

mRNA regulation by deadenylation and small non-coding RNA during *Drosophila* early development



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*mRNA regulations are crucial for many developmental processes. Our group is interested in mRNA regulations during development and disease. We focus on translational regulations by variations in poly(A) tail length of mRNAs, in the *Drosophila* model.*

Maternal mRNA decay at the maternal-to-zygotic transition is an essential process for early development in many species. We are deciphering the mechanisms of this decay and have recently implicated one of the RNA silencing pathway, the piRNA pathway. This pathway is known to be required for the regulation of transposable elements in the germline. Therefore, our recent finding identifies a novel function for this RNA silencing pathway in the regulation of maternal mRNAs. Because piRNAs involved in maternal mRNA regulation are actually produced from transposable elements, our results propose a direct developmental function of transposable elements in the regulation of gene expression.