



Genome defense and germline genome regulation



Peter Andersen Lab



Research topic

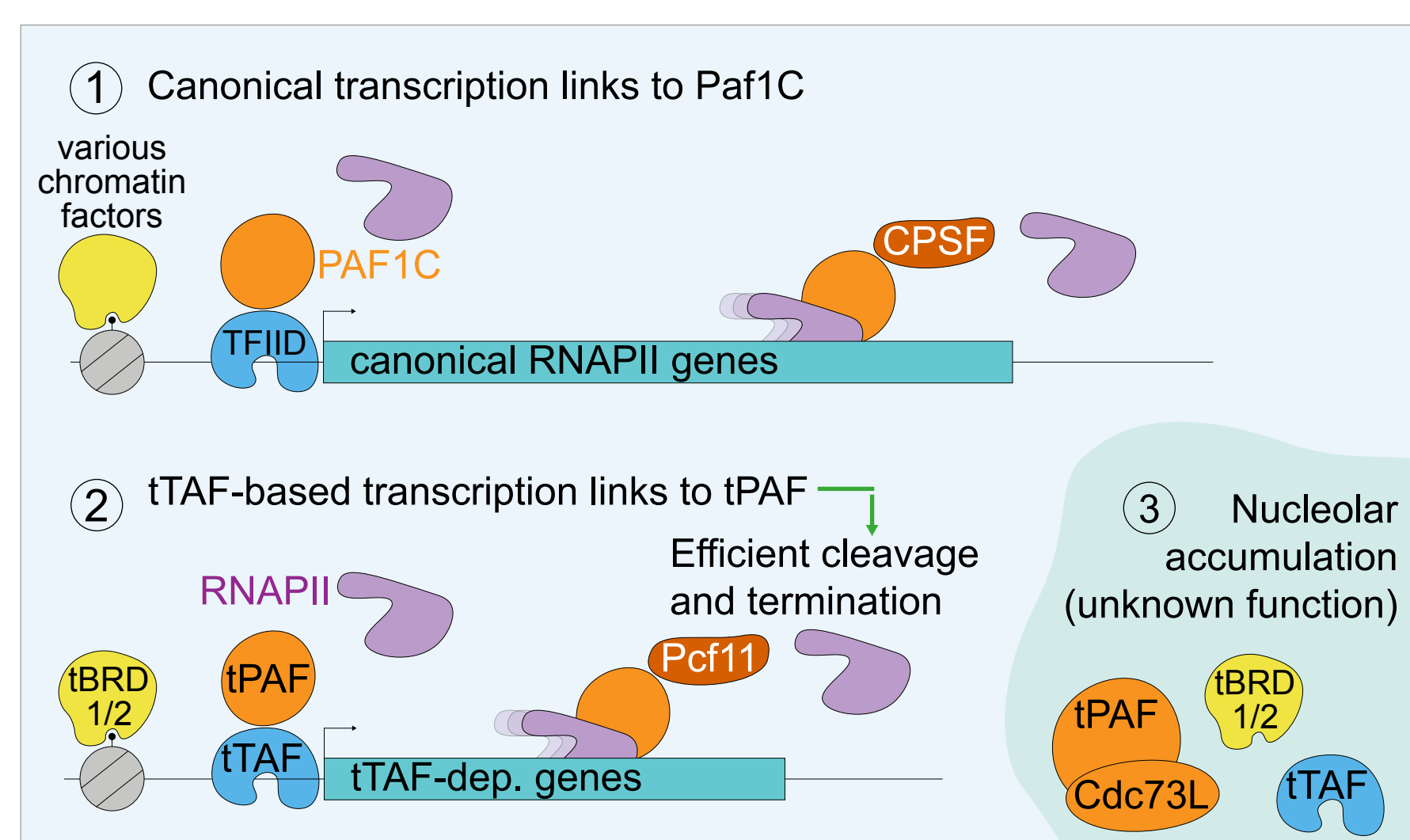
Despite its often harmonic appearance, all life forms exist in a constant evolutionary arms race – also within species where selfish genetic elements such as transposons have often opposing evolutionary ‘interests’ to the host genome. An arms race is a state of rapid innovation and in biology innovation takes place by changes in the function of genes or by the emergence of entirely new genes.

