

Tertiary Structure Of The Chlamydia Major Outer Membrane Protein (MOMP)

Tech ID: 33915 / UC Case 2024-996-0

BRIEF DESCRIPTION

Researchers at UCI have discovered the tertiary structure of the Chlamydia major outer membrane protein (MOMP). Despite historical challenges in formulating an effective vaccine, recent advancements in understanding MOMP's structure offer new pathways for vaccine development against urogenital and ocular infections caused by C. trachomatis.

SUGGESTED USES

- Preventative healthcare and vaccination programs.
- Sexual health and sexually transmitted infection prevention.
- Ophthalmology, specifically for preventing Chlamydia-induced blindness.
- Global public health initiatives aimed at reducing bacterial sexually transmitted infections.

FEATURES/BENEFITS

- Targets the most common sexually transmitted bacterial pathogen globally.
- Utilizes the native Chlamydia MOMP, which has shown promising results in inducing protection in mice and non-human primates.
- Overcomes previous challenges in vaccine development by focusing on the tertiary structure of MOMP.
- Has the potential to significantly reduce the global burden of Chlamydia infections, including non-congenital blindness and sexually transmitted infections.

TECHNOLOGY DESCRIPTION

Chlamydia trachomatis is a bacterial pathogen that causes severe urogenital and ocular infections, leading to complications such as infertility in women and blindness. Developing an effective vaccine has historically proven challenging. However, recent scientific breakthroughs have unveiled the detailed structure of the Chlamydia major outer membrane protein (MOMP).

Prior attempts at creating a vaccine using recombinant versions of MOMP or DNA plasmids expressing MOMP did not achieve the desired level of protection in experimental animals. The new approach focuses on using the native form of MOMP, which is anticipated to be much more effective in inducing immunity. If successful, this vaccine could dramatically reduce the incidence of Chlamydia infections and their severe health consequences, improving reproductive health and decreasing blindness rates in affected populations.

STATE OF DEVELOPMENT

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INVENTORS

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OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
 - » Health
- » **Medical**
 - » Disease: Infectious Diseases
 - » Disease: Kidneys and Genito-Urinary System
 - » Disease: Women's Health
 - » Vaccines
- » **Veterinary**
 - » Vaccines

The tertiary structure of Chlamydia MOMP was determined and researchers plan to publish results this year.

RELATED CASES

2024-996-0

OTHER INFORMATION

Provisional patent application filed

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