embrace

Embryo Analysis
of Culture Environment

Igenomix®
WITH SCIENCE ON YOUR SIDE

What is EMBRACE?

EMBRACE is the new non-invasive test developed by Igenomix that allows your clinic to identify the embryos that are the most likely to be chromosomally normal.

This information can help the doctor decide which embryo should be transferred first in an IVF cycle; helping to maximise the chance of a healthy pregnancy.

Test Results

Embryos most likely to be chromosomally normal will be given the highest score and prioritized for transfer.

How does it work?

Embryos stay safe in the IVF clinic

IVF/ICSI → Embryo culture → Culture Media collection → Shipping to Igenomix → Embrace chromosome analysis → Prioritization report → Transfer according to report

Who is it for?

EMBRACE is for all patients who wish to increase their chances of pregnancy without invasive procedures.

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EMBRACE IS BASED ON THE FOLLOWING DATA:

Multicenter prospective study of concordance between embryo cell-free DNA and trophectoderm biopsies from 1,301 human blastocysts

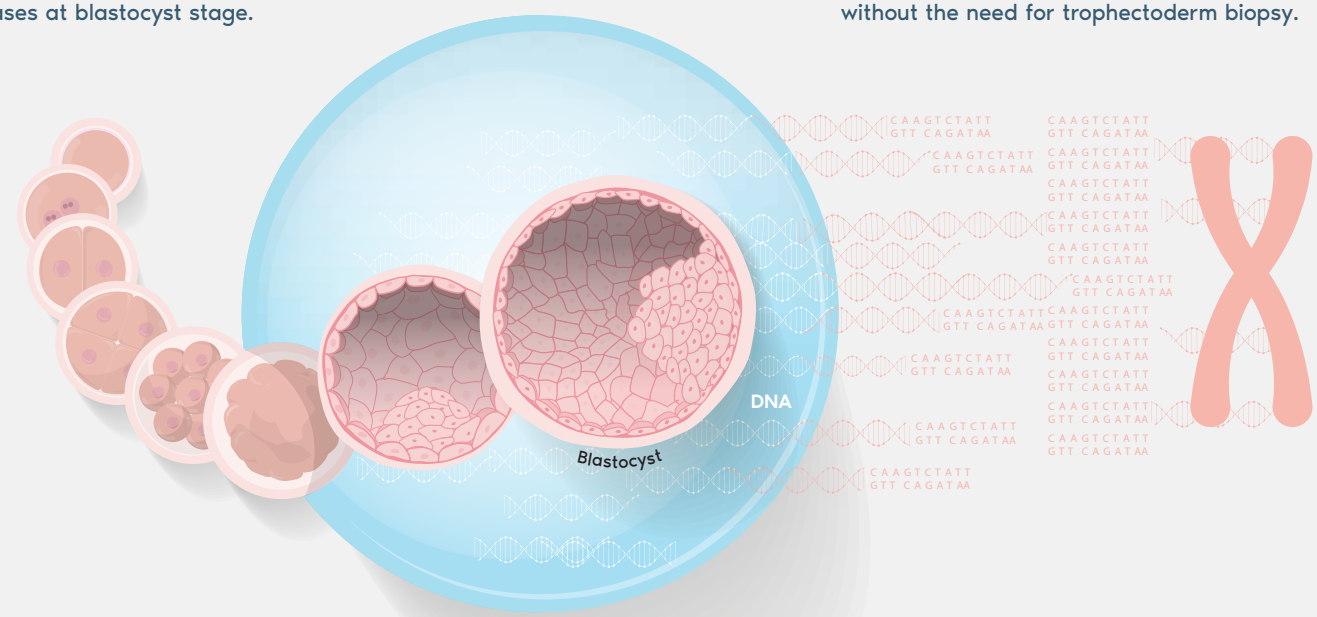
The recent identification of embryo cell-free DNA in the spent blastocyst media has opened a new era of possibilities for non-invasive embryo aneuploidy testing in assisted reproductive technologies.

1

During in vitro embryo development (mostly from day 4 to day 6) embryo cell-free DNA is released into the culture medium, with increasing concentrations as the number of cells increases at blastocyst stage.

2

Spent blastocyst medium containing embryo cell-free DNA can be analyzed by next generation sequencing, representing a non-invasive approach to estimate the chromosome copy number of the blastocyst without the need for trophectoderm biopsy.



