

Challenging Mendel: Does the female egg woo sperm with specific genes?

[Researcher Jon Nadeau's] hypothesis—that the egg could woo sperm with specific genes and vice versa—is part of a growing realization in biology that the egg is not the submissive, docile cell that scientists long thought it was. Instead, researchers now see the egg as an equal and active player in reproduction, adding layers of evolutionary control and selection to one of the most important processes in life.

...

Nadeau hadn't set out to question Mendel. Instead, he wanted to know how interactions between two genes (Apobec1 and Dnd1) affected risks for testicular cancer, one of the most heritable forms of cancer. When Nadeau and his doctoral student Jennifer Zechel bred female mice carrying one normal and one mutant copy of Dnd1 with heterozygote Apobec1 males, everything appeared to follow Mendel's rules. So far, so good. But when they reversed the breeding (a female Apobec1 heterozygote mated with a male Dnd1 heterozygote), [things got weird](#): They found that only 27 percent of the expected offspring carried copies of mutant Apobec1, mutant Dnd1, or both, compared with the 75 percent they expected to see.

...

Step by step, Nadeau and his team eliminated every possible cause of these wonky ratios of offspring genotypes ... except one: that during fertilization, the egg and sperm were genetically biased against the mutant genotype.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Females' Eggs May Actively Select Certain Sperm](#)