

# Drug-resistant bacteria can be controlled

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U.S. medical scientists have discovered a technique that might allow them to control drug-resistant bacteria.

The Harvard Medical School researchers discovered certain combinations of antibiotics favor the growth of non-resistant strains at the expense of resistant ones. That finding might help combat the spread of such microbes, as well as shed light on microbial ecology and evolution.

Roy Kishony, an assistant professor of systems biology, and colleagues discovered that antagonistic drug combinations, in which the drugs' cumulative effects are less than when they are given separately, show such properties. At sub-lethal concentrations a mixture of doxycycline and ciprofloxacin preferentially selects for wild-type *Escherichia coli* bacteria over that of a doxycycline-resistant strain in a laboratory culture.

The finding, said Kishony, is surprising and counter-intuitive, since the use of antibiotic drugs is responsible for the generation and selection of resistant bacterial pathogen strains. But the study showed that with the right combinations and concentrations, non-resistant bacterial strains can be selected.

The research is detailed in this week's issue of the journal *Nature*.

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