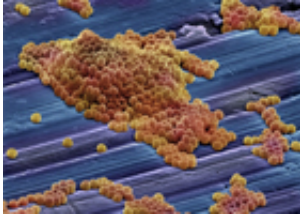


New antibiotic proves safe and well tolerated

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Clusters of methicillin-resistant *Staphylococcus aureus* (MRSA) bacteria. Credit: Annie Cavanagh, Wellcome Images

(PhysOrg.com) -- A new antibiotic to combat drug-resistant bacteria has proved safe and well tolerated in a phase I clinical trial with plans for a phase II trial underway.

The new antibiotic - PT1.2 - has been developed by Phico Therapeutics, initially to treat nasal infections of the bacterium *Staphylococcus aureus* including the 'superbug' MRSA. It is the first in a new class of antibacterial therapy forming Phico Therapeutics's antibiotic platform technology called SASPject, which is specifically designed to combat the problem of [drug resistance](#).

"The completely new SASPject technology has the capability to revolutionise antibiotic therapy and human trials are a crucial milestone in product development," explains Dr Heather Fairhead, CEO of Phico Therapeutics.

"Successful completion of this trial means that we have met the first milestone laid down by the Wellcome Trust as part of Phico's Strategic Translation Award, and triggers drawdown of our second tranche of funds to cover the phase II trial."

The trial, involving 46 healthy volunteers, showed that PT1.2 was well tolerated at two different doses, with no reported safety issues.

SASPject is a novel [antibiotic therapy](#) that can be targeted to any bacteria including multidrug-resistant bugs. The active agent is an antibiotic protein called SASP, which is coupled to a delivery vehicle that is used to target specific bacteria.

SASP works by binding to [bacterial DNA](#) and inactivating it. It switches off all primary functions in the bacterial cell and stops it from reproducing, thereby halting the spread of infection. Crucially, SASP can bind anywhere on the DNA so the bacteria cannot evolve to become resistant.

The delivery vehicle is a virus that can only infect bacteria, known as a bacteriophage; it can be modified to target specific strains of bacteria. PT1.2 is designed to target [Staphylococcus aureus](#), a common cause of [food poisoning](#) and the forerunner of MRSA.

The Wellcome Trust has granted Phico Therapeutics a Strategic Translation Award of £1.03 million that will fund PT1.2 through phase I and II [clinical trials](#).

Richard Seabrook, Head of Business Development at the Wellcome Trust, said: "Completion of Phico's first human trial shows that SASPject is safe for the next step of finding out whether it will work in patients. The results from this trial will be pivotal. New antibiotics are urgently needed to combat the growing problem of antibiotic resistance

and if SASPject works, it could open up the field to develop similar products for many other bacteria."

The initial target indication for registration is the eradication of nasal infections of MRSA in adult patients and healthcare workers, as part of a comprehensive control programme to reduce the risk of infection among high-risk patients during institutional outbreaks.

Provided by Wellcome Trust

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