

# No hiding place for infecting bacteria

March 16 2009

---

Scientists in Colorado have discovered a new approach to prevent bacterial infections from taking hold. Writing in the *Journal of Medical Microbiology*, Dr Quinn Parks and colleagues describe how they used enzymes against products of the body's own defence cells to prevent *Pseudomonas aeruginosa* bacteria from building a protective biofilm which enables them to avoid both the body's immune mechanisms and antibiotics.

When the body's defence [cells](#), called neutrophils, attack *P. aeruginosa*, the cell contents - including a protein called F-actin and the cell's DNA - are released. *P. aeruginosa* uses these cell proteins as a scaffold to build a protective biofilm making these infections very difficult to treat. *P. aeruginosa* biofilms cause disease in burns, wounds, contact lens infections and are particularly prevalent in the lungs of [cystic fibrosis](#) patients.

"We specifically targeted the F-actin protein with a negatively charged peptide, and the DNA with the enzyme DNase, which both prevented and disrupted the formation of *P. aeruginosa* biofilms in the presence of human neutrophils." said Dr Parks. "These results suggest a new combined therapeutic strategy for the treatment of *P. aeruginosa* infections.

Source: Society for General Microbiology

Citation: No hiding place for infecting bacteria (2009, March 16) retrieved 26 April 2024 from <https://phys.org/news/2009-03-infecting-bacteria.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.