

Researchers explore genetic complexities of sex determination

Men and women differ in plenty of obvious ways, and scientists have long known that genetic differences buried deep within our DNA underlie these distinctions. In the past, most research has focused on understanding how the genes that encode proteins act as sex determinants.

But Cold Spring Harbor Laboratory (CSHL) scientists have found that a subset of very small genes encoding short RNA molecules, called microRNAs (miRNAs), also play a key role in differentiating male and female tissues in the fruit fly.

A miRNA is a short segment of RNA that fine-tunes the activation of one or several protein-coding genes. miRNAs are able to silence the genes they target and, in doing so, orchestrate complex genetic programs that are the basis of development.

In work published in *Genetics*, a team of CSHL researchers and colleagues describe how miRNAs contribute to sexual differences in fruit flies. You've probably never noticed, but male and female flies differ visibly, just like other animals. For example, females are 25% larger than males with lighter pigmentation and more abdominal segments.

Read the full, original story: [More than just X and Y: a new genetic basis for sex determination](#)