The Facts about Natera’s Non-Invasive Prenatal Test (NIPT)

THE ONLY NIPT THAT CAN IDENTIFY TRIPLOIDY

PANORAMA™

IS THE MOST ACCURATE, COMPREHENSIVE NON-INVASIVE PRENATAL SCREENING TEST WHICH CAN HELP YOU PROVIDE YOUR PATIENTS WITH THE REASSURANCE THEY NEED DURING THEIR PREGNANCY.

TURNAROUND - MOST RESULTS REPORTED IN LESS THAN 10 DAYS

WHY NIPT? Helps avoid unnecessary chorionic villus sampling and amniocentesis.

For every 20 women who show High Risk for Down syndrome with biochemical screening, only one (5%) will be carrying a fetus with Down syndrome,¹ and many who are not carrying a positive fetus will have invasive procedures.

With Panorama’s high sensitivity and low False Positives, >99% of women who screen positive for Down syndrome will be carrying a fetus with Down syndrome.²

PANORAMA The next generation in NIPT

Panorama is the only NIPT that uses the advanced science afforded by SNPs (single nucleotide polymorphisms) to differentiate the maternal from the fetal cell-free DNA (cfDNA) to determine the genotype of the fetus.²

Brought to you by

MelbourneIVF

Leading minds dedicated to your success

in partnership with

Natera

Conceive. Deliver.
THE VALUE OF PANORAMA OVER OTHER NIPTS

Panorama delivers more accuracy than other NIPTs. There are several versions of NIPT available for you to offer your patients. However, Panorama’s accuracy remains excellent even at fetal fraction (ff) as low as 4%. The accuracy of all other NIPTs that use quantitative counting methods, falls markedly when fetal fraction drops below 8%. This is true even for T21, typically the easiest trisomy to identify.\(^3,5\)

LOW FETAL FRACTION DECREASE SENSITIVITY RATES FOR COUNTING NIPT TECHNOLOGIES

- In the non-Panorama data set (average gestational age 15 weeks), 10-15% of women had fetal fraction between 4-8%.
- Panorama research determined that 25% of women at gestational ages between 9-14 weeks had fetal fraction between 4-8%.\(^3\)
- In addition, Panorama is able to report both high sensitivity and specificity for all chromosomes evaluated, even X and Y.\(^6,7,8\)

<table>
<thead>
<tr>
<th>% Fetal Fraction of Cell-Free DNA</th>
<th>Counting Down Syndrome Sensitivity Rate</th>
<th>Panorama Down Syndrome Sensitivity Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;8%</td>
<td>&gt;99%</td>
<td>&gt;99%</td>
</tr>
<tr>
<td>4-8%</td>
<td>75%</td>
<td>&gt;99%</td>
</tr>
</tbody>
</table>

COMPARISON WITH OTHER NIPTS WHICH ARE BASED ON COUNTING TECHNOLOGIES

<table>
<thead>
<tr>
<th>Panorama Test</th>
<th>Other NIPTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses more robust data – the actual DNA from the mother – to “subtract out” the mother’s cfDNA from the fetus and does not require use of a reference chromosome</td>
<td>Do not separate out the maternal from the fetal cfDNA – they simply count cell-free DNA strands and compare to a reference chromosome</td>
</tr>
<tr>
<td>&gt;99% combined accuracy for T21, T18, and T13, male and female, and triploidy at levels as low as 4% fetal fraction in published clinical trials</td>
<td>Up to 25% false negatives at fetal fraction of 4-8%</td>
</tr>
<tr>
<td>Always reports fetal fraction</td>
<td>Most do not report fetal fraction</td>
</tr>
<tr>
<td>Always reports risk score for monosomy X - an aneuploidy that is more common at mid trimester than T13, T18 and T21 combined</td>
<td>Some only call monosomy X when found, and do not confirm the absence of monosomy X</td>
</tr>
<tr>
<td>Provides every patient with a Personalised Risk Score</td>
<td>May include grey areas like “aneuploidy suspected”</td>
</tr>
<tr>
<td>Identifies triploidy, a major cause of miscarriage</td>
<td>Unable to detect triploidy</td>
</tr>
<tr>
<td>22q11.2 deletion syndrome screening which occurs in approximately 2,000 births can be requested</td>
<td>Most do not offer 22q11.2 deletion syndrome screening</td>
</tr>
</tbody>
</table>
**MICRODELETION SYNDROMES**

Panorama now offers a screen for the most common and severe microdeletion syndromes, in addition to its basic screen for T21, T18, T13, triploidy and sex chromosome abnormalities.

### Why Screen for Microdeletion Syndromes?
- Are common and can be severe
- Carry equal risk across all maternal ages
- Often undiagnosed
- Respond to early childhood intervention

### Scientifically Validated

Microdeletion validation has been completed by Natera™ with 469 samples, including 110 confirmed positives. Accuracy of performance has been validated at fetal fractions as low as 3.8%.

### Limitations of the Test

Panorama does not screen for all microdeletion syndromes. Performance specifications reflect presence or absence of the entire targeted region. Patients who screen positive should be offered a follow-up invasive procedure to confirm diagnosis.

### How to order Panorama’s Microdeletion Screening

You may order the Panorama pre-natal screen alone or the extended panel with one of these two options:
- 22q11.2 Deletion syndrome (also known as DiGeorge syndrome) alone
- 22q11.2 deletion, Prader-Willi, Angelman, Cri-du-chat and 1p36 deletion syndromes

Please Note: Microdeletion screening cannot be ordered separately from the Panorama prenatal screen.

