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PaperPick

Transposon Silencing of Small RNAs

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Transposons and fragments of transposable elements make up approximately half of the human genome; mobilization of these elements can destabilize the genome and lead to disease-associated mutations. In 2003, miRNAs and siRNAs were known to silence target mRNAs, but small RNAs had not been directly linked to transposon control. In August of that year, Aravin et al. reported the developmental profile of *Drosophila* small RNAs by using conventional sequencing technology. These pioneering studies identified a novel class of "repeat associated" siRNAs and hypothesized that they control transposon activity and chromatin structure. It is now clear that these "rasiRNAs" bind to Piwi clade Argonaute proteins and that Piwi-interacting RNAs (piRNAs) have a conserved function in genome maintenance and germline development.

This PaperPick refers to "The Small RNA Profile during *Drosophila melanogaster* Development" by A.A. Aravin, M. Lagos-Quintana, A. Yalcin, M. Zavolan, D. Marks, B. Snyder, T. Gaasterland, J. Meyer, and T. Tuschl, published in August 2003.