inti LABS

PGT-A pixl

SHARPER INSIGHTS.
SMARTER SELECTION.
BETTER OUTCOMES.

Is your PGT-A giving you the **WHOLE** *picture?*

Euploidy

Aneuploidy

Mosaicism

Micro-deletions and duplications

Uniparental Disomy (UPD)

Ploidy status (haploidy, diploidy, triploidy, tetraploidy)

Monogenic mutations

Validation of mosaicism

Sample contamination

PGT-A pixl

PGT-A Pixl is a transformative preimplantation genetic testing (PGT-A) platform that uses **SNP-based targeted sequencing (stNGS)** to identify chromosomal abnormalities often missed or undetectable by traditional low-coverage whole-genome amplification methods.

PGT-A Pixl offers superior accuracy in detecting

1. Aneuploidy and mosaicism
2. Abnormal ploidy
3. Uniparental disomy (UPD)
4. Microdeletions / microduplications

PGT-A Pixl reduces false positives, maximizes embryo utilization, and improves implantation success — ultimately enabling clinics to achieve higher live birth rates.

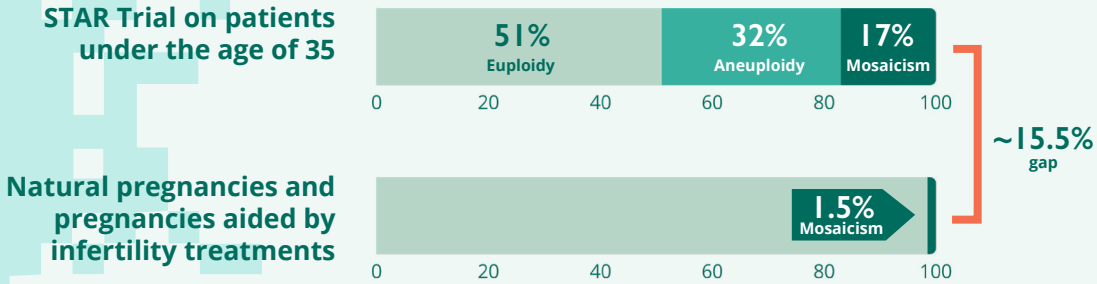
Current Challenges of Traditional PGT-A

#1 Embryo wastage

Traditional PGT-A detects chromosomal abnormalities, but reports high rates of **aneuploidy and mosaicism**.

The STAR Trial found **17% mosaicism** in embryos from **patients under the age of 35** (Munné et al., 2019).

In contrast, another study found **mosaicism rates below 1.5%** in both natural pregnancies and pregnancies aided by infertility treatment (Huang et al., 2009).



This stark difference suggests that some embryos labeled as abnormal **may still be viable**—leading to **unnecessary loss of embryos** suitable for transfer.

Additional peer-reviewed studies have demonstrated that PGT-A results for mosaicism are inconsistent and often unreliable:

Low concordance across studies:
Mosaic results show only ~42% consistency, vs. >90% for euploid embryos (Marin et al., 2021).

Poor predictive value:
Among 2,700+ mosaic embryo transfers, confirmed mosaicism after pregnancy was rare (Treff & Marin, 2021).

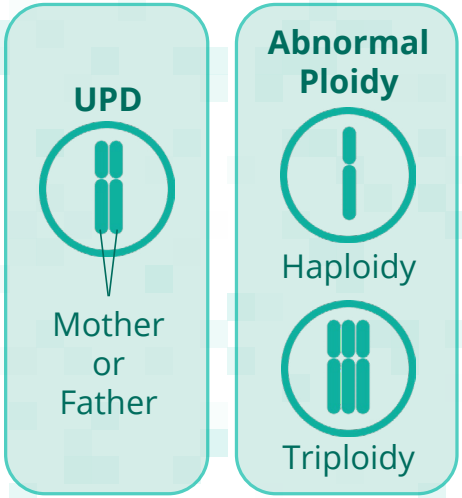
False positives due to technical bias:
Technical noise and uneven cell sampling can lead to misclassification of embryos as mosaic (Treff & Marin, 2021).

False positives and low reproducibility mean that many embryos labeled as mosaic may in fact be healthy.

The misclassification can lead to unnecessary embryo discard, ultimately lowering IVF efficiency.

