Embryo46

Next Generation Pre-Implantation Genetic Testing Solution

By inti LABS

What is Embryo46 ?

CNV

UPD

Ploidy Status

Embryo46 is the next-generation technology for pre-implantation genetic testing, advancing PGT-A with the addition of uniparental disomy (UPD) detection and ploidy status through single nucleotide polymorphism (SNP) analysis. These features enable more comprehensive chromosome screening, providing further insight to optimize embryo selection for transfer.

PGT-A vs. Embryo46

	PGT-A	Embryo46
Chromosomal Aneuploidy (10Mb resolution)	X	X
Fragment deletion / duplication (4Mb resolution)		X
UPD		X
Ploidy Status		X

Technology Highlights

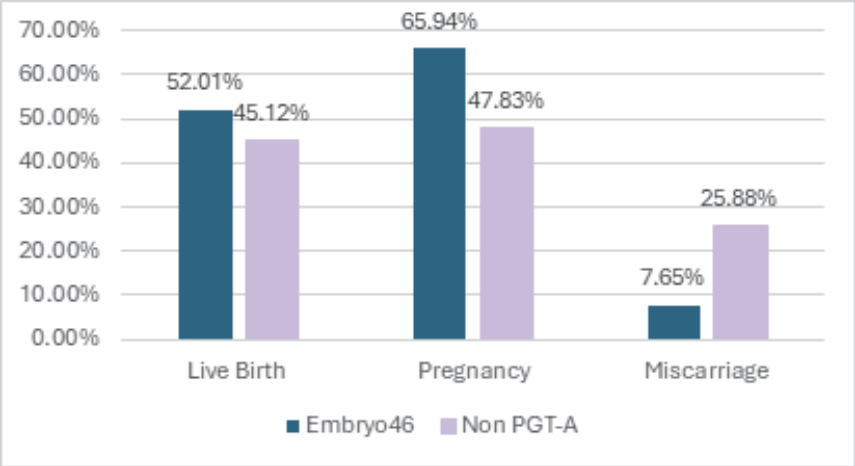
Assesses copy number variation with higher resolution, enhancing accuracy while improving detection of potential deletions/duplications.

Detects Uniparental Disomy through analysis of single nucleotide polymorphism.

Identifies ploidy status of embryos through genetic pronuclear fertilization check.

Advantages

- Increases success rates: A more comprehensive analysis that improves embryo transfer outcomes resulting in higher successfully pregnancy rates, higher live birth rates, and lower miscarriage rates

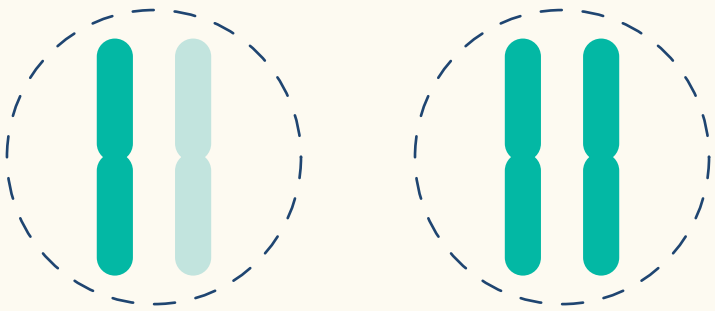


Dahdouh EM, Balayla J, et al. Fertil Steril. 2015;104(6):1503-1512.doi:10.1016/j.fertnstert.2015.08.038

- Our test utilizes higher sequencing resolution with patented methodology to decrease false positive signals.
- The result is better accuracy for CNV detection and improved identification of chromosomal deletions/duplications, which enhances overall success rates.

Uniparental Disomy (UPD) Detection

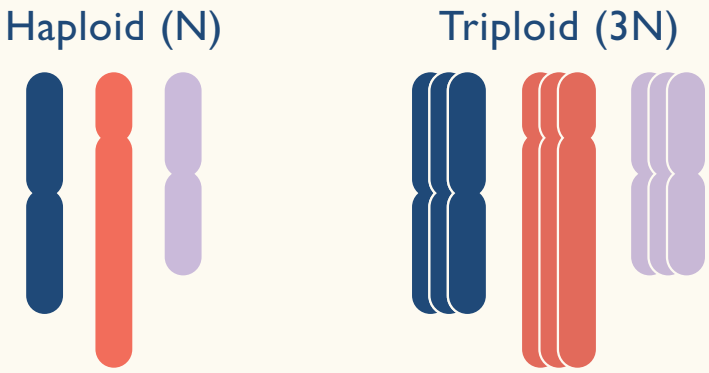
Uniparental disomy (UPD), occurring in about 1 in 2000 newborns, happens when both sets of chromosomes are inherited from only one parent. This condition results from nondisjunction during meiosis, followed by genetic information loss during egg or sperm cell formation. UPD is linked to various imprinted gene disorders.



