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Mutating mice with oligos

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The results reported by Vasquez *et al.* in the 20 October [Science](#) sound like a dream come true: the induction, after a simple injection of oligonucleotides into adult mice, of site-specific mutations (*Science* 2000, **290**:530-533). The oligonucleotides are designed to form [triple helices](#) in polypurine regions with segments of mononucleotide repeats. The triple helix is thought to induce repair processes that often slip, producing short insertions or deletions near the site of the triple helix. Thus the mutagenesis is specific to a particular gene, but not to a particular base. The frequency of mutagenesis is also very low. Mice treated with five intraperitoneal injections of the oligonucleotide show mutation at the target gene at a rate of approximately 2.7×10^{-5} , or five times above background. Nevertheless, it is impressive that any oligonucleotide can make it from the peritoneum into the nuclei of cells in the liver, skin, kidney and other organs, and once there induce a mutation at a particular site on the chromosome.

References

1. *Science*, [<http://www.sciencemag.org/>]
2. Mutagenesis in mammalian cells induced by triple helix formation and transcription-coupled repair.

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