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FLiP-ing insulators

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Insulators define independent genomic regions that are protected from the influence of distant regulatory sequences. In the 1 November *EMBO Journal*, Parnell and Geyer describe a novel application of the FLP recombinase to investigate the properties of two *Drosophila* insulators, called *gypsy* and *scs* (*EMBO J* 2000, **19**:5864-5874). Neither insulator affected FLP recombination and protein-protein interactions at adjacent recombination sites, suggesting that *gypsy* and *scs* do not act by general inhibition or chromatin structure rearrangement. The *gypsy* insulator could, however, block enhancer activity on extrachromosomal episomes created by FLP recombination, whereas the *scs* insulator acted as a gene silencer. So *gypsy* and *scs* appear to insulate genomic domains by two different enhancer-blocking mechanisms, which involve specific interference rather than global repression.

References

1. *EMBO Journal*, [<http://www.emboj.org>]
2. The FLP recombinase of yeast catalyzes site-specific recombination in the *Drosophila* genome.
3. DNA position-specific repression of transcription by a *Drosophila* zinc finger protein.
4. A group of *scs* elements function as domain boundaries in an enhancer-blocking assay.