

The importance of including ploidy analysis in your PGT-A test



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PGT-A with ploidy analysis may decrease miscarriage rates and improve overall success rates for IVF.^{1,2}

- 1 Girardi et. al, 2024. Incidence of haploidy and triploidy in trophectoderm biopsies of blasts derived from normally and abnormally fertilized oocytes.
- 2 Maternal age and genome-wide failure of meiotic recombination are associated with triploid conceptions in humans. Am J Hum Genet. 2025 Nov 6;112(11):2665-2678

What is the ploidy status of your embryo?

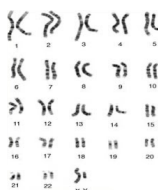
Ploidy is a term used in genetics to describe the number of complete sets of chromosomes in a cell. In humans, most cells are **diploid**, meaning they have two sets of chromosomes – one set from each parent.

An embryo can develop with only one set (haploid) or three sets (triploid) and appear “normal” with standard PGT-A testing performed with only NGS technology. NGS is validated to detect extra and missing copies of one or more chromosomes, but cannot detect changes in whole chromosome sets, such as haploid and triploid.

Why does this matter?

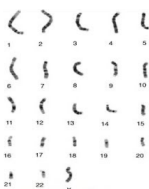
Haploid and triploid embryos can implant, and almost always result in miscarriage or early pregnancy loss¹, but may appear euploid or “normal” with standard PGT-A.

Diploid 46, XY



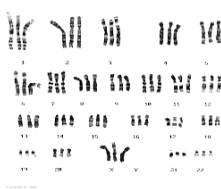
Two sets of each chromosome complement

Haploid, 23 X



One set of each chromosome complement

Triploid, 69 XXX



Three sets of each chromosome complement

1. Shi, Panlai, Wang, Conghui, Liang, Hongbin, Zhu, XiaoFan, Wang, Xinyan, Ni. causes of pregnancy loss: A closer look. Journal of Translational Medicine, 23,
2. Girardi et. al, 2024. Incidence of haploidy and triploidy in trophoctoderm biops
3. Maternal age and genome-wide failure of meiotic recombination are associated 2678. doi: 10.1016/j.ajhg.2025.09.014

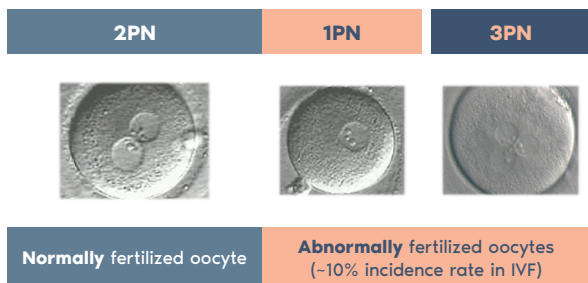
Benefits of Ploidy Analysis

An egg is characterized as being “normally fertilized” (and more likely to be euploid and diploid) when exactly two pronuclei (2PN) are visible (one from the egg, one from the sperm), along with two polar bodies. An “abnormally fertilized” oocyte will have either less than or more than two pronuclei. The most common are 0PN, 1PN, or 3PN.

How can ploidy help me in my IVF journey?

A picture may say a thousand words, but that’s not always the full story.

- 1. May reduce the risk of miscarriage:** Evidence shows that a small percentage of 2PN embryos are not diploid (less than 2%) and this phenomenon increases with age (up to four times the rate in patients over 40).^{2,3}
- 2. May increase the number of usable embryos:** While a 2PN, is still considered the gold standard, clinical evidence shows that with PGT-A testing that includes ploidy analysis, a percentage of abnormally fertilized embryos are chromosomally normal and could be candidates for transfer consideration.²



Not all PGT-A tests are created equal. Why not choose the one that gives you more answers?

Ask your physician about testing for ploidy abnormalities with Igenomix advanced PGT-A before your next transfer.



