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Runt repression

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The transcription factor **Runt** can repress expression of the *Drosophila* segment-polarity gene *engrailed* (*en*) in the odd-numbered stripes of expression seen in the developing *Drosophila* embryo. In an Advanced Online Publication in **Nature Genetics**, Wheeler *et al.* describe a genetic screen for factors that potentiate Runt activity (*Nature Genetics*, 29 July 2002, doi:10.1038/ng942). They identified genomic regions that dominantly suppress Runt-induced lethality and identified associated genes. This screen led them to four genes that encode repressors: *dCtBP*, *Groucho*, *Rpd3* and *tramtrack* (*ttk*). Analysis of *engrailed* expression in the different genotypes led them to a two-step model for Runt repression. Initiation of repression by Runt requires co-operation with Ttk, whereas maintenance after the blastoderm stage requires interaction with dCtBP, Groucho and Rpd3.

References

1. Mechanisms of transcriptional regulation by Runt domain proteins.
2. *Nature Genetics*, [<http://genetics.nature.com>]