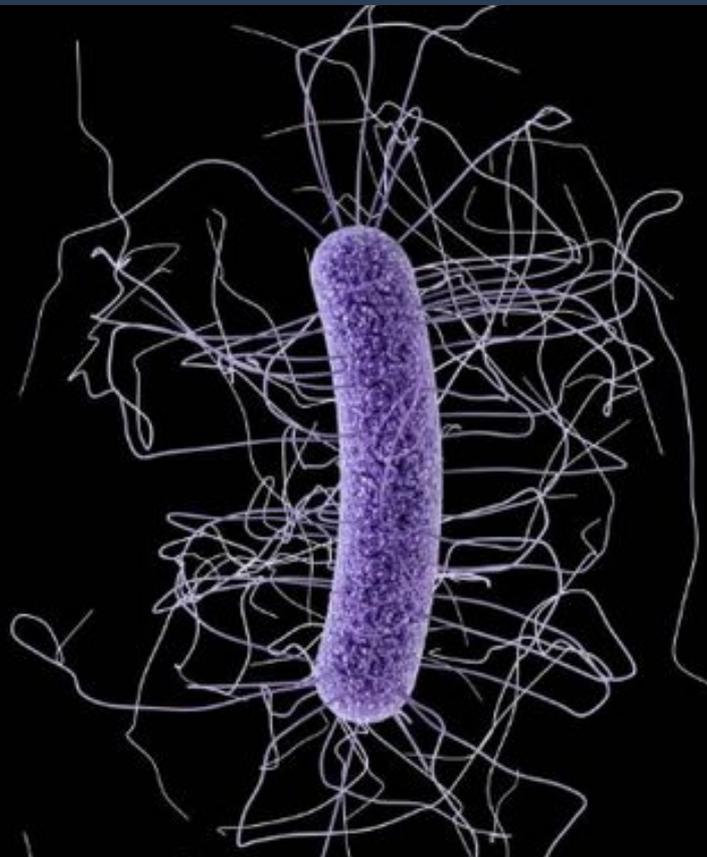


# Novel Potent Antibiotic Against Clostridium Difficile Infection

An investigational synthetic antibiotic peptide with novel MOA which shows high selectivity against C. difficile



*Please note, header image is purely illustrative. Source: CDC\ James Archer, Wikimedia Commons, CC0*

## IP Status

Patent application submitted

## Seeking

Licensing, Development partner, Seeking investment

## About **University of Nottingham**

The University of Nottingham produces world-changing research by focussing on the problems and challenges that affect societies and people on a wide scale. More than 80% of Nottingham research is ranked in the highest categories 'world-leading' or 'internationally excellent'.

# Background

The bacterium *Clostridium difficile* has become a major healthcare threat of global significance with approximately 50,000 cases per annum reported in the UK and 500,000 cases in the US. Mortality rates in the UK due to *C. difficile* infection are four times higher than infections due to MRSA. In the US the cost of care for *C. difficile* infection is estimated to be \$1.1 billion per annum. With hyper-virulent strains endemic in Europe and the US and common antibiotic treatments actually inducing *C. difficile* infection, there is an urgent need for novel therapies. A new potential treatment for *C. difficile* infection has been developed at the University of Nottingham that treats the infection without promoting resistance.

## Tech Overview

The technology exists as an investigational synthetic antibiotic peptide with novel MOA which shows high selectivity against *C. difficile* without causing damage to beneficial gut microflora. When orally administered, the novel peptide is near-completely retained in the gut (i.e. it is minimally absorbed). Potency and selectivity exceeds existing antibiotic treatments; vancomycin, metronidazole and Fidaxomicin, and experimental antibiotics Surotomycin (Merck) and SMT19969 (Summit).

Currently a promising package of preclinical data in industry acceptable models of *C. diff* ; hamster and mouse is being built. The hamster model is a crucial regulatory requirement for NCE registration, and the murine model mimics recurrent *C. diff* infection which remains the main clinical issue. Includes a comparator arm against vancomycin and SMT19969.

## Benefits

- Synthetic and novel peptide selective for *C. difficile*
- Highly potent, exceeding existing antibiotic treatment
- Does not damage beneficial gut microflora
- High gut retention after oral administration
- Highly potent alternative to last resort antibiotics

## Applications

The peptide is intended for the treatment of patients infected with *Clostridium difficile* .

## Opportunity

The University of Nottingham is seeking partners for further preclinical and clinical investigations with view to licensing or investment.

## Patents

- Priority (GB) application filed.