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Heterochromatin interactions

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The human AF10gene has been associated with chromosomal translocation in acute leukemias. In the March 15 EMBO Reports, Linder *et al*. describe their study of the *Drosophila* AF10 homolog, *dAF10*, in an attempt to understand its function (*EMBO Reports* 2001, **2:**211-216). They isolated the *dAF10* gene from a database screen and show that it codes for four transcripts that are differentially expressed during fly embryogenesis. The dAF10 protein contains a PLVVL pentamer motif that mediates interaction with the fly heterochromatin protein 1 (HP1), which is encoded by the *Su(var)2-5* gene. Linder *et al*. characterized mutations of the *dAF10* gene to demonstrate that dAF10 is a functional repressor component of heterochromatin and that the gene genetically interacts with *Su(var)2-5* in suppression of position effect variegation (PEV).

References

1. The t(10;11) translocation in acute myeloid leukemia (M5) consistently fuses the leucine zipper motif of AF10 onto the HRX gene.

2. Translocations, fusion genes, and acute leukemia.

3. *EMBO Reports*, [http://embo-reports.oupjournals.org/]

4. Berkeley *Drosophila* genome project, [http://www.fruitfly.org/]

5. The HP1 chromo shadow domain binds a consensus peptide pentamer.

6. The Polycomb protein shares a homologous domain with a heterochromatin-associated protein of Drosophila.