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First-ever test helps in fight against serious lung infections and opens door for treating other life-threatening infections

Edmonton, Alberta – A new test developed by Edmonton-based Innovotech™ Inc. will now allow doctors to more accurately identify the right antibiotics required to treat serious, chronic infections that are biofilm based. With more than 80 per cent of infections in the developed world caused by biofilms, the potential for this new breakthrough test, called bioFILM PA™, is of immense significance to the medical community.

Chronic infections place a major cost burden on the health system. Patients spend more time in hospitals, antibiotic costs and treatment costs increase as more aggressive treatment options are explored, and the potential always exists for these infections to cause death.

Until bioFILM PA™, treatment of chronic infections required trying different antibiotics until one or several together eliminated or controlled the bacteria in the biofilm. With each failed treatment, not only would a patient's health be jeopardized, and health care costs increased, but the bacteria would be more likely to develop resistance to one or more antibiotics. Biofilm infections can be 1000 times more resistant to antibiotics than conventional infections.

Now, for the first time ever, the breakthrough test developed by Innovotech™ Inc. has shown very positive results in selecting proper antibiotic treatment for serious lung infections in patients with Cystic Fibrosis (CF), a population recognized as having among the most life threatening lung infections. Clinical research of bioFILM PA™ shows how the test can provide guidance to doctors on the right antibiotics to treat infections in a biofilm state.

In developing bioFILM PA™, Innovotech™ recognized that current testing was for free-floating or single bacteria, whereas CF lung infections and other chronic infections were caused by bacteria in a biofilm state which are much more difficult to kill than free-floating bacteria.

While the clinical research focused on patients with CF, the bioFILM PA™ test shows potential for use on other serious bacterial biofilm infections caused by this bacterium, such as chronic pneumonia, burns and wounds. Furthermore, Innovotech™ has development plans in place for companion products to bioFILM PA™ that will address biofilm infections caused by other bacteria such as infections of catheters, artificial joints, mechanical heart valves and other devices.

Innovotech™ Inc. developed bioFILM PA™ and the University of Alberta Hospital laboratory, under the direction of Dr. Robert Rennie, Site Chief, Laboratory Medicine and Dr. Neil Brown, Director, Adult Cystic Fibrosis Clinic conducted the clinical research from 2007 to 2009.

The clinical research involved 14 patients with cystic fibrosis at the University of Alberta hospital CF clinic. The patients ranged from 9 to 51 years of age.

One patient was receiving intravenous antibiotics for a lung infection but continued to decline in health and lung function. The same antibiotics had been used for an earlier infection and had been successful. The patient was hospitalized, the antibiotics were changed, but the patient continued to decline. Using the bioFILM PA™ kit as guidance, an additional antibiotic not normally used in CF lung infections was added. The patient responded to the treatment, was discharged and is still symptom free after more than one year.

In another case, a patient was on a lung transplant waiting list, and was receiving oral and inhaled antibiotics, but showed a continuous decline in health and lung function. The doctors admitted the patient to hospital in an attempt to stabilize the patient prior to transplantation. A bioFILM PA™ test was ordered and consequently a new combination of antibiotics was administered. The lung transplant was conducted successfully and the patient has been symptom free for more than two years.

bioFILM PA™ has received regulatory approval by Health Canada and is available for sale in Canada. It has also met all current standards of the Clinical and Laboratory Standards Institute (CLSI) for reproducibility and consistency.

A further clinical evaluation of bioFILM PA™ on more than 200 CF patients is now underway at the Hospital for Sick Children and St. Michaels Hospital in Toronto.

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Innovotech™ is a product development company focusing on the development of solutions to medical, agricultural and industrial problems caused by microbial biofilms. Biofilms are protected communities of microorganisms which are very common and very difficult to treat due to their inherent resistance. The company currently has two products in advanced stages of development: bioFILM PA™ is a diagnostic kit which assists physicians in the selection of the most effective antibiotic treatment of patients with chronic lung infections. Agress™ is a novel seed treatment product which protects seeds during the critical germination and emergence stage from bacterial and fungal infection.

Biofilms can form on food surfaces and equipment, and they are highly resistant to conventional cleaning methods - disinfectants, drying, heat, antibiotics and sanitizers. The company has conducted ground breaking research on meat processing facility disinfectants demonstrating that almost all current disinfectants are ineffective against biofilms of E. coli, Listeria, Salmonella, and other common pathogens. This research has been published.

For further information contact:

Lesley MacDonald (780) 969-0463 or
Cell: (780) 884-7972,

lmacdonald@edmonton.com

Sandra Robertson (780) 429-7664 or
Cell: (780) 994-7907

Sandra.Robertson@albertaingenuity.ca