



Keynote Lecture 1.2

Discovering New Antimicrobial Agents

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Despite widespread emergence of resistance to currently available antimicrobial agents, the deployment of new agents effective against multi-resistant organisms has steadily declined in the past quarter century. The reason for this includes the fact that most of the easy targets allowing selective toxicity have been discovered and the fact that it is increasingly costly to bring new antimicrobials to the market. In addition, the recent regulatory atmosphere in the United States has also put a chilling effect on the discovery of new antimicrobials, particularly for outpatient use. Despite this, a good deal of activity to find new agents is continuing, not only among big pharmaceutical companies, but also among a large number of biotechnology companies. The search for novel "classic" antimicrobials is continuing, but has not yielded positive results in recent years. Chemical modification of currently known agents to overcome resistance has resulted in several drugs that are now on their way to clinical development as has the development of potentiators of known antimicrobials. The development of inhibitors of new targets in bacterial cellular function is a major focus of many of the biotechnology companies and has resulted in the discovery of drugs that inhibit lipid biosynthesis, inhibit bacterial peptide deformylase, and destroy bacteria at the membrane level. A variety of other new targets are being studied as well. Additional approaches include the possibility of developing inhibitors of bacterial mutation and inhibiting genes relating to bacterial pathogenesis. The likelihood of developing successful antimicrobials from these approaches remains to be determined.