We study the functional innovation and genetic conflicts within animal germline genomes to uncover:

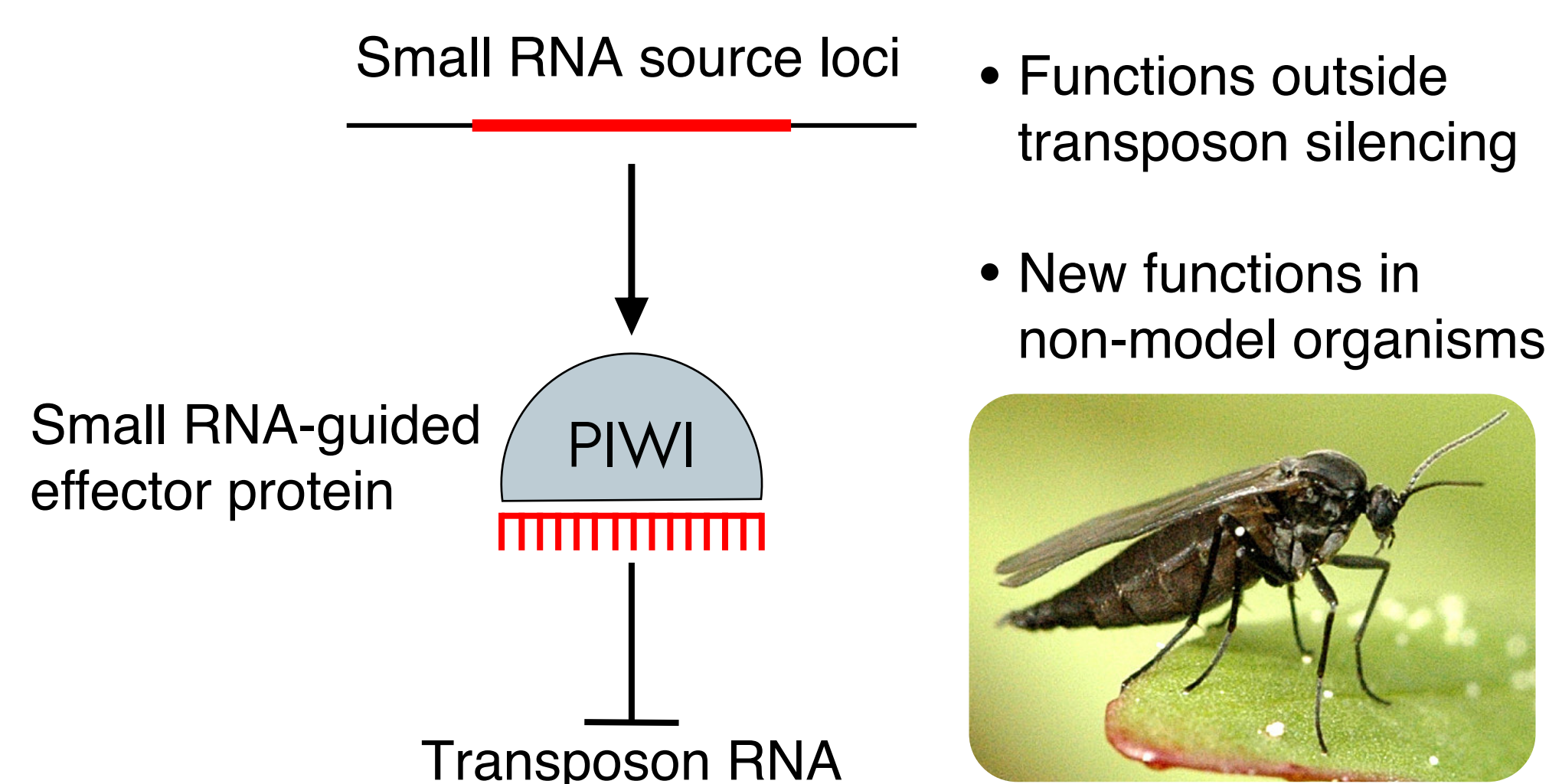
- How germline genomes are regulated to enable gametogenesis
- The molecular mechanisms underlying arms race evolution of intragenomic conflicts (e.g. host genome vs transposon)

