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Ribozyme targeting

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In the March 19 Proceedings of the National Academy of Sciences, Kashani-Sabet *et al.* describe the use of plasmid-based ribozymes as functional genomics tools to unravel complex phenotypes, such as cancer metastasis (*Proc Natl Acad Sci USA* 2002, 99:3878-3883). They reasoned that ribozyme-based gene targeting in mice might overcome experimental problems associated with transgenesis and lethal knockout phenotypes. They tested the use of systemic administration of cationic liposome:DNA complexes (CLDCs) to express hammerhead ribozymes in tumour-bearing mice; they targeted the p65 and p50 subunits of the NF-kappaB transcription factor using expression plasmids based on Epstein-Barr virus and including 35-bp ribozymes. They injected the CLDCs into the bloodstream of mice and noted a reduction in NF-κB proteins in metastatic tumour cells. The ribozymes affected the metastatic spread of melanoma cells; and the ribozymes appear to be more effective than antisense strategies, offering an experimental strategy to dissect complex traits in adult animals.

References

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