This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Infectious disease				
Bacterial infection	Bacterial RNA polymerase (RNAP)	<p>Crystallography and <i>in vitro</i> studies on bacterial RNAP may be useful for the rational design of new antibiotics. Crystallography and <i>in vitro</i> assays showed that myxopyronin, an antibiotic, inhibits transcription by binding to a subregion of RNAP and preventing the polymerase from interacting with promoter DNA. Similar studies with coralopyronin and ripostatin, which are also antibiotics, have a mechanism that is similar to myxopyronin. The compounds interact with residues that are conserved in both Gram-positive and Gram-negative bacterial RNAP and with residues that are not conserved in eukaryotic RNAP. Next steps include using the structural and mechanistic data to screen for or rationally design region-specific RNAP inhibitors.</p> <p>Rifaximin rifaximin, a nonabsorbed broad-spectrum antibiotic targeting bacterial RNAP from Salix Pharmaceuticals Ltd., is marketed to treat diarrhea.</p> <p>SciBX 1(39); doi:10.1038/scibx.2008.950 Published online Oct. 30, 2008</p>	Multiple patent cooperation treaty patents pending for assays and compounds targeting RNAP; available for licensing from Rutgers University Office of Corporate Liaison and Technology Transfer	<p>Mukhopadhyay, J. <i>et al. Cell</i>; published online Oct. 16, 2008; doi:10.1016/j.cell.2008.09.033</p> <p>Contact: Richard H. Ebright, Rutgers University, Piscataway, N.J. e-mail: ebright@mbcl.rutgers.edu</p> <p>Contact: Eddy Arnold, same affiliation as above e-mail: arnold@cabm.rutgers.edu</p>