

Evidence of abundant stop codon readthrough in *Drosophila* and other metazoa

When encountering the stop codons of certain genes, ribosomes will insert a standard amino acid and continue translating, instead of stopping. While such stop codon readthrough occurs in many viral genomes, it has been observed for only a handful of eukaryotic genes. In 2007, Mike Lin found comparative genomics evidence that for 149 *Drosophila* genes the open reading frame following the stop codon is protein-coding, hinting that stop codon readthrough might be common in *Drosophila*. We have applied a wealth of bioinformatics techniques and genome-wide data sets to:

- Obtain further evidence of translation downstream of these stop codons.
- Rule out explanations other than readthrough.
- Find clues about the mechanism of readthrough.
- Find readthrough in other species and determine the phylogenic extent of abundant readthrough.