embrace

Embryo Analysis
of Culture Environment

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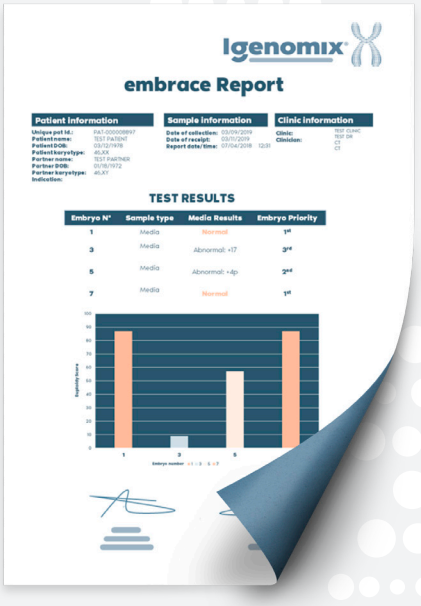
What is EMBRACE?

EMBRACE is a pioneering embryonic cell-free DNA test developed by Igenomix that allows your clinic to identify the embryos that are the most likely to be chromosomally normal without a biopsy.

This information helps patients and physicians decide which embryo to prioritize and transfer first in an IVF cycle, maximizing 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?

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

Embryos stay safely in the IVF clinic

Who is it for?

EMBRACE is for patients undergoing IVF who wish to transfer embryos most likely to be chromosomally normal.

Patients requiring PGT-M, PGT-SR, or sex selection should pursue testing based on trophectoderm biopsy.

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EMBRACE IS BASED ON THE FOLLOWING DATA:

A multicenter prospective study on the concordance between embryonic cell-free DNA and trophectoderm biopsies from 1,301 human blastocysts

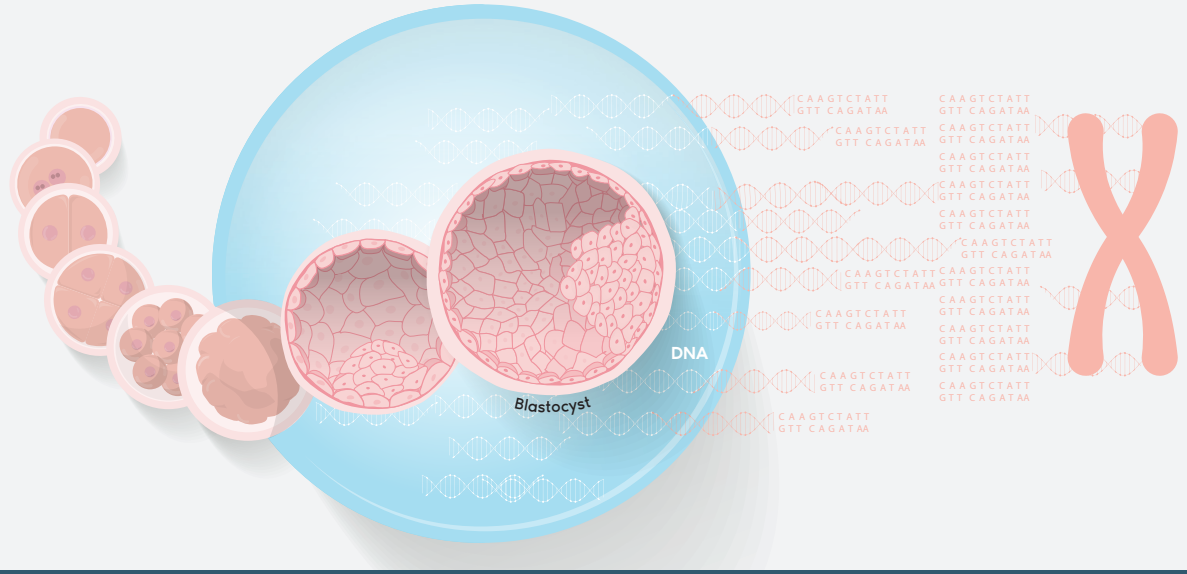
The recent identification of embryonic cell-free DNA in the spent blastocyst media has opened a new era of possibilities for embryonic aneuploidy testing in assisted reproductive technologies.

