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A second HP1

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The packaging of DNA into condensed heterochromatin structures results in gene silencing. HP1 (heterochromatin protein 1) is located in pericentric heterochromatin and maintains the heterochromatic state by interacting with modified histones and the modifying enzymes. In the Early Edition of the Proceedings of the National Academy of Sciences, Shaffer *et al.* report the discovery of a second heterochromatin protein in Drosophila melanogaster. They used the yeast two-hybrid protein interaction assay to search for HP1-interacting proteins, and identified HP2. The carboxy-terminal region of HP1 is required for interaction with HP2. The HP2 protein is a large chromosomal protein with two AT-hook regions, and it is co-distributed with HP1 in pericentric heterochromatin. Shaffer *et al.* cloned the *Drosophila* HP2 gene and demonstrated that mutation of the gene results in suppression of the gene regulation phenomenon known as position effect variegation (PEV).

References

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