AMPLIPHI BIOSCIENCES CORPORATION

Advancing bacteriophage therapeutics for patients with antibiotic-resistant infections

Interim Results of Expanded Access Program of AB-SA01 and AB-PA01 for Treatment of Serious and Life-threatening *S. aureus* and *P. aeruginosa* Infections

Management Conference Call on January 3, 2018

NYSE American: APHB

Safe Harbor Statement

Cautionary Note Regarding Forward-Looking Statements

Statements in this presentation 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, statements regarding: AmpliPhi's planned next steps for 2018, including, without limitation, its plan to treat up to approximately 20 additional patients under its Expanded Access Program in the first half of 2018 and its plan to present data from expanded access clinical cases to the FDA in mid-2018 and potentially initiate a Phase 2 or registrational clinical trial as early as the second half of 2018. 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 AmpliPhi's subsequent 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 presentation. 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 presentation.

"The world is headed for a post-antibiotic era, in which common infections and minor injuries which have been treatable for decades can once again kill."

Dr. Keiji Fukuda, WHO's Assistant Director-General for Health Security, 2014

World Health Organization

Interim Topline Data Summary

Seven patients with serious or life-threatening infections, not responding to antibiotic therapy, treated with AB-SA01 or AB-PA01

- Four patients with *S. aureus* infections treated with AB-SA01
- Three patients with *P. aeruginosa* infections treated with AB-PA01
- Emergency IND (US FDA) or Special Access Scheme Category A (Australian TGA)
- Indications: bacteremia, endocarditis, prosthetic valve endocarditis, lung infection (cystic fibrosis), lung infection (post-transplant), and ventilator-associated pneumonia

Bacteriophage treatment was well tolerated in all patients

- 90 doses of AB-SA01 administered intravenously
- 402 doses of AB-PA01 administered intravenously and 92 doses by nebulizer
- No treatment related SAEs

86% Treatment Success (physician's assessment)

- Complete resolution or significant improvement of baseline signs and symptoms

28-day all-cause mortality: 14%

- Mortality predicted by APACHE II scores: 46%

No bacterial resistance to AB-SA01/AB-PA01 detected during the course of bacteriophage treatment

AmpliPhi's Expanded Access Strategy

AmpliPhi is developing precisely targeted bacteriophage therapeutics for patients with serious and life-threatening bacterial infections

- Novel, pathogen-targeted mechanism of action that is differentiated from antibiotics
- Kill bacteria by cell lysis, disrupt and destroy biofilm, restore sensitivity to antibiotics

Expanded Access allows critically ill patients to receive experimental, unapproved therapies in attempt to save lives

- Patients who are not responding to standard-of-care antibiotics
- Emergency IND (US FDA) or Special Access Scheme (Australian TGA)

AmpliPhi initiated Expanded Access Program for two lead therapeutic candidates AB-SA01 and AB-PA01 in May 2017

- Provide therapy for patients in dire need, collect clinical and microbiological data
- Based on the data, refine treatment regimens and select indications for further development
- Present data to FDA in mid-2018 and define required registrational studies
- Initiate Phase 2 or registrational studies for AB-SA01 and/or AB-PA01 as early as 2H18

Lead Product Candidates AB-SA01 and AB-PA01

AB-SA01

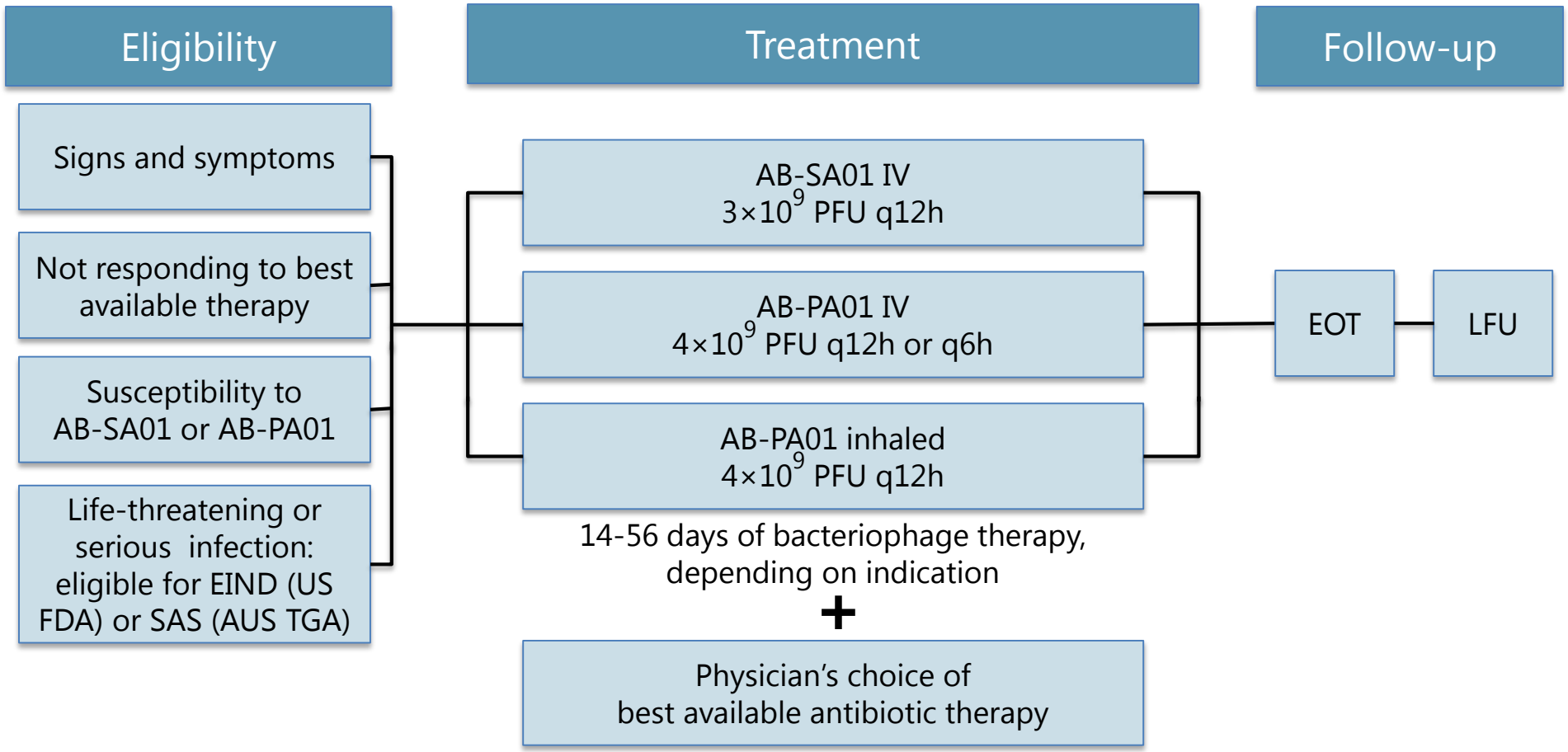
- 3 lytic phages
- 3×10^9 PFU per dose
- Coverage: ~96% of *S. aureus* strains, including multidrug-resistant isolates

