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THE DISTILLERY

This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Infectious disease				
Bacterial infection	Not applicable	*In vitro* and mouse studies suggest that engineered bacteriophages could be used as adjuvants to antibiotics for treating bacterial infection. In a wide spectrum of *Escherichia coli* strains, including drug-resistant strains, combining an engineered phage targeting the bacterial DNA repair system with an antibiotic of the quinolone, aminoglycoside or β-lactam class increased bacterial death by 2–4 orders of magnitude compared with that seen using antibiotic treatment alone. Eighty percent of *E. coli*–infected mice treated with ofloxacin plus phage survived compared with 20% survival of mice treated only with ofloxacin. Additional *in vitro* experiments showed that phage targeting non-DNA repair mechanisms were also effective antibiotic adjuvants. Ongoing work includes evaluating the use of this technology for specific infectious diseases and investigating ways to overcome phage-associated hurdles for clinical use. No fewer than 14 companies have antibiotics that are marketed or approved to treat a range of bacterial infections. No fewer than 30 companies have antibiotics in Phase III testing to treat a wide range of bacterial infections. More than 30 companies have antibiotics in preclinical to early-stage clinical testing to treat bacterial infections.	Patented; available for licensing	Lu, T. & Collins, J. *Proc. Natl. Acad. Sci. USA*; published online March 2, 2009; doi:10.1073/pnas.0800442106 **Contact:** James J. Collins, Boston University, Boston, Mass. e-mail: jcollins@bu.edu

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