



Bacteriophage, bacterium, host



Connections



21 Keywords



10 Members



4 Projects



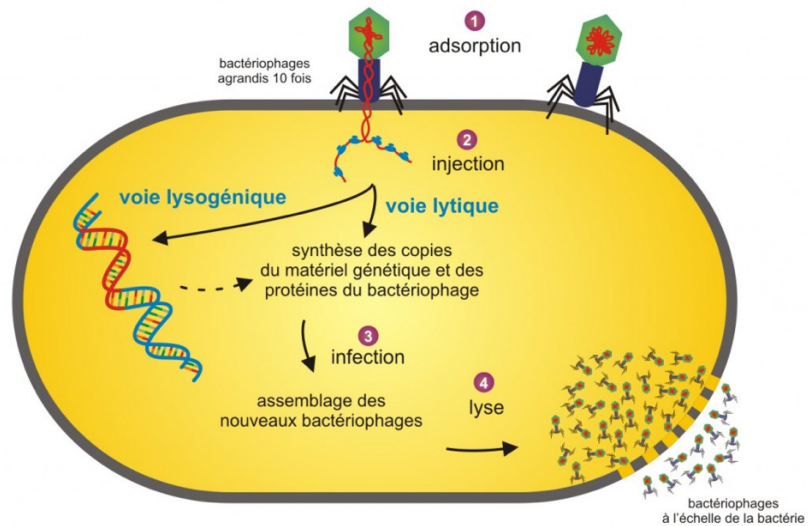
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New



About

Since their discovery in the early twentieth century, researchers have exploited **bacteriophages (viruses that infect only bacteria)**. First, bacteriophages have been **used to fight against human bacterial infections**, next, **they were used as models for studying molecular mechanisms of cells (replication, transcription, regulation ...)** and more recently they have become valuable tools in biotechnology, including genome editing that is derived the studies of CRSIPRs-Cas systems of defense against bacteriophages.



Surprisingly, bacteriophages have been poorly studied in the environment where they are ubiquitous (at sea, on land and even in the air). They are also found in many human sites (gut, mouth, skin ...). Their presence is directly linked to the presence of bacteria, but their role is still obscure. Our main objective focuses on studying the interactions between bacteriophages and bacteria in animals. First, we seek to understand how these interactions evolve within a complex microbial ecosystem, the digestive tract of mammals. It is widely accepted that the intestinal microbiota is involved on several human diseases and disorders. By contrast, the [role of bacteriophages within the intestinal microbiota](#) remains elusive, calling for new investigations.

Second, we study the parameters required to develop the therapeutic use of bacteriophage (phage therapy). This medical treatment, originally developed in France a century ago, is now back on the headlines to fight against infections caused by [antibiotics resistant bacteria](#). Our studies focus specifically on the [treatment of pulmonary infections](#), addressing the safety, the pharmacokinetics and the efficacy of bacteriophages.

Third, we are seeking to identify the [function of bacteriophage genes](#) that have no homologies to any other genes outside closely related bacteriophages. We are particularly interested to uncover bacterial processes that are targeted by these bacteriophage proteins.