Antirrhinum modifies *nivea* gene expression to give a novel flower color pattern under the control of *cycloidea*^{radialis}. *Plant Cell* 5, 1541–1553
11 Weil, C.F. and Wessler, S.R. (1993) Molecular evidence that chromosome breakage by *Ds* elements is caused by aberrant transposition. *Plant Cell* 5, 515–522
12 Ashburner, M. (1989) *Drosophila: A Laboratory Handbook*, Cold Spring Harbor Laboratory Press
13 Roberts, D.E. *et al.* (1991) IS*10* promotes adjacent deletions at low frequency. *Genetics* 128, 37–44
14 Chalmers, R.M. and Kleckner, N. (1996) IS*10*/Tn*10* transposition efficiently accommodates diverse transposon end configurations. *EMBO J.* 15, 5112–5122
15 English, J. *et al.* (1993) A genetic analysis of DNA sequence requirements for *Dissociation* state I activity in tobacco. *Plant Cell* 5, 501–514
16 English, J.J. *et al.* (1995) Aberrant transpositions of maize double *Ds*-like elements usually involve *Ds* ends on sister chromatids. *Plant Cell* 7, 1235–1247
17 Martin, C. *et al.* (1988) Large-scale chromosomal restructuring is induced by the transposable element Tam*3* at the *nivea* locus of *Antirrhinum majus*. *Genetics* 119, 171–184
18 Martin, C. and Lister, C. (1989) Genome juggling by transposons: Tam*3*-induced rearrangements in *Antirrhinum majus*. *Dev. Genet.* 10, 438–451
19 Coen, E.S. *et al.* (1986) Transposable elements generate novel spatial patterns of gene expression in *Antirrhinum majus*. *Cell* 47, 285–296
20 Robbins, T.P. *et al.* (1989) A chromosome rearrangement suggests that donor and recipient sites are associated during Tam*3* transposition in *Antirrhinum majus*. *EMBO J.* 8, 5–13
21 Svoboda, Y.H.M. *et al.* (1995) *P*-element-induced male recombination can be produced in *Drosophila melanogaster* by combining end-deficient elements in *trans*. *Genetics* 139, 1601–1610
22 Gray, Y.H.M. *et al.* (1996) *P*-element-induced recombination in *Drosophila melanogaster*. Hybrid element insertion. *Genetics* 144, 1601–1610
23 Preston, C.R. *et al.* (1996) Flanking duplications and deletions associated with *P*-induced male recombination in Drosophila. *Genetics* 144, 1623–1638
24 Beall, E.L. and Rio, D.C. (1997) Drosophila *P*-element transposase is a novel site-specific endonuclease. *Genes Dev.* 11, 2137–2151
25 McClintock, B. (1950) Mutable loci in maize. *Carnegie Institute of Washington Year Book* 49, 157–167
26 Ralston, E. *et al.* (1989) Chromosome-breaking structure in maize involving a fractured *Ac* element. *Proc. Natl. Acad. Sci. U. S. A.* 86, 9451–9455
27 Kunze, R. (1996) The maize transposable element *Activator* (*Ac*). In *Transposable Elements* (Saedler, H. and Gierl, A., eds.), pp. 161–194, Springer-Verlag
28 Gloor, G.B. and Lankenau, D.H. (1998) Gene conversion in mitotically dividing cells: a view from Drosophila. *Trends Genet.* 14, 43–46
29 Lankenau, D.H. and Gloor, G.B. (1998) *In vivo* gap repair in Drosophila: a one-way street with many destinations. *BioEssays* 20, 317–327
30 Martin, C. *et al.* (1988) Large-scale chromosomal restructuring is induced by the transposable element Tam*3* at the *nivea* locus of *Antirrhinum majus*. *Genetics* 119, 171–184
31 Coen, E.S. and Carpenter, R. (1988) A semi-dominant allele, *niv-525*, acts in trans to inhibit expression of its wild-type homologue in *Antirrhinum majus*. *EMBO J.* 7, 877–883
32 Delattre, M. *et al.* (1995) Prevalence of localized rearrangements vs. transpositions among events induced by *Drosophila P* element transposase on a *P* transgene. *Genetics* 141, 1407–1424
33 Kleckner, N. *et al.* (1996) Tn*10* and IS*10* transposition and chromosome rearrangements: mechanism and regulation in vivo and in vitro. In *Transposable elements* (Saedler, H. and Gierl, A., eds.), pp. 49–82, Springer-Verlag
34 Engels, W.R. (1996) *P* elements in *Drosophila*. In *Transposable Elements* (Saedler, H. and Gierl, A., eds), pp. 103–124, Springer-Verlag
35 Kleckner, N. (1990) Regulating Tn*10* and IS*10* transposition. *Genetics* 124, 449–454
36 Tomcsanyi, T. *et al.* (1990) Intramolecular transposition by a synthetic IS*50* (Tn*5*) derivative. *J. Bacteriol.* 172, 6348–6354
37 Turlan, C. and Chandler, M. (1995) IS*1*-mediated intramolecular rearrangements: formation of excised transposon circles and replicative deletions. *EMBO J.* 14, 5410–5421
38 Lichens-Park, A. and Syvanen, M. (1988) Cointegrate formation by IS*50* requires multiple donor molecules. *Mol. Gen. Genet.* 211, 244–251
39 Badía, J. *et al.* (1998) A rare 920-kilobase chromosomal inversion mediated by IS*1* transposition causes constitutive expression of the yiaK-S operon for carbohydrate utilization in *Escherichia coli*. *J. Biol. Chem.* 273, 8376–8381
40 Fugmann, S.D. *et al.* (2000) The RAG proteins and V(D)J recombination: Complexes, ends, and transposition. *Annu. Rev. Immunol.* 18, 495–527
41 Agrawal, A. *et al.* (1998) Transposition mediated by RAG1 and RAG2 and its implications for the evolution of the immune system. *Nature* 394, 744–751
42 Hiom, K. *et al.* (1998) DNA transposition by the RAG1 and RAG2 proteins: a possible source of oncogenic translocations. *Cell* 94, 463–470
43 Goryshin, I.Y. and Reznikoff, W.S. (1998) Tn*5* in vitro transposition. *J. Biol. Chem.* 273, 7367–7374
44 York, D. *et al.* (1998) Simple and efficient generation *in vitro* of nested deletions and inversions: Tn*5* intramolecular transposition. *Nucleic Acids Res.* 26, 1927–1933
45 Ingram, G.C. *et al.* (1998) The *Antirrhinum ERG* gene encodes a protein related to bacterial small GTPases and is required for embryonic viability. *Curr. Biol.* 8, 1079–1082
46 Ingram, G.C. *et al.* (1997) Dual role for *fimbriata* in regulating floral homeotic genes and cell division in *Antirrhinum*. *EMBO J.* 16, 6521–6534
47 Gray, Y.H.M. *et al.* (1998) Structure and associated mutational effects of the cysteine proteinase (CP1) gene of *Drosophila melanogaster*. *Insect Mol. Biol.* 7, 291–293
48 Rørth, P. (1996) A modular misexpression screen in *Drosophila* detecting tissue-specific phenotypes. *Proc. Natl. Acad. Sci. U. S. A.* 93, 12418–12422
49 Rørth, P. *et al.* (1998) Systematic gain-of-function genetics in Drosophila. *Development* 125, 1049–1057
50 Rubin, G.M. (1998) The Drosophila genome project: a progress report. *Trends Genet.* 14, 340–343
51 Spradling, A.C. *et al.* (1999) The BDGP gene disruption project: single *P*-element insertions mutating 25% of vital Drosophila genes. *Genetics* 153, 135–177
52 Spradling, A.C. *et al.* (1995) Gene disruptions using *P* transposable elements: an integral component of the Drosophila genome project. *Proc. Natl. Acad. Sci. U. S. A.* 92, 10824–10830
53 Parinov, S. *et al.* (1999) Analysis of flanking sequences from *Dissociation* insertion lines: A database for reverse genetics in Arabidopsis. *Plant Cell* 11, 2263–2270
54 Tissier, A.F. *et al.* (1999) Multiple independent defective suppressor-mutator transposon insertions in Arabidopsis: a tool for functional genomics. *Plant Cell* 11, 1841–1852