#2 Failure to detect ploidy status and UPD

Traditional PGT-A cannot reliably detect certain chromosomal abnormalities:



- **Abnormal ploidy** (e.g., triploidy and haploidy)
- **Uniparental disomy (UPD)**, which can cause imprinting disorders.

These limitations may lead to embryo misclassification, impact clinical decisions and implantation outcome (Xu et al., 2016).

PGT-A pixl **detects conditions such as ploidy status and UPD, helping to increase pregnancy success rates.**

Product Differentiation

PGT-A Pixl redefines embryo testing by **overcoming the limitations** of traditional PGT-A.

By integrating copy number analysis with SNP assessment, it delivers **higher accuracy, more reliable results, fewer false positives, and greater confidence for both clinicians and patients.**

Features	Traditional PGT-A	PGT-A pixl
Detection of copy number variation (including mosaicism)	✓	✓
Verification of copy number variation result (including mosaicism)	✗	✓
Identification of abnormal ploidy	✗	✓
Identification of uniparental disomy (UPD)	✗	✓
Identification of sample contamination from maternal, sibling, or another sample	✗	✓
Additional targets for microdeletion syndrome and monogenic disorder	✗	✓
Y chromosome specific design	✗	✓

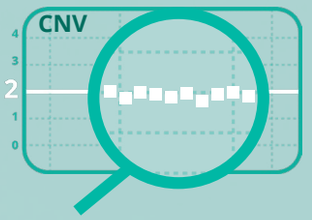
The Methodology Behind PGT-A Pixl

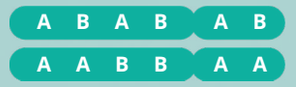
Next-generation sequencing (NGS) measures DNA at limited number of loci randomly across each chromosome to detect **copy number variations (CNV)** such as **monosomy and trisomy**.

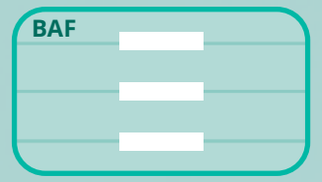
PGT-A Pixl enhances this by analyzing thousands of **single nucleotide polymorphisms (SNPs)**, which are small, naturally occurring variations at **specific locations** in the genome that serve as **genetic markers**.

By examining SNPs, Pixl calculates the **B-allele frequency (BAF)**, which reflects the **balance of maternal and paternal DNA**.

Disomy

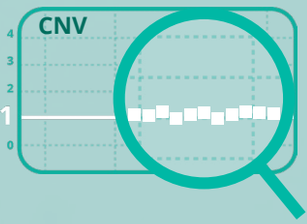






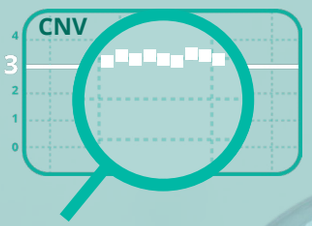
Healthy embryos show a predictable BAF pattern

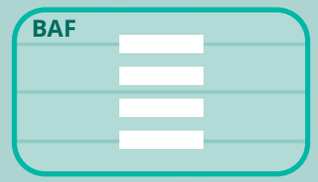
Monosomy



Shifts indicate chromosomal issues

Trisomy





Combining **copy number and BAF analysis** provides a clearer, more accurate view of embryo health.

Sharper insights.
Smarter selection.
Better outcomes.

Why Choose PGT-A Pixl?

PGT-A Pixl was created to **overcome the limitations of traditional PGT-A** and give clinics greater clarity in embryo selection.

Targeted sequencing for SNPs	Benefits
Identification of Haploidy, Triploidy and Tetraploidy	Reduces risk of transferring non-viable embryos, improving implantation and live birth rates
Uniparental Disomy (UPD) detection	Reduces risk of transferring non-viable embryos, reduces transferring embryos with genetic disorder risk
Identification of sample contamination from maternal, sibling, or another sample	Ensures accuracy and strengthens clinician and patient trust
Verification of copy number variation result (BAF pattern)	Reduces false-positive aneuploid and mosaic calls to avoid unnecessary embryo wastage

Targeted sequencing for microdeletion syndrome and monogenic disorder

Identification of rare microdeletions and mutations (Mini PGT-M) in one single test

Benefits

1. Broadens genetic screening in a single test, lowers risk of passing on inherited conditions
2. Saves time while reducing costs for patients

Targeted sequencing for Y chromosome specific regions

Decrease of noise and contamination from autosomes that can lead to inaccurate results

Benefits

1. Produces greater accuracy and reliability
2. Increases confidence in clinical decisions with reduced misinterpretation risk

By improving accuracy, reducing false positives and expanding the scope of detectable conditions, PGT-A Pixl helps ensure that **more healthy embryos are recognized and preserved**.

