

Language of bacteria may hold key to preventing resistance

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Insights into how bacteria “talk” to each other could help scientists to halt their growing resistance to antibiotics.

A new study at the University of Edinburgh has revealed that bacteria use a form of communication similar to human language, but using chemical signals instead of words. This enables bacteria to thrive, and researchers hope that by interpreting it they can develop drugs without bacteria developing resistance.

The Edinburgh researchers found that bacteria recognise their environment by producing and responding to chemical compounds, which act as messages. The team found that bacteria responded differently to a combination

of two messages than they did to either by itself. It is thought that more subtle interventions, blocking only specific signals that can harm people, may be equally effective at treating infections without leading to resistance.

Sam Brown, of the university’s school of biological sciences, said: “We’re only beginning to scratch the surface of the complexity of bacterial social life and its consequences for disease. Decoding their language is an important step towards placing our own communication in a broader biological context, as well as opening a new front in the search for mechanisms to control infections.”

The study, with Nottingham and Durham universities, has been published in the journal *Proceedings of the National Academy of Sciences*.

