# MCM9 POLYMORPHISMS AND REDUCED RECOMBINATION OF CHROMOSOME 21 DURING MATERNAL MEIOSIS I

The reduction in the number of exchanges in early female meiosis has been repeatedly considered as the cause of chromosome non-disjunction, particular of chromosome 21. See the earlier post "Recombination failure in human oocites".

Are gene variants involved in this reduction? The authors of an article in PLoS Genetics[1] have identified a variant of the MCM9 gene, which is certainly involved in the reduction of recombinations; they also identified minor genes that influence the reduction or increase of recombination.

[1] Pal U, Halder P, Ray A, Sarkar S, Datta S, Ghosh P, Ghosh S: The etiology of Down syndrome: Maternal MCM9 polymorphisms increase risk of reduced recombination and nondisjunction of chromosome 21 during meiosis I within oocyte. **PLoS Genet** 17:e1009462 (2021)
*https://journals.plos.org/plosgenetics/article?id=10.1371/journal.pgen.1009462*