

The smallest bacterial genome, in context

In recent years, scientists have systematically shut down each of *E. coli*'s genes to see which it can live without. Most of its genes turn out to be dispensable. Only 302 have proved to be absolutely essential.

In the search for the most minimal genome, researchers have found a bacterial species with an smaller genome—about 120 genes. A closer look reveals that the species survive with such a stripped-down genetic setup only because the bacteria's host—a mealybug—adopted some of the bacteria's former DNA.

Read the full article here: [How Simple Can Life Get? It's Complicated](#)

Additional Resources:

- [“The complexity of simplicity,”](#) Genome Biology

Read about the idea of a minimal genome in this paper from the journal Genome Biology.

- “First self-replicating synthetic bacterial cell,” J. Craig Venter Institute
Biologist Craig Venter used his research, including work on understanding the minimal genome concept, to create the world's first synthetic genome. Learn more about the work at the Institute website.