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dsRNA can turn off genes

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RNA interference (RNAi) is an elegant technique in which double-stranded RNA (dsRNA) can direct the degradation of homologous RNA species leading to post-transcriptional gene silencing. In the October 2 *EMBO Journal* Mette *et al.* extend dsRNA applications by showing that dsRNA corresponding to sequences from the nopaline synthase promoter (NOSpro) could disrupt transcriptional activation (*EMBO Journal* 2000, **19**:5194-5201). The dsRNA *trans*-silencing was accompanied by induced methylation of the target NOSpro locus. The formation of a NOSpro RNA hairpin was essential for transcriptional silencing. Analysis revealed that the NOSpro dsRNA is degraded into small RNAs 23-25 nucleotides long, as has been observed for RNAi in animal systems. They show that this dsRNA *trans*-silencing technique functions in transgenic tobacco plants, as well as *Arabidopsis* lines, suggesting that it could be widely applied as a strategy to turn off plant genes.

References

1. Potent and specific genetic interference by double-stranded RNA in *Caenorhabditis elegans*.
2. *EMBO Journal*, [<http://www.emboj.org/>]

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