

## AmpliPhi Biosciences Announces Presentation of Personalized Bacteriophage Therapy Case Study for Life-Threatening Antibiotic-Resistant Infection at Scientific Conference

*Critically ill patient successfully treated with personalized phage therapy under Emergency IND*

“*Intravenous applications of phage therapy to treat a terminally ill patient who was infected with a multidrug-resistant A. baumannii*”

SAN DIEGO--([BUSINESS WIRE](#))--AmpliPhi Biosciences Corporation (NYSE MKT: APHB), a global leader in the development of therapies for drug-resistant bacterial infections using bacteriophage technology, announces that a case study highlighting the successful treatment of a critically ill patient with a multidrug-resistant (MDR) *Acinetobacter baumannii* (*A. baumannii*) infection will be featured in an oral presentation at the Centennial Celebration of Bacteriophage Research on April 26 at the Institut Pasteur in Paris. “Intravenous applications of phage therapy to treat a terminally ill patient who was infected with a multidrug-resistant *A. baumannii*” will be delivered by Dr. Biswajit Biswas of the U.S. Navy’s Medical Research Center-Biological Defense Research Directorate (NMRC-BDRD in Frederick, MD).

The case study involves a patient first diagnosed with an abdominal *A. baumannii* infection who had been treated with multiple courses of antibiotics over a four-month period, during which time the bacteria became resistant to cephalosporins, meropenem, gentamicin, amikacin, trimethoprim/sulfamethoxazole, tetracycline, ciprofloxacin and colistin. As the infection raged unchecked by antibiotics, the patient continued to deteriorate and eventually fell into a coma.

AmpliPhi was involved in a joint effort that included several academic institutions and the U.S. Navy laboratory that produced a customized bacteriophage therapy specifically targeted to the *A. baumannii* strain infecting the patient. In March 2016, therapy was initiated under an Emergency Investigational New Drug (IND) application approved by the U.S. Food and Drug Administration (FDA). Shortly after phage therapy was started, the patient emerged from the coma and continued to improve under ongoing phage therapy until the infection was cleared. To date, the infection has not returned.

The patient, Tom Patterson, Ph.D., a Professor at University of California, San Diego (UC San Diego), thanked the group that coalesced in the effort to save him and added, “I am living proof that MDR bacterial infections can be overcome. I am exceedingly grateful to the international community that made my recovery possible.”

Robert (Chip) Schooley, M.D., Professor of Medicine and Chief of the Division of Infectious Diseases at UC San Diego, who treated Dr. Patterson, remarked, “Phage therapy is a promising approach for treating patients suffering from serious bacterial infections that are highly resistant to currently available antibiotics. If successful, phage therapy could help tens of thousands of patients each year in the U.S. who have few or no other therapeutic options and, as a consequence, face severe disability or death.”

Previously, AmpliPhi’s wholly owned subsidiary, Special Phage Services, helped develop a personalized phage therapy that was used by Dr. Jonathan Iredell, Professor of Medicine and Microbiology at the University of Sydney and Westmead Institute of Medical Research, Director, Infectious Diseases, Westmead Hospital, to successfully treat an antibiotic-resistant *Pseudomonas aeruginosa* (*P. aeruginosa*) infection in the bladder of a female cancer patient. The results of this case were published in a manuscript in the *Journal of Medical Microbiology* and can be found at <http://jmm.microbiologyresearch.org/content/journal/jmm/10.1099/jmm.0.029744-0#tab2>.

In conjunction with the Centennial Celebration of Phage Research, Institut Pasteur is hosting a special symposium on April 27, entitled “Human Phage Therapy Day” <http://www.bacteriophage100.org/phage-therapy-day2017>. The gathering will bring together scientists, clinicians, veterinarians, pharmacists, legal experts and regulators from both the European Medicines Agency (EMA) and FDA and leaders at public and private institutions all with the goal of outlining what is needed to successfully reintroduce phage therapy as a solution to the growing crisis of antibiotic resistance.

### About Antibiotic Resistance

Decades of misuse and over-use of antibiotics has led to the rise of multidrug-resistant and pan-resistant bacteria, commonly known as “superbugs.” These superbugs threaten to render existing antibiotic therapies useless, potentially thrusting the world into a “post-antibiotic” era where common infections may be life threatening. Hospitals regularly expose vulnerable patients to pathogenic bacteria. According to the World Health Organization, each year hundreds of millions of patients worldwide suffer from infections acquired in a hospital setting. The Centers for Disease Control and Prevention (CDC) estimates that drug-resistant bacteria cause at least 2 million infections per year in the U.S. alone, resulting in over 23,000 deaths and many more people die from other conditions that are complicated by antibiotic-resistant infections. The 2016 O’Neill Report commissioned

by the UK government projects that the failure to respond to the threat of antibiotic resistance and the rise of superbugs could lead to an estimated 10 million deaths per year from antibiotic-resistant infections worldwide by 2050, with an accumulated global cost of \$100 trillion and a 3.5% reduction in global GDP.

## About Bacteriophages

Bacteriophages, or more simply “phages,” are the natural predators of bacteria and are thought to be the most abundant life form on earth. Over eons, phages have evolved an incredible diversity of specialist strains that typically prey upon just one strain of bacteria, enabling phage therapies to precisely target pathogenic bacteria while sparing the beneficial microbiota. Phages can infect and kill bacteria, whether they are antibiotic-resistant or not, and even when they have formed protective biofilms.

## About AmpliPhi Biosciences

AmpliPhi Biosciences Corporation is a biotechnology company pioneering the development and commercialization of therapies for antibiotic-resistant infections using bacteriophage-based technology. AmpliPhi’s product development programs target infections that are often resistant to some or all existing antibiotic treatments. AmpliPhi has reported final results from two Phase 1 clinical trials of AB-SA01, one for the treatment of *S. aureus* in CRS patients and one to evaluate the safety of AB-SA01 when administered topically to the intact skin of healthy adults. For more information, visit [www.ampliphio.com](http://www.ampliphio.com).

## Forward Looking Statements

Statements in this press release that are not statements of historical fact are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, without limitation, the potential use of bacteriophages to treat bacterial infections, including infections that do not respond to antibiotics, the ability to rapidly manufacture customized therapies, the potential benefits of phage therapy, and AmpliPhi’s development of bacteriophage-based therapies. Words such as “believe,” “anticipate,” “plan,” “expect,” “intend,” “will,” “may,” “goal,” “potential” and similar expressions are intended to identify forward-looking statements, though not all forward-looking statements necessarily contain these identifying words. Among the factors that could cause actual results to differ materially from those indicated in these forward-looking statements are risks and uncertainties associated with AmpliPhi’s business and financial condition and the other risks and uncertainties described in AmpliPhi’s Annual Report on Form 10-K for the year ended December 31, 2016, as filed with the SEC, and other filings with the SEC. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release. All forward-looking statements are qualified in their entirety by this cautionary statement, and AmpliPhi undertakes no obligation to revise or update any forward-looking statements to reflect events or circumstances after the date of this press release.

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<https://investor.armatapharma.com/2017-04-25-AmpliPhi-Biosciences-Announces-Presentation-of-Personalized-Bacteriophage-Therapy-Case-Study-for-Life-Threatening-Antibiotic-Resistant-Infection-at-Scientific-Conference>