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Perspectives

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

Yasmine H.M. Gray ✉

Molecular Genetics and Evolution Group, Research School of Biological Sciences, Australian National University, Canberra, ACT 2601, Australia

Abstract

Transposable elements (TEs) promote various chromosomal rearrangements more efficiently, and often more specifically, than other cellular processes[1–3]. 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.