### Syndrome Incidence Sensitivity Specificity Location Size of Region # of SNPs Lifespan Mental Effects Heart Defects Other features

<table>
<thead>
<tr>
<th>Syndrome</th>
<th>Incidence</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Location</th>
<th>Size of Region</th>
<th># of SNPs</th>
<th>Lifespan</th>
<th>Mental Effects</th>
<th>Heart Defects</th>
<th>Other features</th>
</tr>
</thead>
<tbody>
<tr>
<td>22q11.2 Deletion/ DiGeorge</td>
<td>1 in 2,000</td>
<td>95.7% (45/47) (85.5-99.5)%</td>
<td>&gt;99% (419/422) (97.9-99.9)%</td>
<td>22q11.2</td>
<td>(2.9 MB)</td>
<td>672 SNPs</td>
<td>Reduced</td>
<td>Mild to moderate intellectual disorder &amp; schizophrenia</td>
<td>Yes</td>
<td>Palate and feeding issues, immune problems, low calcium, seizures</td>
</tr>
<tr>
<td>Prader-Willi</td>
<td>1 in 10,000</td>
<td>93.8% (15/16) (69.8-99.8)%</td>
<td>&gt;99% (453/453) (99.2-100)%</td>
<td>15q11-q13 Paternal</td>
<td>(5.9 MB)</td>
<td>1,152 SNPs</td>
<td>Reduced</td>
<td>Mild to severe intellectual disorder &amp; behavioural problems</td>
<td>No</td>
<td>Hypotonia in babies, insatiable appetite</td>
</tr>
<tr>
<td>Angelman</td>
<td>1 in 12,000</td>
<td>95.5% (21/22) (77.2-99.9)%</td>
<td>&gt;99% (447/447) (99.2-100)%</td>
<td>15q11-q13 Maternal</td>
<td>(5.9 MB)</td>
<td>1,152 SNPs</td>
<td>Normal</td>
<td>Severe intellectual disorder</td>
<td>No</td>
<td>“Happy” affect, ataxia, microcephaly, no speech, seizures</td>
</tr>
<tr>
<td>Cri-du-chat</td>
<td>1 in 20,000</td>
<td>&gt;99% (24/24) (85.8-100)%</td>
<td>&gt;99% (444/445) (98.8-99.9)%</td>
<td>5p15.2 (20 MB)</td>
<td>1,152 SNPs</td>
<td>Infant to adult</td>
<td>Moderate to severe intellectual disorder &amp; behavioural problems</td>
<td>No</td>
<td>Cat-like cry, growth problems, wide set eyes</td>
<td></td>
</tr>
<tr>
<td>1p36 Deletion</td>
<td>1 in 5,000</td>
<td>&gt;99% (1/1) (2.5-100)%</td>
<td>&gt;99% (468/468) (99.2-100)%</td>
<td>1p36</td>
<td>(10 MB)</td>
<td>1,152 SNPs</td>
<td>Normal in most</td>
<td>Severe intellectual disorder &amp; behavioural problems</td>
<td>Yes</td>
<td>Limited/no language, hearing loss, abnormal ears, seizures, 2:1 M:F</td>
</tr>
</tbody>
</table>

Total incidence: approximately 1 in 1,200

1. Performance specifications reflect presence or absence of the complete targeted region
5. Calculated based on the test performance including pregnancy samples
6. Calculated based on the test performance including artificial plasma samples
7. 95% confidence interval
The Panorama test provides:

**Comprehensive clinical coverage.**
- Identifying chromosomal abnormalities T21, T18, T13, Monosomy X and Triploidy
- Comprehensive microdeletion screening including 22q11.2 deletion syndrome (also known as DiGeorge syndrome)

**Superior accuracy over other NIPTs available and serum screening.**
- Consistently high accuracy across all chromosomes evaluated
- Highest levels of sensitivity and lowest levels of false positives of all NIPTs, even at low fetal fractions
- Accurate results as early as 9 weeks gestation

**Excellent customer support.**
- Supplemental information sheets can be provided with positive reports that the provider can refer to when discussing the findings with the patient
- Turnaround - most results reported in less than 10 days

**A safe, convenient method that can help you avoid invasive fetal testing.**
- Uses a simple blood sample from the mother

---

**References**

1. Average for Down syndrome detection rates for multiple laboratories.
3. Natera internal data.

---

**Melbourne IVF Collection Centres**

**East Melbourne**
Mon-Thu 8am - 4pm
(03) 9473 4444
No appointment required

**Box Hill**
By Appointment only
(03) 9006 5500

**Mt Waverley**
By Appointment only
(03) 8805 7888

**Werribee**
By Appointment only
(03) 8742 9300

---

Melbourne IVF
Melbourne IVF is part of Australia’s leading group of fertility specialists, Virtus Health. We offer a wide range of in-house diagnostic laboratory services, including cytogenetics and DNA testing. We also work with patients at risk from a variety of inherited conditions, such as birth defects and genetic disorders e.g. cystic fibrosis. Our doctors and counsellors can help you with advice and information about these risks, and support any decisions you make.

---

Natera, a company you can trust, has a history of being first.

- The first to offer you 24-chromosome evaluation on a single cell during preimplantation genetic diagnosis.
- The first to offer SNP-array technology on products of conception.
- The first, and still the only, to offer accurate SNP based non-invasive paternity testing during pregnancy.

---

These tests were developed by Natera Inc., a laboratory certified under the Clinical Laboratory Improvements Amendments (CLIA). These tests have not been cleared or approved by the U.S. Food and Drug Administration (FDA).