Genes ‘jump’ from one cell to another in patterned ways

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While jumping genes may seem to hop pell-mell through the genomes of host cells, potentially triggering transcriptional and mutational surprises, they betray at least one kind of regularity—the rate at which they leap to and fro. This rate does not fluctuate at random. Rather, it seems to depend on the host cell’s growth and environmental factors.

This result emerged from studies conducted at the University of Illinois at Urbana–Champaign, where scientists were dissatisfied with existing methods for studying jumping genes, or transposable elements (TEs).

Rather than rely on these methods, which are bulk techniques that average results from multiple cells, the scientists developed a fluorescent protein–based reporting system that allowed them to focus on individual cells. That way, instead of having to make do with time and cell ensemble averages, the researchers could capture cell-to-cell variation and temporal variability in individual cells. In short, the scientists found a way to observe jumping genes in action directly, in real time.

Read full, original post: Jumping Gene Activity Not Random