AB-PA01

- 4 lytic phages
- 4×10^9 PFU per dose
- Coverage: ~80% of *P. aeruginosa* strains, including multidrug-resistant isolates

PFU, plaque forming units

Expanded Access Treatment Schedule



EOT, end of bacteriophage therapy; IV, intravenous; LFU, late follow-up at 90 days; PFU, plaque forming units; q12h, every 12 hours; q6h, every 6 hours

Patient Characteristics

Patient Characteristic (ITT Population)	**Value** (N=7)
Age, years, mean (range)	52 (26-77)
Male / female	57% / 43%
Indications	Bacteremia Endocarditis (native valve) Endocarditis (prosthetic valve) Lung infection (cystic fibrosis) Lung infection (post-transplant) Ventilator-associated pneumonia
Bacterial pathogen *S. aureus* *P. aeruginosa*	 4 3
APACHE II score*, mean (range) <35 ≥35	23 (6-47) 4 patients 3 patients

- All patients did not respond to prior standard-of-care antibiotics

*Acute Physiology and Chronic Health Evaluation II – a validated critical care scoring system predictive of mortality

Safety and Tolerability

ITT Population	**AB-SA01** (N=4)	**AB-PA01** (N=3)
Total IV doses	90	402*
Total inhaled doses	-	92**
Safety and tolerability	Well tolerated in all patients No treatment-related SAEs	Well tolerated in all patients No treatment-related SAEs

* Includes 298 doses of AB-PA01 and 104 doses of AB-PA01 plus one additional bacteriophage
** Includes 56 doses of AB-PA01 and 36 doses of AB-PA01 plus one additional bacteriophage

Results: Clinical Outcomes

Clinical Outcome (Physician's Assessment) (ITT Population)	**Value** (N=7)
Treatment Success	6 (86%)
Improvement	0
Failure	1 (14%)*

Physician's Assessment:

- Treatment Success: complete resolution or significant improvement of baseline signs and symptoms.
- Improvement: clinically meaningful improvement of baseline signs and symptoms.
- Failure: no resolution of baseline signs and symptoms, or death.

* The patient presented with septic shock, APACHE II score of 47 at baseline (predicted mortality risk 97%). Patient was not responding to best available antibiotic therapy, received 3 days of bacteriophage therapy, and died in surgery on Day 3. The patient's death was deemed by treating physician as not related to treatment with bacteriophage.

Results: All-Cause Mortality

Mortality (ITT Population)	**Value** (N=7)
28-day all-cause mortality	1 (14%)*
90-day all-cause mortality	No mortality between Days 28 and 90 to-date, follow-up ongoing
Mortality predicted by APACHE II scores, mean**	46% 3 patients with predicted mortality >85%

* The patient presented with septic shock, APACHE II score of 47 at baseline (predicted mortality risk 97%). Patient was not responding to best available antibiotic therapy, received 3 days of bacteriophage therapy, and died in surgery on Day 3. The patient's death was deemed by treating physician as not related to treatment with bacteriophage.
**Acute Physiology and Chronic Health Evaluation II – a validated critical care scoring system predictive of mortality.

Results: Microbiological Observations

- No bacterial isolates resistant to the phage therapeutic products were detected during the phage treatment course
- Additional analyses are ongoing

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Thought Leader Perspective: Prof. Schooley, UCSD

Robert T. Schooley, M.D.
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Past Chief, Division of Infectious Diseases
Editor-in-Chief of Clinical Infectious Diseases


Medical News & Perspectives

Phage Therapy's Role in Combating Antibiotic-Resistant Pathogens

JAMA The Journal of the American Medical Association

Sometimes, what's old is new again—even in the ever-advancing world of medicine.

The Journal of the American Medical Association, October 25, 2017

Next Steps for 2018

1. **Continue Expanded Access Program to provide AB-SA01 and AB-PA01 for patients in dire need and collect clinical and microbiological data**
   - Patients with serious and life-threatening *S. aureus* and P. *aeruginosa* infections who are not responding to standard-of-care antibiotics
   - Treat up to additional ~20 patients in 1H18
   - Present detailed results at medical conferences in 2018
2. **Based on the Expanded Access data, refine treatment regimens and select indications for further development**
3. **Present data to FDA in mid-2018 and define studies required for registration**
4. **Initiate Phase 2 or registrational studies of AB-SA01 and/or AB-PA01 potentially as early as 2H18**