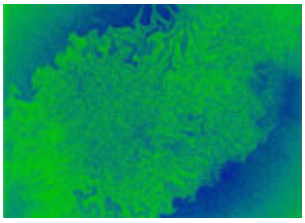
Medical Xpress

New antibiotic compound enters phase I clinical trial

November 9 2011



False colour light micrograph of Clostridium difficile. Credit: Derren Ready, Wellcome Images.

(Medical Xpress) -- Novacta Biosystems has commenced dosing of the first healthy volunteers in a phase I clinical trial of a new antibiotic to treat the hospital superbug Clostridium difficile.

Laboratory studies have shown that the new compound, NVB302, is effective against all strains of Clostridium difficile tested, without adversely affecting the healthy bacteria that are normally found in the gut.

Developed with support from a Wellcome Trust Strategic Translation Award, NVB302 is now being tested in a first-in-man trial to determine the safety and tolerability of the compound in healthy volunteers.

C. difficile is a hospital-acquired infection that causes severe diarrhoea and can be life threatening, particularly for the elderly. Few currently

available antibiotics are effective against C. difficile infection and drug resistance is a growing threat.

Ted Bianco, Director of Technology Transfer at the Wellcome Trust, said: "C. difficile is a particularly insidious infection that catches people at their most vulnerable. With the ever-present threat of increasing drug resistance, taking this new antibiotic into clinical trials is a significant step on the road to replenishing our depleted medicine cabinet."

NVB302 is a member of a class of antibiotics known as the type B lantibiotics, a naturally occurring class of antibiotic compounds found in many bacteria. Lantibiotics have shown great potential to treat superbug infections such as C. difficile and MRSA; however, conventional medicinal chemistry has not been able to optimise the structure of the naturally occurring compounds into a form with the potential to treat human disease.

Novacta's proprietary technologies have allowed the structural manipulation and optimisation of the lantibiotics' antibiotic activity, to unlock the potential of this novel and underexploited class of compounds.

"We are very pleased to announce the initiation of clinical studies with NVB302," said Dr Mike Dawson, Chief Scientific Officer of Novacta. "This is a major milestone for the company."

Dr Richard Garraway, a Partner in CPHA and member of the Novacta Board of Directors, added: "Celtic is delighted that Novacta has achieved this significant milestone. We are committed to supporting the company through this clinical programme and to work with Novacta in securing an attractive partner for the late-stage clinical development and commercialisation of NVB302."

Provided by Wellcome Trust