STOP PRESS • STOP PRESS • STOP PRESS

Antibacterial responses in *Drosophila* are the focus of several recent studies. The caspase encoding gene *dredd*, functions in an antibacterial pathway probably with *imd* and *relish*[1,2]. This conclusion is supported by results from Stöven *et al.*, who show that Relish processing and activation requires a functional *dredd* gene[3]. Two members of a *Drosophila* IκB kinase complex, the kinase DmIKKβ and the structural factor DmIKKγ,`` are required for antibacterial gene induction by LPS, regulate Relish phosphorylation and processing but are not required for Toll-mediated antifungal gene expression[4]. Mutations in the *DmIKKγ* gene block Relish-dependent immune induction of the genes encoding antibacterial peptides after infection[5]. Dredd, DmIKKβ, DmIKKγ, Imd and Relish may define a pathway that mediates *Drosophila* antibacterial responses. Finally, recent results show that the Jak–Stat signalling cascade regulates the expression of complement-like proteins in the *Drosophila* fat body after infection[6].

References

1 Elrod-Erickson, M. *et al.* (2000) Interactions between the cellular and humoral immune responses in *Drosophila*. *Curr. Biol.* 10 (13), 781–784
2 Leulier, F. *et al.* The *Drosophila* caspase Dredd is required to resist Gram-negative bacterial infection. *EMBO R.* (in press)
3 Stöven, S. *et al.* Activation of the *Drosophila* NF-κB factor Relish by rapid endoproteolytic cleavage. *EMBO R.* (in press)
4 Silverman, N. *et al.* (2000) A *Drosophila* IκB kinase complex required for Relish cleavage and antibacterial immunity. *Genes Dev.* (in press)
5 Rutschmann, S. *et al.* Role of Drosophila IKKγ in a Toll-independent antibacterial immune response. Nat. Immun. (in press)
6 Lagueux, M. *et al.* (2000) Constitutive expression of a novel complement like protein in Toll and Jak gain-of-function mutants of *Drosophila*. *Proc. Natl. Acad. Sci. U. S. A.* (in press)