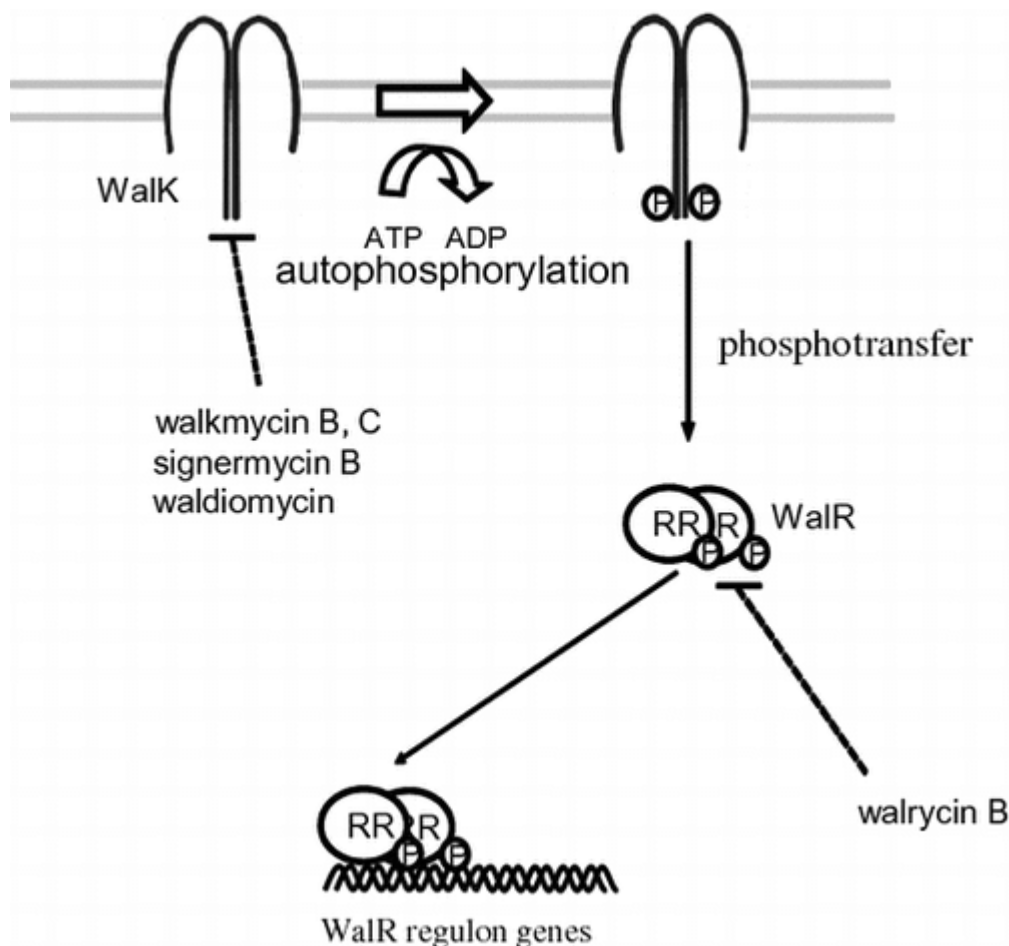


Bacterial cells possess a signal transduction system that differs from those described in higher organisms, including human cells. These so-called two-component signal transduction systems (TCSs) consist of a sensor (histidine kinase, HK) and a response regulator, and are involved in cellular functions, such as virulence, drug resistance, biofilm formation, cell wall synthesis, cell division. They are conserved in bacteria across all species. Although TCSs are often studied and characterized individually, they are assumed to interact with each other and form signal transduction networks within the cell. In this review, I focus on the formation of TCS networks via connectors. I also explore the possibility of using TCS inhibitors, especially HK inhibitors, as alternative antimicrobial agents.



Bacterial signal transduction and drug discovery.