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Mice without rings

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The Polycomb group (PcG) genes encode trans-acting regulators of homeotic gene expression patterns in *Drosophila*. Homologs of *Drosophila* PcG products have been identified in plants and mice. There is substantial biochemical evidence that the Ring1A protein is part of a mammalian multi-subunit PcG complex. It is, however, the only mammalian PcG gene for which there is no fly homolog identified and there is no proof of a PcG function for Ring1A. In the 2 November Development, Lorente *et al*. report the generation of loss- and gain-of-function alleles of murine *RING1A* to investigate its role *in vivo* (*Development* 2000, **127**:5093-5100). Ring1A-/- knockout mice exhibit homeotic transformations and skeletal abnormalities. Lorente *et al*. report that Ring1A deficiency leads to anterior transformations, in contrast to the posterior effects of other PcG mutations in mice. Heterozygote Ring1A+/- animals show similar abnormalities, suggesting that dosage requirements for Ring1A are more critical than for other PcG genes. Finally, overexpression of Ring1A causes axial skeleton defects, showing the amount of Ring1A expression is important.

References

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