

Scientists herald significant breakthrough in study of chlamydia

October 13 2011

(Medical Xpress) -- A breakthrough in the study of chlamydia genetics could open the way to new treatments and the development of a vaccine for this sexually transmitted disease.

For decades research progress has been hampered because scientists have been prevented from fully understanding these [bacteria](#) as they have been unable to manipulate the [genome](#) of [Chlamydia trachomatis](#).

Now researchers in Southampton have made a significant breakthrough in accessing the chlamydial genome and believe it could pave the way for more effective treatment of the disease.

They hope that it could eventually lead to the development of a vaccine for *C. trachomatis* that is the major cause of sexually transmitted infections in the UK.

The infection is part of a 'silent epidemic' as most cases do not show symptoms and are left untreated. It can cause pelvic inflammatory disease and lead to scarring of the Fallopian tubes causing infertility and higher risk of ectopic pregnancy.

The research was carried out at the Molecular Microbiology Group, at the University of Southampton, in conjunction with the Department of Virology, at the Ben Gurion University of the Negev, in Israel.

Professor Ian Clarke, from the University of Southampton, says: "This is

a very significant advance in the study of chlamydia and we are proud to be the first people to achieve this.

“Previously people have been unable to study chlamydial genetics and this has created a barrier to the comprehensive study of this disease.

“We, together with our colleagues in Israel, discovered that by treating the chlamydia with calcium ions we were able to introduce a piece of foreign DNA.

“This will open up the field of chlamydia research and will enable a better understanding of chlamydial genetics. It could lead to the development of new approaches to chlamydial vaccines and therapeutic interventions.”

To prove that they had accessed the chlamydial genome, the research team inserted the gene for a fluorescent protein into *C. trachomatis* which identified the chlamydial-infected cells by making them glow green.

Their paper detailing the breakthrough in the study of [chlamydia](#) is published in the Public Library of Science journal *PLoS Pathogens* and has also been selected as the Editor’s Choice for the journal *Science*.

More information: Link to research article in PLoS Pathogens
www.plospathogens.org/article/info%3Adoi%2F10.1371%2Fjournal.ppat.1002258

Provided by University of Southampton

Citation: Scientists herald significant breakthrough in study of chlamydia (2011, October 13)

retrieved 2 May 2024 from

<https://medicalxpress.com/news/2011-10-scientists-herald-significant-breakthrough-chlamydia.html>

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