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## Big DNA, small channels

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The key to pulsed-field gel electrophoresis (PFGE) is the relaxation of hefty DNA molecules when the current is reduced. Han and Craighead report achieving the same thing in the 12 May *Science* by using thick regions of microfabricated channels as relaxation chambers, with alternating thin regions performing the separation function (*Science* 2000, **288**:1026-1029). A thirty minute run through a channel (which has 75 nm diameter and 1.8 mm diameter regions repeated every 4 mm over a total length of 15 mm) suffices to separate a mixture of DNA with resolution comparable to an 11 hour PFGE run. Reducing the current allows sample concentration before a run, and the lack of gel matrix should facilitate the integration of this apparatus with other microfabricated devices.

## References

1. Science magazine, [<http://www.sciencemag.org/>]