

Vaccine: Protective Measures Against Chlamydia Discovered

Chlamydia is one of the most common sexually transmitted diseases with nearly 113 million infections per year, however many cases are left asymptomatic. When left untreated, chlamydia often leads to serious health outcomes including pelvic inflammatory disease and tubal factor infertility.

In the 25 July edition of *Vaccine*, researchers from McMaster University may have discovered the first protective vaccine against chlamydia. The researchers created a potential vaccine model that combined a fusion protein antigen (BD584) with the highly conserved type III secretion system (T3SS) from the Chlamydia bacteria. The T3SS is an essential virulence factor composed of structural proteins responsible for cell invasion. Using mouse models, intranasal immunizations were shown to inhibit the most common bacteria of Chlamydia, the *C. trachomatis*. When challenged with the bacteria, a 95% reduction in chlamydial shedding and a quicker clearing of infection was seen in the vaccinated mice compared to the unvaccinated. In addition, the rates of distally blocked fallopian tubes was reduced by 87.5%.

These observations suggest that this vaccine model has great

potential in becoming a widely used vaccine for Chlamydia. The authors plan to further investigate the immune mechanism behind the protective measures of the vaccine.

[Bulir, D. et al, 2016. Immunization with chlamydial type III secretion antigens reduces vaginal shedding and prevents fallopian tube pathology following live C. muridarum challenge. Vaccine.](#)