
Phages as tools for gut microbiome editing and elimination of antimicrobial resistant infections

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Project Description:

Using the human microbiome culturomics facility we have developed at NUHS, we are culturing anaerobic bacteria from the human gut and collecting those associated with adverse health effects as targets for removal through phage therapy. Using these bacteria as targets, phages that can lyse them are isolated. Bacteriophages are viruses that specifically attack bacteria, usually only a certain species. They are therefore a potential tool for precision medicine in the human gut to cure conditions associated with colonization by a particular pathogen or detrimental commensal. Another part of this project is the isolation of phages targeting pathogenic bacteria from wastewater to use in compassionate case use treating infections that are resistant to antibiotics.