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Mammalian RNAi

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The RNA interference (RNAi) technique has been used to disrupt gene function in a range of model organisms, but its use in mammalian cells has been problematic. RNAi involves the ribonuclease-III-catalysed digestion of specific double-stranded RNA into 21-22 nucleotide small interfering RNA (siRNA) species. In the May 24 Nature, Elbashir *et al.* report the application of RNAi in cultured mammalian cells (*Nature* 2001, **411**:494-498). They designed 21-nucleotide siRNA duplexes, with symmetric two-nucleotide 3' overhangs, directed against luciferase reporter transgenes. They tested RNAi in a range of mammalian cell lines (COS, NIH3T3, HeLa and 293). The siRNA duplexes could reduce gene expression (although not completely) in a cell-type-specific manner. Elbashir *et al.* also demonstrated effective silencing of endogenous genes. RNAi techniques are significantly more efficient than current methods, such as antisense RNA. This study paves the way for wide-scale application of RNAi-driven silencing in a range of functional genomics approaches in mammalian systems.

References

1. RNA-triggered gene silencing.

2. *Nature*, [http://www.nature.com]