

GENETICS OF MALE INFERTILITY: ADDING A NEW PIECE TO THE PUZZLE

A recent study published in PNAS (1) has revealed new insights into male fertility by investigating a gene cluster essential for sperm development. This cluster comprises 11 genes in humans and 13 similar genes in mice. The close genetic link between these genes suggests they have co-evolved to perform crucial functions within the mammalian reproductive system.

Using mice model and CRISPR/Cas9 gene-editing technology, researchers demonstrated that specific genes within the cluster are vital for the progression of sperm cells from round spermatids to elongated spermatids. Deleting various genes in different combinations resulted in distinct forms of sterility, underscoring their key role in sperm differentiation and motility.

The puzzle of the genetic basis of male infertility is gradually coming together, offering promising prospects beyond basic research. The authors highlight one key application: non-hormonal male contraception. Understanding the critical genes involved in sperm function paves the way for this future possibility.

1. <https://doi.org/10.1073/pnas.2413195121>