Project examples

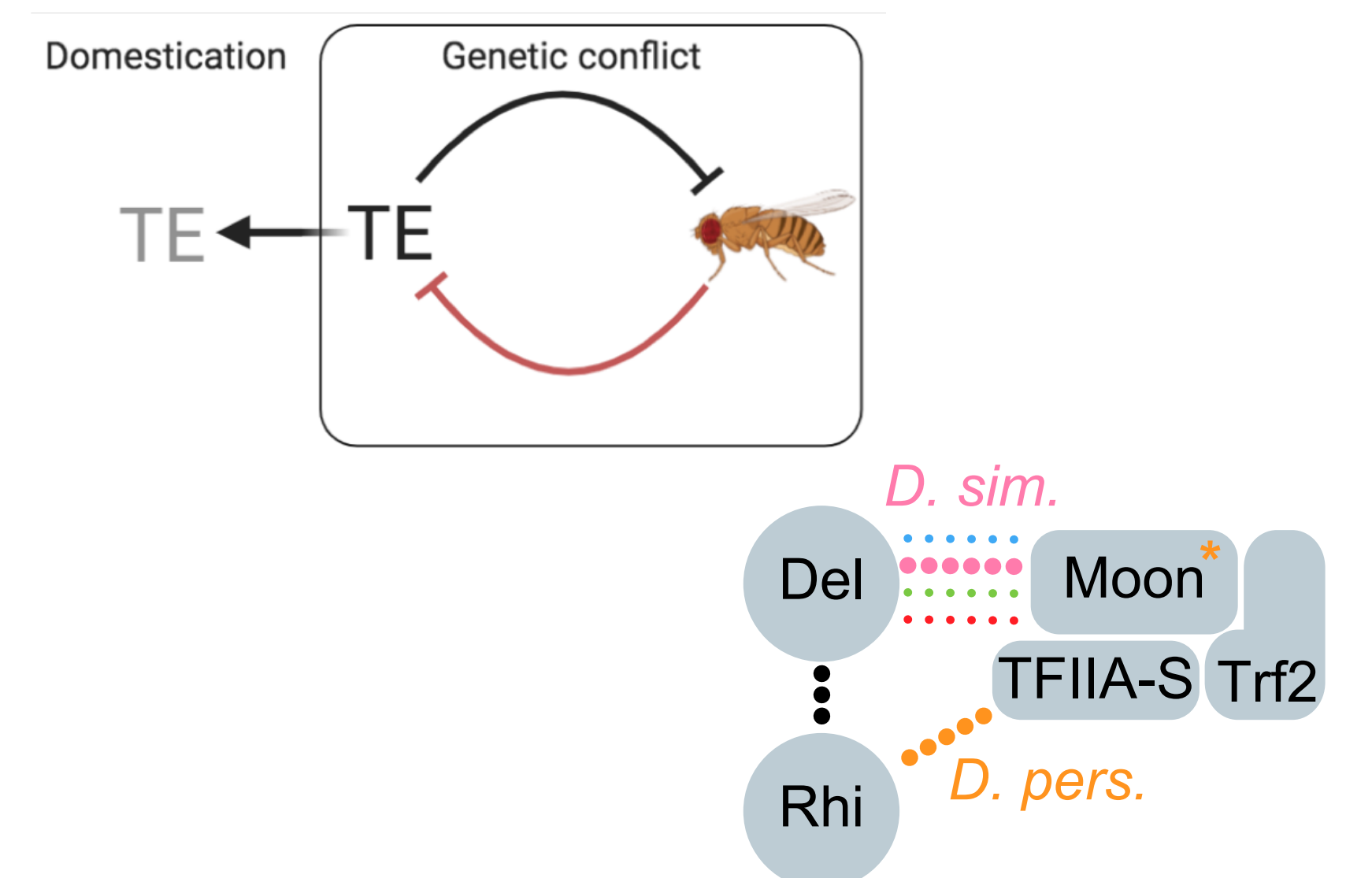
Uncover germline-specific gene expression programs



