

Method for Storing, Distributing, and Activating Live Cell Vaccines or Other Living Cell Products

Published date: April 22, 2019

Technology description

A researcher at the University of New Mexico has developed a novel method to store, distribute, and activate live cell vaccines and related living cell products.

The system allows one to prepare an immunological composition that is specifically directed to virulent cells, latent cells, or is a combination composition that is directed to both virulent cells and latent cells. The dried immunological composition is typically comprised of a nanobiocomposite (NBC) composition that contains live bacteria, attenuated bacteria, or inactivated bacteria. The liquid phase in the chambers can include a growth medium or a pharmaceutically acceptable carrier. This results in a reconstituted immunological composition that can be administered as a virulent vaccine or a latent vaccine.

Background

Latent populations of cells that remain inside a host after an initial infection and treatment is a challenge that is seen in cases of tuberculosis. Due to these remaining latent cells, patients can continue to be infected with *M. tuberculosis* bacteria for decades and exhibit no symptoms of tuberculosis. When this occurs, approximately 10% of patients eventually exhibit immunosuppression through a different condition (e.g., HIV) and with this now compromised immune system, relapse. The latent tuberculosis cells re-enter the growth phase and the patient suffers from “reinfection” by the previously latent *M. tuberculosis* bacilli. Currently, no vaccine exists that specifically targets latent cells. There are known methods of boosting the efficacy of the Bacille Calmette-Guerin (BCG) vaccine, but these exist as treatments for managing the disease rather than preventative techniques for immunological advancement. A present need exists for an immunological composition or a combination composition that specifically targets virulent and latent cells of the tuberculosis disease.

Technology Description

A researcher at the University of New Mexico has developed a novel method to store, distribute, and activate live cell vaccines and related living cell products. The system allows one to prepare an immunological composition that is specifically directed to virulent cells, latent cells, or is a combination composition that is directed to both virulent cells and latent cells. The dried immunological

composition is typically comprised of a nanobiocomposite (NBC) composition that contains live bacteria, attenuated bacteria, or inactivated bacteria. The liquid phase in the chambers can include a growth medium or a pharmaceutically acceptable carrier. This results in a reconstituted immunological composition that can be administered as a virulent vaccine or a latent vaccine.

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 community (companies, entrepreneurs and investors) to these UNM technologies for licensing opportunities and the creation of startup companies. Visit www.stc.unm.edu.



Application area

- Encapsulated living cells can regrow post-encapsulation
- Reconstituted composition is versatile; can come in any suitable form
- Induces immunity against virulent and latency pathogens
- Improved method for storing, distributing and activating live cell vaccines
- Aides in preventing tuberculosis infection/reinfection
- Applications in vaccines and other living cell products

Institution

[The University of New Mexico](http://www.unm.edu)

Inventors

[Patrick Johnson](#)

联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com