

## **Specific Diagnostics Awarded Grant by the Department of Defense (DOD) to use the Reveal for the Rapid Determination of the Effectiveness of Novel Bacteriophage Therapy**

December 22, 2020 - MOUNTAIN VIEW, California – FOR IMMEDIATE RELEASE

Specific Diagnostics announced today that the Department of Defense will award the Company a grant to utilize the Reveal™ AST instrument for rapid assessment of bacteriophage susceptibility of bacterial pathogens.

Specific's Reveal system determines bacterial susceptibility to antimicrobial drugs in an average of 5 hours, allowing same-shift adjustment of treatment, saving lives while reducing costs and improving the utilization of antibiotics. In responding to the DoD call, Specific conducted preliminary demonstrations establishing that Reveal can also be used to test bacterial susceptibility to phage therapy, a new means to treat the most highly drug resistant infections, potentially even those that respond to no available antibiotic. In addition, Reveal may also furnish the means for phage therapy developers to rapidly test the efficacy of candidate phage therapeutics; the system may thus serve as both a rapid diagnostic and an aide to therapy development for this nascent and promising field.

"In the age of antibiotic resistance, alternatives to antibiotics are increasingly needed," said Dr. Paul A. Rhodes, Specific's CEO. "While the Reveal instrument had proven its capability for rapid assessment of antibiotic drug efficacy, we were excited to consider its efficacy as a bacteriophage diagnostic. The DoD call prompted us to apply our platform to bacteriophage therapy against drug resistant strains, and we have already seen promising results." "We know that antibiotic resistance is increasingly common, and are excited to apply our susceptibility testing capabilities to this alternative to antibiotics." said Dr. Pragma Singh, Specific's Senior Director of Microbiology R and D.

According to the DHHS, resistant pathogens cause 2.8 million infections and at least 35,000 deaths every year in the USA. With bacteria evolving resistance to antibiotics, driven in part by overuse, bacteriophage therapy represents a distinct and promising alternative to antibiotic therapy. Because phage are often species, and in some instances strain-specific, administration of phage need not disrupt the patient's microbiome, avoiding the deleterious effects of broad-spectrum antibiotics.

With invaluable support from NIH, CARB-X, and others, Specific Diagnostics has developed the Reveal rapid phenotypic antimicrobial susceptibility testing (AST) system for pathogenic bacteria, enabling same-shift therapeutic guidance, both directly from positive blood cultures and from isolate dilutions. Using proprietary small molecule sensor technology that detects volatile organic compounds emitted by growing microorganisms while leveraging low-cost 96-well dried antibiotic plates, Specific's Reveal AST system provides robust minimum inhibitory concentration results in an average of 5 hours, with the simplicity of use and low-cost suited for broad adoption.

Specific will complete the first Phase of the Department of Defense-funded work in 1H 2021.

### **About Specific**

Specific Diagnostics has developed *in vitro* diagnostic systems based upon a unique, patented metabolomic signature technology that enables rapid detection and identification of microorganisms as they grow in culture. Its first commercial application applies this fundamental new capability to the

rapid determination of antimicrobial susceptibility directly from positive blood cultures, as well as isolate dilutions. Specific is based in Mountain View, CA.

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