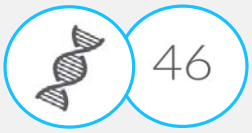
RHS
Reproductive Health Science

AT THE FOREFRONT OF
SINGLE CELL GENETIC ANALYSIS

EmbryoCellect™ General Information

Reproductive Health Science Ltd is a developer of advanced single cell genomic technologies with a focus on improving health and research outcomes.

EmbryoCellect™ is designed to increase the chance of a successful IVF cycle.



Aneuploidy

A typical human cell contains 46 chromosomes, including X and Y. In some cases, when an embryo forms it has an extra or missing chromosome and this is termed aneuploidy. In almost all cases, aneuploid embryos will not implant.

Pre-Implantation Genetic Screening (PGS)

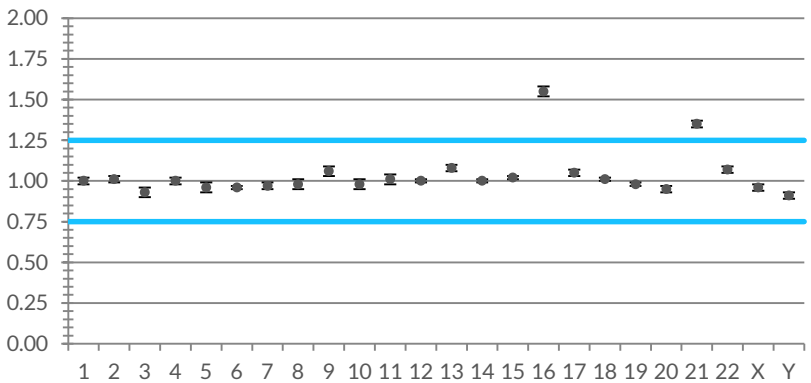
PGS assesses the loss or gain of whole chromosomes during in vitro culture of the embryo. It has been shown to improve IVF success rates and reduce miscarriage rates, particularly in women over 35 years of age.

More than 40% of healthy looking IVF embryos are aneuploid in women older than 35 years

PGS can increase the clinical pregnancy rate by around 50%

How EmbryoCellect™ works

EmbryoCellect™ uses microarray technology (Comparative Genomic Hybridisation or aCGH) to compare the number of chromosomes in a sample cell to a known reference sample. The samples are labelled with different fluorescent dyes and the amount of fluorescence is measured and compared for each chromosome. This provides a way to count the number of chromosomes in the test cell and uncomplicatedly detect whole chromosome aneuploidy.



This EmbryoCellect™ result was generated from a single fibroblast from a male cell line with trisomy for chromosomes 16 and 21 (48,XY,+16,+21).

← *Outliers indicating extra copies (trisomy) of chromosomes 16 and 21*

← *Equal number of chromosomes to the male reference*

EmbryoCellect™ is for research use only and is not for use in diagnostic procedures.

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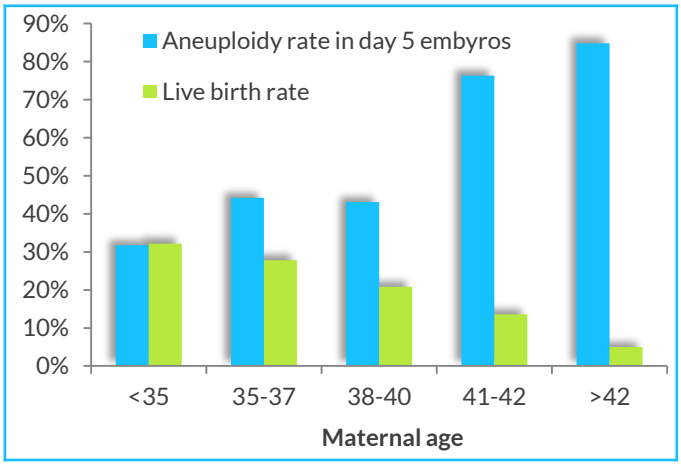
PGS

ADVANCED MATERNAL AGE

As a woman ages, the incidence of embryo aneuploidy increases. This is a leading cause of declining fertility. PGS offers IVF patients an opportunity to screen their embryos prior to transfer to increase the chance of success.



Sources; Jartpm et al 2013, Fert Steril Dec 100 (6): 1695-703
HFEA Fertility Treatment in 2012; trends and figures

In women 42 years or older, more than 90% of IVF embryos are aneuploid

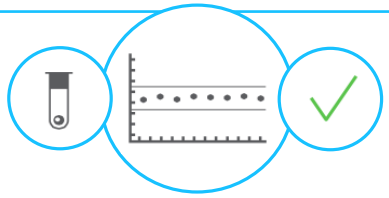
96% of aneuploid embryos fail to implant

RECURRENT MISCARRIAGE

As aneuploidy is a leading cause of miscarriage, PGS should reduce the rate of miscarriage by allowing the selection of an embryo with a good chance of leading to a successful pregnancy.

MULTIPLE FAILED CYCLES

Many embryos that appear to be growing healthily are aneuploid. Many failed cycles can be explained by the inadvertent transfer of an embryo with the wrong number of chromosomes.



The **EmbryoCellect™** test is simple and robust and the results are easy to interpret.

References: Harton et al, 2013 Fert Steril Dec 100 (6): 1695-703; HFEA Fertility Treatment in 2012: trends and figures; Scott et al 2012 Fert Steril Apr 97 (4): 870-5 & Yang et al, Mol Cytogenet. 2012, 5: 24.

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