Antibiotic resistance evolves. We adapt.

Antibiotic resistance is a global crisis caused by ongoing evolution of bacteria. Traditional therapies cannot meet this growing challenge.

PhageBank™ uniquely adapts its spectrum of coverage to address today's — and tomorrow's — toughest infections.

adaptive phage
THERAPEUTICS

The problem

Antimicrobial resistance will continue to grow as bacteria continue to evolve. More than 2.8M antibiotic-resistant infections occur in the US each year, and WHO estimates superbugs will kill up to 10M annually by 2050. Pharmaceutical approaches need to be able to rapidly adapt to new and more virulent diseases and infections.

The adaptive approach

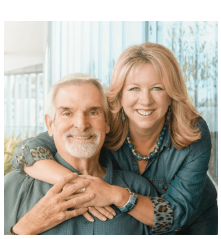
APT's PhageBank leverages the adaptive, natural phenomenon of phage, or bacterial viruses, that have co-evolved to become the most prolific killers of bacteria on earth. PhageBank and the accompanying phage susceptibility test (HRQT) rapidly match phage to combat a patient's specific infections. PhageBank has been shown to be a viable solution to combat drug-resistant infections.

The technology

PhageBank is an investigative bacteriophage therapeutic library conceived at NIH by CSO, Dr. Carl Merril, developed by the Department of Defense, and is now in advanced stages of development by APT with support from the Defense Health Agency (DHA).

Company overview

APT is a clinical stage biotech company. Our PhageBank therapy has been used under FDA's expanded access pathway to treat numerous critically ill patients for whom standard-of-care antibiotics had failed.



SUCCESS STORY:

APT harnesses phage to fight deadly infections

In 2016, APT's approach achieved its first in-human success with the rescue of a critically ill MDR infected patient: Tom Patterson, multi-drug resistant *Acinetobacter baumannii* survivor.

Antibiotic resistance is now a global crisis.

What has been learned from the increasing failure of antibiotics is that applying a static solution to an evolving problem will only be effective for a period of time. A durable cure requires an adaptive approach.

PhageBank™ investigational therapy, made from an ever-expanding and diverse collection of therapeutic agents, combined with susceptibility testing, allows for a rapid, precise, and adaptive approach to dealing with bacterial infections.

Bacteriophage (phage) are viruses that eradicate their specific targeted bacterial host. Phage have a well-established safety profile as a potential therapeutic. APT has developed phage purification methods to allow for systemic, intravenous administration.

SCIENTIFIC AND BUSINESS COLLABORATORS

- Biological Defense Research Directorate at United States Navy Medical Research Center
- Center for Innovative Phage Applications and Therapeutics (IPATH) at UC San Diego
- Hackensack Meridian Health
- Mayo Clinic
- Walter Reed Army Institute of Research
- Children's National Health System
- Medical Technology Enterprise Consortium
- Paul Turner Lab, Yale University
- Stanford University
- University of Maryland
- Hebrew University

"Phage therapy is a leading alternative to antibiotics"

FDA Commissioner Gottlieb
Address on the Antibiotic Crisis, 2018

APT is planning domestic manufacturing and supply chain to reduce US dependence on Chinese and other foreign suppliers for our critical infectious disease therapeutics and vaccines.

APT's investigational phage therapy has been successfully used to treat dozens of emergency cases world-wide. Early access case studies are available via aphage.com/case-studies.

Antibiotic deployment and resistance

The problem of antibiotic resistance continues to grow as bacteria continue to evolve. Traditional antibiotics are compromised in their effectiveness and the spectrum of coverage over time due to this evolving resistance. This can mean early product obsolescence, prior to ROI. Additionally, newer antibiotics are increasingly toxic, and their supply chains are dependent on China, India and others.

APT's ability to adapt to emerging resistance is the key to combat bacterial infections in a safe, durable therapeutic way.

Mayo Clinic collaboration

Our Phage Susceptibility Test (PST) simultaneously tests hundreds of phage candidates selected from APT's PhageBank against bacteria isolated from a patient. The PST will identify one or more phage that may be deployed to treat the infection. Working closely with Mayo Clinic Laboratories, APT is accelerating worldwide access to PhageBank therapy. The Mayo Clinic is an investor in APT.

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