

## Abstract

### **Genomic instability in *Saccharomyces cerevisiae*.**

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Replication, repair and recombination takes place on the same substrate as transcription and, not surprisingly, there is a functional and physical connection between these processes. A number of conserved factors with a role in mRNP biogenesis, transcription and RNA export show a strong effect on different types of genetic instability, and recent experimental evidence suggests that transcription-mediated hyper-recombination can be mediated by replication fork impairment. A comparative molecular and genetic analysis of replication fork progression impairment as a source of hyper-recombination, the role of sister-chromatid exchange in double-strand break repair as well as data on new factors governing repair and hyper-mutation in association with transcription will be presented. Our work will provide new perspectives to understand the molecular basis for the origin of recombination-mediated genome instability.