1

During development, embryonic cell-free DNA is released into the culture medium with increasing concentration as the number of cells multiplies from day 4 to day 6.

2

The spent culture medium containing embryonic cell-free DNA is analyzed by next generation sequencing (NGS). The chromosome copy number of the blastocyst is assessed without the need for trophectoderm biopsy.



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Igenomix has carried out a study in eight IVF centers comparing the results obtained in embryonic 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 the concordance of chromosome copy number between embryonic cell-free DNA and trophectoderm biopsy.

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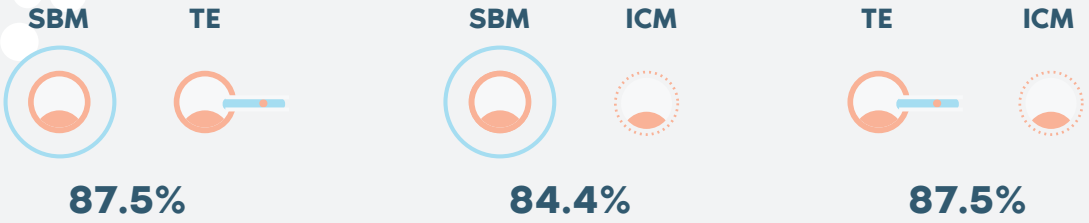
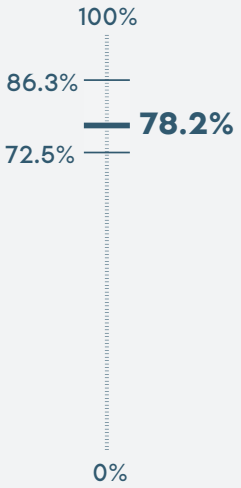
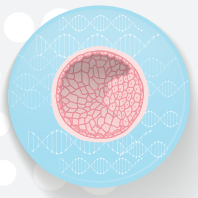
In a subgroup of 81 blastocysts, the comparison of the inner cell mass with the embryonic cell-free DNA and the trophectoderm biopsies has shown similar concordance rates, 84.4% and 87.5% respectively.





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

Two main objectives:



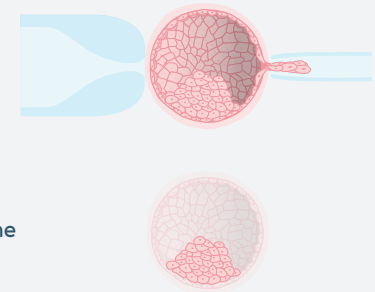
Embryonic cell-free DNA

1. Trophectoderm DNA

To evaluate the concordance and reproducibility of testing embryonic 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 embryonic 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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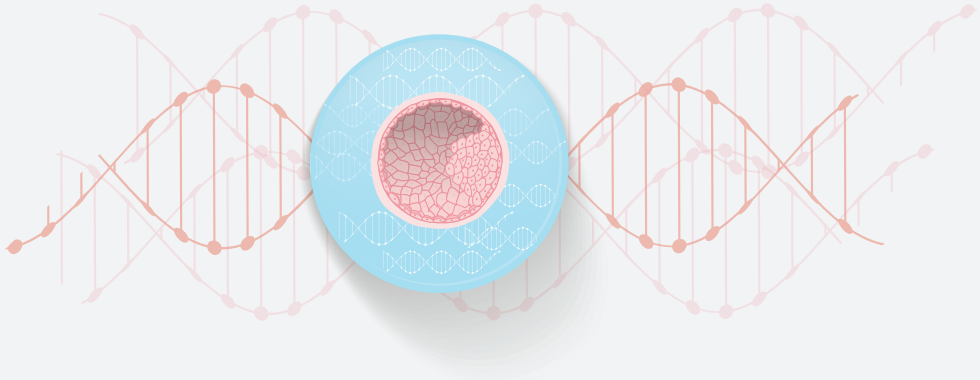
High concordance rates when comparing 1,301 embryonic cell-free DNA and trophectoderm DNA samples

The results of embryonic 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**



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

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