

Perspectives

It takes two transposons to tango: transposable-element-mediated chromosomal rearrangements

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Abstract

Transposable elements (TEs) promote various chromosomal rearrangements more efficiently, and often more specifically, than other cellular processes¹⁻³. One explanation of such events is homologous recombination between multiple copies of a TE present in a genome. Although this does occur, strong evidence from a number of TE systems in bacteria, plants and animals suggests that another mechanism –alternative transposition –induces a large proportion of TE-associated chromosomal rearrangements. This paper reviews evidence for alternative transposition from a number of unrelated but structurally similar TEs. The similarities between alternative transposition and V(D)J recombination are also discussed, as is the use of alternative transposition as a genetic tool.