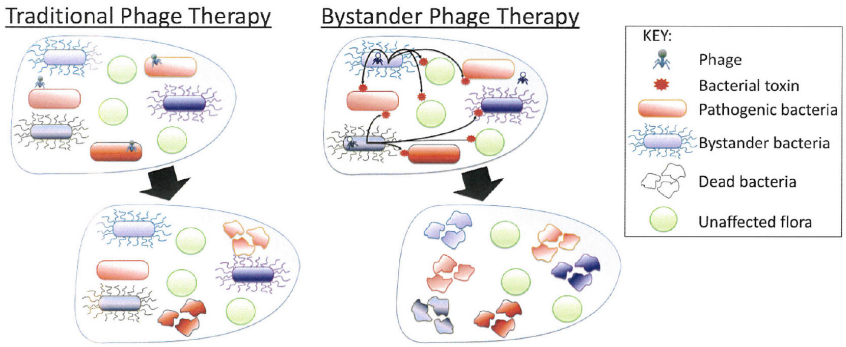
System and Method for Treating a Disease or Bacterial Infection – Bystander Phage Therapy

BYU #2018-037

DESCRIPTION

This technology is based on the use of phages infecting a bacteria and, as a byproduct of phage infection, antimicrobial components are released that can kill nearby infectious pathogens. The phages infect bacteria present in the same location as the pathogen and can kill the pathogen via antimicrobial production, whether the pathogen be a bacterial pathogen or other infectious organism.



Differences between traditional phage therapy and bystander phage therapy.

PROBLEM SOLVED

Antibiotics and antimicrobials are used to treat pathogenic organisms but have disadvantages of resistance in the pathogens they treat. Phages can also be used to treat bacterial infections directly but have a disadvantage of only killing the specific strain of the species they target. This invention presents a new alternative approach for phage therapy and was developed to treat a disease using phages that may or may not be specific for a pathogenic host bacterium. The advantage of this approach is that not all strains of a pathogenic bacterium need be identified because the phages target nearby bacteria and induce the release of antimicrobial agents.

KEY ADVANTAGES

- ***Phages can be used against non-bacterial pathogens***
- ***The method provides access to naturally occurring antimicrobials***

Offer:
License
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APPLICATIONS

The bystander phage therapy could be used as a stand-alone treatment for a pathogen or in conjunction with antibiotics or traditional phage therapy.

IP Status:
Patent Pending

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BYU TECHNOLOGY transfer

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