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Rubio C, Navarro-Sánchez L, García-Pascual CM, Ocali O, Cimadomo D, Venier W, Barroso G, Kopcow L, Bahçeci M, Iuri Roos Kulmann M, López L, De la Fuente E, Navarro R, Valbuena D, Sakkas D, Rienzi L, Simón C

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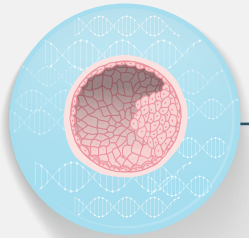
Igenomix has carried out a study in eight IVF centers comparing the results obtained in embryo cell-free DNA from 1,301 spent blastocyst media and the corresponding trophectoderm biopsies in couples undergoing preimplantation genetic testing for aneuploidy PGT-A.

1,301

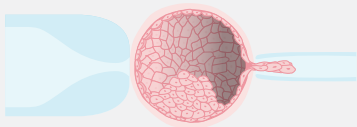
Spent blastocyst media

This is the largest study to date assessing ploidy concordance per embryo between invasive and non-invasive PGT-A.

The study was designed with two main objectives:



Embryo cell-free DNA



1. Trophectoderm DNA

To evaluate the concordance and reproducibility of testing embryo cell-free DNA versus trophectoderm DNA obtained from the same embryo in a large sample of 1,301 day 6 and day 7 human blastocysts,

2. Inner cell mass DNA

To assess the concordance rates between embryo cell-free DNA, trophectoderm DNA and the inner cell mass of the blastocyst in a subset of 81 aneuploid blastocysts donated for research.

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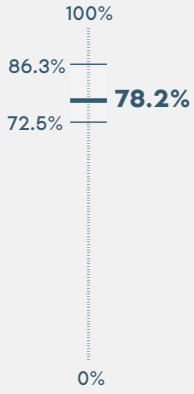
High concordance rates when comparing 1,301 embryo cell-free DNA and trophectoderm DNA samples

The results of non-invasive analysis of embryo cell-free DNA from spent blastocyst media demonstrated a high concordance rate with the trophectoderm biopsy results.

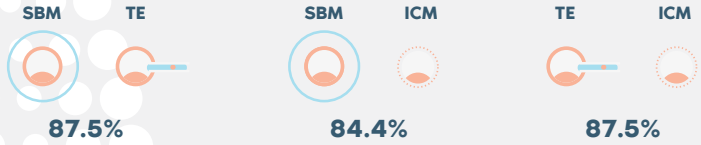
	Center 1	Center 2	Center 3	Center 4	Center 5	Center 6	Center 7	Center 8	TOTAL
Concordance	75.6	77.1	81.8	86.3	84.2	85.0	72.5	77.0	**78.2**
Sensitivity	80.5	84.8	88.2	86.7	91.3	76.7	76.5	78.9	**81.7**
Specificity	69.9	72.7	85.2	87.5	80.0	93.3	64.7	78.1	**77.4**

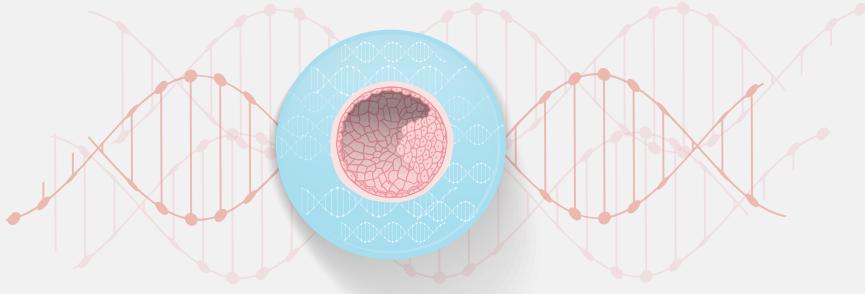


The concordance rate was on average 78.2% ranging from 72.5% to 86.3% in different centers, without significant differences among centers related to culture conditions or blastocyst quality.

High concordance rates with inner cell mass when analyzing a subgroup of 81 blastocystsH

In addition, in a subgroup of 81 blastocysts, the comparison of the inner cell mass with the embryo cell-free DNA and the trophectoderm biopsies has shown similar concordance rates, 84.4% and 87.5% respectively.





We can conclude that this non-invasive approach could avoid embryo biopsies and reduce costs, while making it accessible to a wider population of patients. **Nevertheless, more studies are needed to understand the precise source of the embryo cell-free DNA and the mechanisms involved.**

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