

7.27 Spring 2006

Questions on Drusano paper:

1. Explain why penicillin is relatively concentration independent in its kill rate once the MIC is achieved, while streptomycin shows a significant increase in kill rate as the concentration of drug is increased several fold above the MIC?
2. Three of the seven drugs tested in Figure 3 are in clinical use. Which drugs shown in the figure are least likely to be the ones in clinical use? Explain why.
3. Explain how Drusano could have generated the daughter strains used for the experiment shown in Figure 4.
4. Based on the discussion in Box 2, explain why achieving a drug dose significantly above the MIC may be helpful in preventing the emergence of a drug resistant bacterial population during treatment.