

Bacteria in isolation mutate more

Bacteria that have no friends don't get sad; they get weird. When *E. coli* cells sense fewer other bacteria around them, their DNA starts to mutate at a faster rate. That's bad news for humans and our antibiotics. But if we can make bacteria feel less alone, we might be able to slow down their destructive rampages.

"Personally, I find it pretty surprising that this hasn't been pinned down before," says Christopher Knight, a lecturer in the University of Manchester's Faculty of Life Sciences. The discovery didn't take any kind of high-tech tests. Lead author Rok Krasovec, a member of Knight's research group, simply grew *E. coli* bacteria in varying amounts of food. Cells with more food went through a greater number of generations every day, creating denser populations; those with less food multiplied more slowly.

Then Krasovec treated the cells with rifampicin, an antibiotic that's used for TB. After the treatment, he counted up the survivors—bacteria that had developed resistance to that antibiotic through a random, lucky mutation. Cells growing at the lowest densities, he found, had about 3 times more mutations than those at the highest densities.

Read the full, original story: [Lonely Bacteria Mutate Faster](#)