“Vaccines and Diagnostics for Cryptosporidium”

VCU #07-64

Applications

- Detection of Cryptosporidium in water and food
- Diagnosis of Cryptosporidium infection
- Immunization of humans and animals against Cryptosporidium

Advantages

- Parasite less likely to evade immune response elicited by these novel vaccines
- First effective vaccines for *Cryptosporidium*
- Vaccines could be used alone or in cocktails

Inventors

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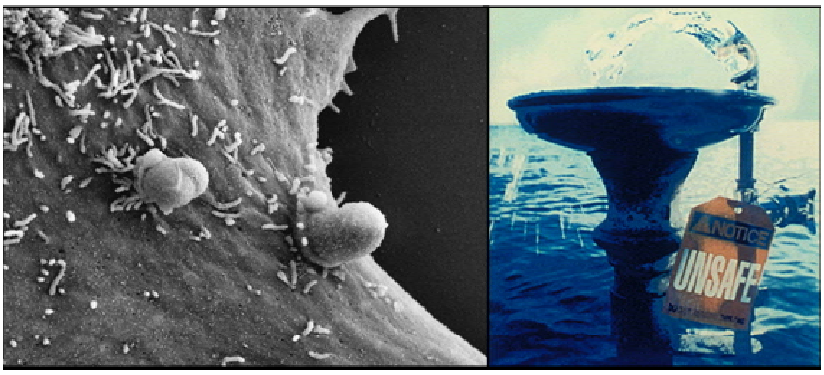
Market Need

Cryptosporidiosis, caused by the protozoan parasites of the genus *Cryptosporidium*, is a leading cause of acute, persistent, and chronic diarrhea in people worldwide. Every year there are up to 4.3 million cases of cryptosporidiosis in the United States. This is also a very serious disease in both domestic and farm animals, with up to 15% of dogs and 5.4% of cats infected annually. Currently, there is no effective therapeutic for cryptosporidiosis. The only method of prevention is through the treatment of contaminated water and food. Moreover, the current protocols for detection and diagnosis are limited and inaccurate.

Technology Summary

This technology consists of unique proteins that can be used as vaccinogens for cryptosporidiosis. A delivery program was developed for these proteins which induces an intestinal humoral and cellular immune response protective against the parasite. In addition to therapeutic applications, the associated genes provide a genetic signature that can be used to develop detection and diagnostic technologies that are both sensitive and accurate.



Technology Status

U.S. patent: 8,114,976.
Initial mouse studies show that vaccines produce an effective and protective immune response to *Cryptosporidium*.This technology is available for licensing to industry for further development and commercialization.