



Cystic Fibrosis Canada's investment in research at McMaster University has resulted in a profound discovery in treating antibiotic-resistant bacterial infections.

May 2011 - Dr. Eric Brown, in collaboration with Drs. Gerard Wright and Brian Coombes, found that the combination of an over-the-counter drug used to treat diarrhea with minocycline, an antibiotic, was more effective in fighting deadly bacterial infections in CF cells. The project was funded by Cystic Fibrosis Canada and the Canadian Institutes of Health Research. The discovery is promising; recently individuals with cystic fibrosis were advised to avoid in-person contact with other individuals with CF due to the risk of spreading a transmissible strain of *P. aeruginosa*.

"Previous advances in treating cystic fibrosis have been in managing infections, but since infectious organisms are increasingly developing resistance to antibiotics, the importance of providing new treatments is more important than ever," said Eric Brown, professor and chair of McMaster's Department of Biochemistry and Biomedical Sciences and member of the Michael G. DeGroote Institute for Infectious Disease Research (IIDR). "Typically it takes 13 to 15 years to develop a drug. We think that this approach could cut drug development time in half."

"The findings could also impact healthcare worldwide as antibiotic resistance is a tremendous threat to the general population," remarked Maureen Adamson, CEO, Cystic Fibrosis Canada. "Using novel combination therapies will become the new emerging science in treating disease."

Dr. Wright, scientific director of the IIDR, added that McMaster is one of the few universities looking at the combination of antibiotic and non-antibiotic drugs in combating bacterial resistance. The research has shown that using combination therapy might be a way to selectively target bacteria, combat disease and leave so-called "good bacteria" intact to do other things. The treatment could result in the use of fewer antibiotics.

The results are very exciting considering that most cystic fibrosis-related deaths are due to lung disease caused by chronic lung infections. The ability to combat severe infections will lead to a better quality of life and a longer life for individuals with cystic fibrosis.

Cystic Fibrosis Canada is contributing over \$250,000 over five years to research on novel alternatives to antibiotic research. This investment is made possible by the generosity of donors and the commitment of volunteers. We thank everyone for their tremendous support.

