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Two breaks make a translocation

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There are [multiple ways](#) in which double-stranded breaks (DSBs) in DNA can be repaired or recombine with other DNA molecules. Under some of these conditions it is theoretically possible that a single DSB could invade a region of homology and cause a translocation. But in the 8 June [Nature](#) Richardson and Jasin find that mouse cells with a single DSB often repair the break with homologous sequences from another location, but only cells with two DSBs experience translocation events (*Nature* 2000, **205**:697-700). Richardson and Jasin introduce DSBs by adding a [rare-cutting restriction enzyme gene](#) and allowing the enzyme to act on a site within an introduced drug-resistance gene. This system should help in studies of how to suppress translocation events.

References

1. Homology-directed repair is a major double-strand break repair pathway in mammalian cells.
2. Nature Magazine, [<http://www.nature.com/nature/>]
3. Introduction of double-strand breaks into the genome of mouse cells by expression of a rare-cutting endonuclease.