Role and prevalence of antibiosis and the related resistance genes in the environment - DTU Orbit (13/01/2019)

Role and prevalence of antibiosis and the related resistance genes in the environment

It becomes increasingly clear that the basis of antibiotic resistance problem among bacterial pathogens is not confined to the borders of clinical microbiology but has broader ecological and evolutionary associations. This Research Topic “Role and prevalence of antibiosis and the related resistance genes in the environment” in Frontiers in Microbiology: Antimicrobials, Resistance, and Chemotherapy presents the examples of occurrence and diversity of antibiotic resistance genes (ARGs) in the wide range of environments, from the grasslands of the Colombian Andes, to the dairy farms and small animal veterinary hospitals in the United States, and to the various environments of Continental Europe and Indochina. Besides, various genetic mechanisms and selection/co-selection factors contributing to the dissemination and maintenance of ARGs are presented. The topic is finalized by the mathematical modeling approach to access the probability of rare horizontal gene transfer (HGT) events in bacterial populations.

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