

Highlight: Bacterial biofilms make the seeds of their own undoing

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The slime on your shower walls, the plaque on your teeth, the coatings that can form on medical instruments or hospital surfaces--all of these are bacterial biofilms, communities of bacteria that can persist despite scrubbing or even antibiotic treatment.

New research shows that at least one type of [bacteria](#), *Bacillus subtilis*, produces certain [amino acids](#) that actually prevent biofilm formation and trigger the breakdown of existing biofilms, researchers report in the April 30 issue of *Science*.

As biofilms age, their nutrient supply decreases, waste products accumulate, and it becomes more advantageous for the [cells](#) to return to their individual, free-floating forms.

Ilana Kolodkin-Gal and colleagues have found that *B. subtilis* bacteria secrete an unusual type of amino acid, D-amino acid, which releases them from the aging communities. D-amino acids, which are produced by many bacteria, may be a widespread signal for biofilm disassembly, according to the authors, who suggest that these amino acids could be useful in medical or industrial settings as anti-biofilm agents.

More information: "D-Amino Acids Trigger Biofilm Disassembly," by I. Kolodkin-Gal; *Science*, April 30.

Provided by AAAS

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