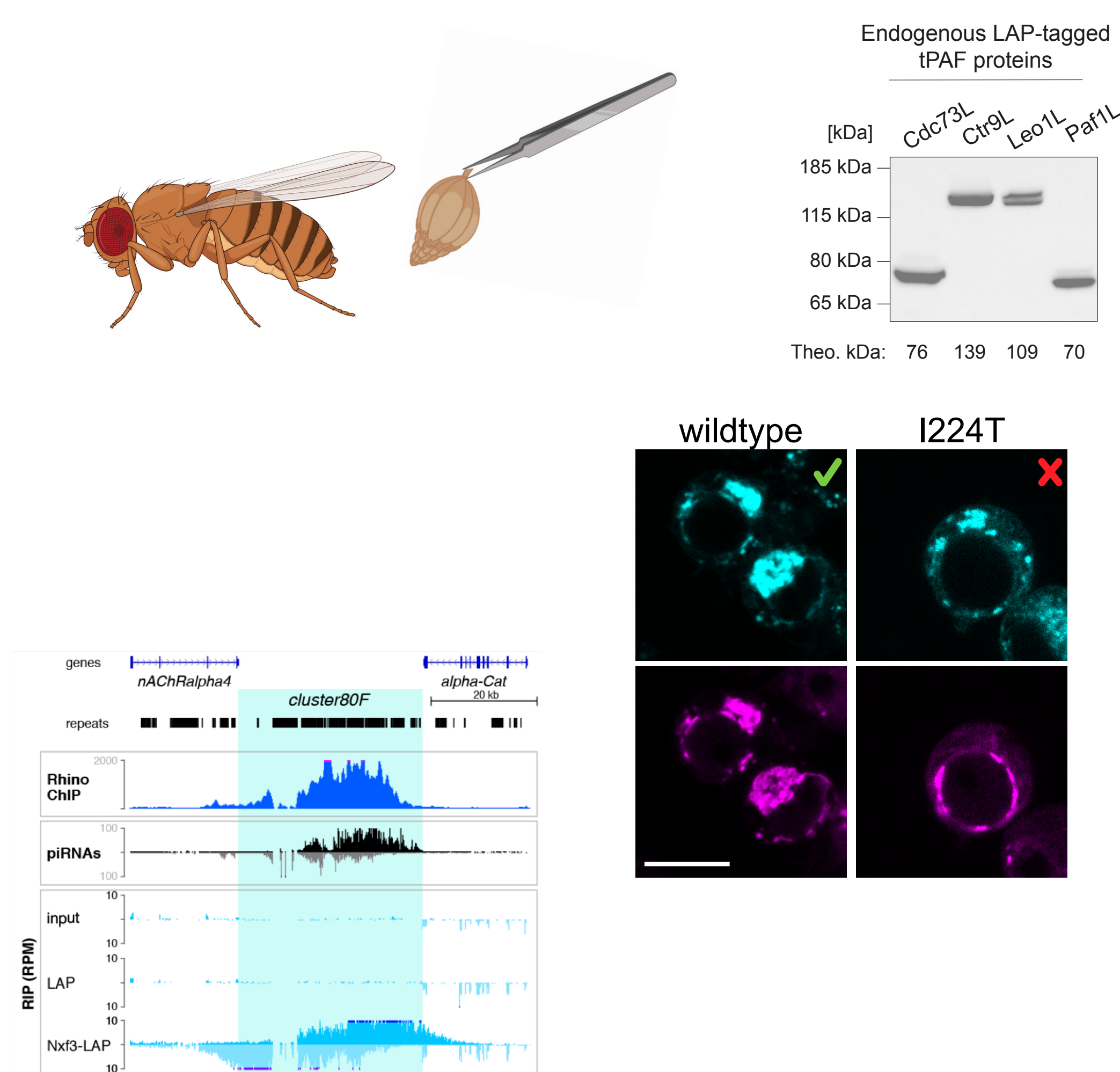
Explore new roles for small RNA-mediated genome regulation



Genetic conflicts and rapid innovation of genome regulation



Core methods



Core mol. bio. methods +
Cell culture (in vitro)
Fruit fly genetics (in vivo)
Confocal microscopy
Protein interaction tests
RNA analysis (HTseq, qPCR)
Evolutionary analyses

