

New antibiotic for hospital superbug looks promising

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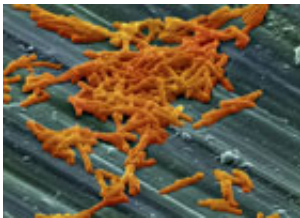


Image: Clostridium difficile. Credit: Annie Cavanagh/Wellcome Images

A new class of antibiotic specifically designed to target the hospital superbug *Clostridium difficile* has proved to be more effective than current treatments in preclinical studies.

According to results reported today by UK [drug discovery](#) company Summit, the new compound clears *C. difficile* and provides total protection from recurrence in an animal model of infection. The compound is also effective against a panel of clinical isolates taken from people infected with *C. difficile*.

The new antibiotic is being developed with support from a Wellcome Trust Seeding Drug Discovery award.

The new findings show that SMT 19969 targets *C. difficile* with greater specificity than any other known antibiotic, while leaving the natural populations of [bacteria](#) in the gut unharmed. This is important because

‘friendly’ bacteria in the gut are needed to aid with digestion and are a natural part of the body’s defences against invading bacteria.

Antibiotic resistance is an increasing concern but the findings show an unprecedentedly low incidence of bacterial resistance to the new compound - significantly lower than for any other antibiotic targeting *C. difficile*.

William Weiss, Director of Pre-Clinical Services at the University of North Texas Health Science Centre in Fort Worth, who collaborated on the preclinical studies, explained: “These results are very promising and show that SMT 19969 exhibits a clearly defined antibiotic effect and is superior to currently approved treatment options. If these results are replicated in man, SMT 19969 has the potential to become a new and highly effective antibiotic for the treatment of *C. difficile* infections.”

Steven Lee, Chief Executive Officer at Summit, added: “The positive results reported demonstrate the tremendous progress that our *C. difficile* programme has made, and with the financial support of the Wellcome Trust, Summit looks forward to continuing to advance SMT 19969 through to human clinical trials.”

C. difficile is a life-threatening infection for which the only current therapy options are broad-spectrum [antibiotics](#) - which are not very effective, meaning that recurrence rates are high. In 2009 in the UK, *C. difficile* was responsible for approximately five times more deaths than MRSA, while the combined annual cost of care in Europe and North America is estimated at \$7 billion (£4.4bn).

Rick Davis, Business Development Manager at the Wellcome Trust, commented: “*C. difficile* infections pose a serious healthcare challenge and there is a pressing need to develop new antibiotic treatments. The Wellcome Trust is pleased with the excellent progress Summit has made

towards development of a potential new treatment.”

Provided by Wellcome Trust

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