Expanded Coverage

Mini PGT-M

PGT-A Pixl can include the detection of targeted microdeletions, and monogenic mutations within the same workflow — without the need for additional sampling and complex testing.

Microdeletion Syndromes

PGT-A Pixl enables detection of clinically relevant microdeletions associated with severe developmental and health conditions:

- 1p36 deletion syndrome
- Cri-du-Chat syndrome
- Williams-Beuren syndrome
- Prader-Willi syndrome / Angelman syndrome
- DiGeorge's syndrome

Monogenic Mutations

PGT-A Pixl incorporates targeted markers for common inherited disorders, allowing early risk assessment and informed embryo selection:

- Thalassemia (HBA1, HBA2, HBB)
- G6PD deficiency (G6PD)
- Hearing loss–associated mutations (GJB2, SLC26A4, OTOF)

Data Validation

To ensure confidence, our platform has undergone **analytical validation** for both **accuracy and reproducibility**.

The results demonstrate **strong concordance with established reference standards**, confirming the robustness of our approach:

Indicated target category/disease	Expected karyotype	Results by PGT-A Pixl	Concordance (Yes/No)
Diploidy	47,XX,seq(21)x3	47,XX,seq(21)x3	Yes
Diploidy	47,XY,seq(13)x3	47,XY,seq(13)x3	Yes
Diploidy	X0	X0	Yes
Triploidy	69,XXY	69,XXY	Yes
Triploidy	69,XXX	69,XXX,dup(21)(p11.2q21.3)(~20.25Mb,~0.56%)	Yes
Triploidy	69,XXX	69,XXX	Yes
UPD	XX,UPD7	XX,UPD7	Yes
UPD	XY,UPD8	XY,UPD8	Yes
Microdeletion	XY,del(5)(p15.2p14)	XY,del(5)(p15.21p14.3)(~10.65Mb)	Yes

The PGT-A Pixl Workflow

Sample From Embryo

1

SNP
Use SNP count
Confirm UPD / Triploidy /
Contamination / Sample QC

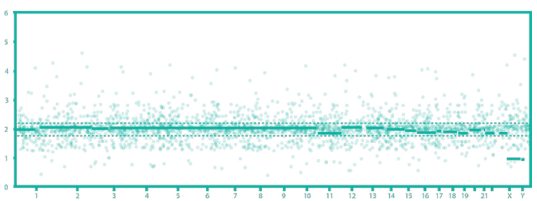
2

SNP
Analyze BAF distribution
Confirm chromosome ploidy

3

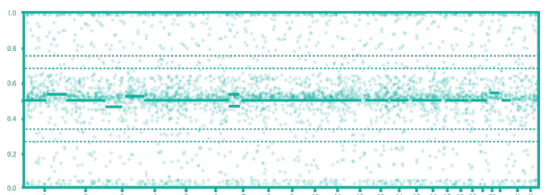
NGS
Use sequencing reads
Confirm chromosome copy number

4



SNP
Analyze BAF distribution
Verify copy number results

5



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Issue Test Report

About Inti Labs

Inti Labs is dedicated to providing our clinical partners with tools that that consider the unique needs of each individual patient to enable more successful IVF outcomes. Furthermore, we strive to empower patients and their families in making informed decisions at each stage of their fertility journey.

Inti Labs was founded by IVF industry leaders Dr. Barry Behr, a pioneer of PGT-A testing, and biotech start-up veteran Dr. Eric Pok Yang — each representing different aspects of the IVF process.

Where Inti Labs' Products Are Offered

References:

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Treff, N. R., & Marin, D. (2021). The "mosaic" embryo: misconceptions and misinterpretations in preimplantation genetic testing for aneuploidy. Fertility and sterility, 116(5), 1205–1211. https://doi.org/10.1016/j.fertnstert.2021.06.027

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