Anaerobic bacteria as producers of antibiotics.

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Projects

Genome mining of Gram-positive bacteria for secondary metabolites
Details

Abstract

Anaerobic bacteria are the oldest terrestrial creatures. They occur ubiquitously in soil and in the intestine of higher organisms and play a major role in human health, ecology, and industry. However, until lately no antibiotic or any other secondary metabolite has been known from anaerobes. Mining the genome sequences of Clostridium spp. has revealed a high prevalence of putative biosynthesis genes (PKS and NRPS), and only recently the first antibiotic from the anaerobic world, closthioamide, has been isolated from the cellulose degrading bacterium Clostridium cellulolyticum. The successful genetic induction of antibiotic biosynthesis in an anaerobe encourages further investigations of obligate anaerobes to tap their hidden biosynthetic potential.

Identifier

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