYY)*
XXYY syndrome

MICRODELETIONS

DiGeorge syndrome *(22q11.2)*
1p36 deletion syndrome *(1p36)*
Smith-Magenis syndrome *(17p11.2)*
Wolf-Hirschhorn syndrome *(4p16.3)*

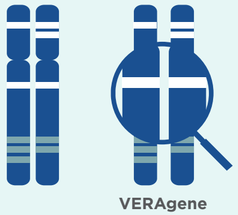
MONOGENIC DISEASES

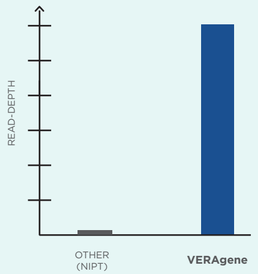
Panel of 100 autosomal and X-linked monogenic diseases, including:

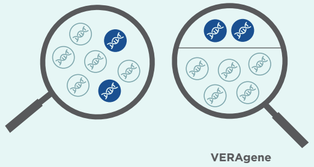
Cystic Fibrosis
Sickle-Cell disease
Beta Thalassemia
Tay-Sachs disease
Gaucher disease
Phenylketonuria
Autosomal Recessive Polycystic Kidney disease
Canavan disease
Fanconi Anemia, Type C
Usher syndrome, Type 1F
Myotubular Myopathy
Alstrom syndrome
Abetalipoproteinemia
Bardet-Biedl syndrome
Alport syndrome, X-linked
Pendred syndrome
Familial Dysautonomia
Joubert syndrome, Type 2
Isovaleric Acidemia
Glutaric Acidemia, Type 2A
Maple Syrup Urine disease, Type 1B
Factor XI Deficiency

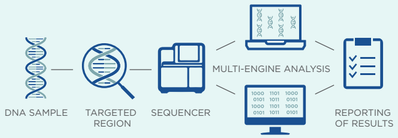
The hereditary monogenic diseases screened by VERAgene are associated with moderate to severe phenotypes, including **hematological, renal, ophthalmological, cardiac, endocrine, respiratory, neurological, muscular** and **metabolic diseases.** Inherited metabolic diseases also include many **inborn errors of metabolism**.

For a complete list of the monogenic diseases screened by VERAgene please visit ***www.nipd.com***









UNIQUE FEATURES OF **VERAgene**

TARGETED GENOMIC ANALYSIS

VERAgene uses proprietary technology, specifically designed to avoid genomic regions with complex architecture that affect test performance. This overcomes problems associated with other NIPTs and increases the **precision** and **accuracy** of VERAgene.

HIGH READ-DEPTH

Read-depth is the number of times a nucleotide in the genome is read during analysis. VERAgene captures DNA fragments from targeted regions on chromosomes of interest. VERAgene is able to analyze these selected regions at an extremely high read-depth which improves the statistical accuracy of the analysis and increases the **sensitivity** and **specificity** of VERAgene.

FETAL FRACTION MEASUREMENT

A proprietary bioinformatics software accurately calculates fetal fraction. Accurate fetal fraction measurement increases the **robustness** and **reliability** of VERAgene.

MULTI-ENGINE ANALYSIS PIPELINES

Proprietary bionformatics pipelines analyze the sequencing data produced from each test. This multi-engine analysis increases the **sensitivity** and **specificity** of aneuploidy, microdeletion and fetal gender detection.

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