Normal UPD

Ploidy Status

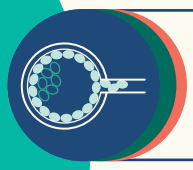
Embryo46 detects haploid and triploid embryos, ensuring the selection of embryos with the correct chromosome set, thereby increasing the chances of successful pregnancy. For embryos with an uncertain number of pronuclei during fertilization, Embryo46 accurately identifies true diploid embryos, thus increasing the overall blastocyst utilization rate and the number of viable embryos available for implantation.



Who should utilize **Embryo46 ?**

- Older women who have a higher risk of chromosomal abnormalities
- History of implantation failure
- History of miscarriage
- History of failed IVF cycle with good quality embryos tested with traditional PGT-A
- Patients with embryos of uncertain pronuclei status

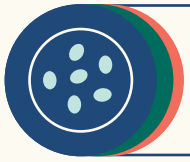
Sample Submission Process



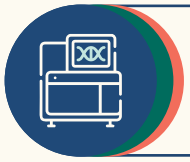
Embryo Cell Biopsy

Wash Cells

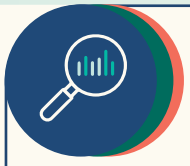
Pre-processing for Room Temperature Shipment to Inti Labs



Library Preparation



Next Generation Sequencing (NGS) Analysis



Data Analysis

- CNV
- UPD
- Ploidy Status

References

Dong Y, Liu D, Zou Y, et al. Preimplantation genetic testing for human blastocysts with potential parental contamination using a quantitative parental contamination test (qPCT): an evidence-based study. Reprod Biomed Online. 2023;46(1):69-79. doi:10.1016/j.rbmo.2022.08.103

Huang J, Yan L, Lu S, Zhao N, Xie XS, Qiao J. Validation of a next-generation sequencing-based protocol for 24-chromosome aneuploidy screening of blastocysts. Fertil Steril. 2016;105(6):1532-1536. doi:10.1016/j.fertnstert.2016.01.040

About Inti Labs

Contact Inti Labs: https://intilabs.com

Inti Labs is committed to providing our clinical partners with tools tailored to each patient's unique needs, aiming to improve IVF success rates. Further, 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 and biotech start-up veteran Dr. Eric Pok Yang, each representing different aspects of the IVF process.

Dr. Eric Pok Yang, CEO

Dr. Eric Pok Yang is a distinguished figure in the field of molecular biology and genetics from UCLA and Harvard Medical School, with over two decades of dedicated research focused on unraveling the complexities of cellular mechanisms. With a notable focus on non-coding RNAs such as microRNAs (miRNAs), Dr. Yang' s contributions have been instrumental in shedding light on critical aspects of gene regulation, DNA repair, and cellular signaling, paving the way for novel therapeutic interventions and, more recently, endometrial receptivity. Today Dr. Yang leads the team at Inti Labs in its pursuit of developing solutions aimed at improving clinical outcomes in IVF.

Dr. Barry Behr, CTO

Dr. Barry Behr has been a pioneering figure in oocyte research for over two decades, and his work has contributed prominently to advancing our understanding of embryo and oocyte biology and improving clinical outcomes in assisted reproductive technology. During his time as a distinguished faculty member at Stanford, he spearheaded several innovative research initiatives, including novel techniques for oocyte cryopreservation, exploration of oocyte maturation processes, and advanced embryo culture techniques. With Inti Labs, Dr. Behr continues to inspire breakthroughs that hold promise for individuals and couples striving to build their families.

Gao FF, Chen L, Bo SP, et al. ChromInst: A single cell sequencing technique to accomplish pre-implantation comprehensive chromosomal screening overnight. PLoS One. 2021;16(5):e0251971. Published 2021 May 20. doi:10.1371/journal.pone.0251971

Ariad D, Yan SM, Victor AR, et al. Haplotype-aware inference of human chromosome abnormalities. Proc Natl Acad Sci U S A. 2021;118(46):e2109307118. doi:10.1073/pnas.2109307118

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