Protein for detection of and vaccination against Gardnerella vaginalis

Technology #2476

This technology is a purified, pore-forming toxoid protein that can be used to detect and/or vaccinate against Gardnerella vaginalis.

Unmet Need: Method for detecting and treating Gardnerella vaginalis, as well as preventing future infection

Bacterial vaginosis is a common yet difficult-to-treat vaginal infection associated with the overgrowth of Gardnerella vaginalis. Current antibiotic therapies are initially effective, but do not prevent against recurrent infections.

The Technology: Pore-forming toxoid protein for detection and treatment of bacterial vaginosis

Through a genome-wide screen, this technology presents a pore-forming toxin, vaginolysin (VLY), which is implicated in bacterial vaginosis. Antibodies against VLY have been developed for use as a simple diagnostic assay. These antibodies also have cell-protective capabilities against the damage caused by the pathogen, possibly leading to an effective vaccine for this common infection.

This technology has been validated in human and other animal cell lines in vitro.

Applications:

- Provides an immunogen for antibody production for the simple and sensitive detection of vaginolysin, yielding a diagnostic tool for bacterial vaginosis infection
- Presents a protein for injection to create an animal model of bacterial vaginosis
- Purified pore-forming toxoid of vaginolysin can be used as an immunogen to treat Gardnerella vaginalis infection
Advantages:

- Provides method of producing antibodies for sensitive and easier to perform diagnostic test for bacterial vaginosis infection
- Presents method of generating new animal models of Gardnerella vaginalis colonization and bacterial vaginosis
- Provides a toxoid protein for potential use in vaccination therapy to eliminate the problem of recurrent bacterial vaginosis infections currently seen using antibiotic treatments

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Related Publications:


Tech Ventures Reference:

- IR 2345, IR 2476
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