

Siderophores : microbial tools for iron uptake and resistance to other metals.

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Streszczenie

Metal ions can have a twofold effect on all living organisms, both essential, allowing to perform vital functions, and toxic. To receive the indispensable and to deal with toxic metals, microorganisms have developed mechanisms to control the level of the absorption, storage, and elimination of metal ions. One of the known systems is siderophore-mediated uptake, mainly applied to the iron assimilation, but it has been proven that microbial pathogens utilize structurally diverse siderophores to scavenge and control other metals. This ability not only allows bacteria and fungi to gain the necessary nutrients like iron but also provides protection against the toxic metal ions. Here, the interactions of bacterial and fungal siderophores with essential and heavy metal ions and actinides are reported.

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