



# Prevention and Treatment of Bacterial Infections by Promoting Host Innate Defense

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## Technology description

## Background

*Staphylococcus aureus* is a gram-positive bacterium that is commonly known as the source of staph infections. The infection can cause a range of illnesses, varying from skin infections to life threatening conditions such as pneumonia and sepsis. Studies have shown that about one in three people (about 33%) is a carrier of the bacterium. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a type of staph bacterium that is resistant to beta-lactam antibiotics such as methicillin, penicillin, oxacillin and amoxicillin. MRSA poses a serious health problem, especially in hospitals, nursing homes, and other facilities, but also in numerous public settings. There is an urgent need for new, effective prevention and treatment options for bacterial infections, and especially for MRSA infections.

## Technology Description

Researchers at the University of New Mexico have developed a new treatment for bacterial infections by targeting the G protein-coupled Estrogen Receptor (GPER). Targeting the host immune response through GPER may provide protection against and treatment for infections caused by many human pathogens.

## Publications

[Innate Sex Bias of \*Staphylococcus aureus\* Skin Infection Is Driven by  \$\alpha\$ -Hemolysin](#)

## About STC.UNM

As the technology-transfer and economic-development organization for the University of New Mexico, STC.UNM protects and commercializes technologies developed at the University of New Mexico (UNM) by filing patents and copyrights and transferring the technologies to the marketplace. We connect the business communication (companies, entrepreneurs and investors) to these UNM technologies for licensing opportunities and the creation of startup companies.

## Application area

A sex-specific prophylactic and therapeutic target to enhance the host immune response to bacterial infection

Proof of principle has been demonstrated in vivo in a mouse model of methicillin-resistant *Staphylococcus aureus* (MRSA) skin infection

Treatment of *Staphylococcus aureus* infections, especially MRSA infections, in both male and female patients

## Institution

[The University of New Mexico](#)

## Inventors

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