



Arsanis to Present Data at IDWeek 2016 Demonstrating Lack of Effectiveness of Standard Antibiotics on Progression to *Staphylococcus aureus* Pneumonia in Hospitalized, High-Risk Patients

Study highlights unmet need in S. aureus pneumonia, the target for the company's lead candidate ASN100

WALTHAM, Mass. and VIENNA, Austria – October 27, 2016 – Arsanis, Inc., a clinical-stage biopharmaceutical company developing targeted monoclonal antibodies (mAbs) for pre-emptive and post-infection treatment of serious infectious diseases, today announced data from a prospective epidemiology study of the progression of *Staphylococcus aureus* airway colonization to pneumonia and the impact of antibiotics in mechanically ventilated intensive care unit (ICU) patients. The data demonstrate that *S. aureus*-active antibiotics did not significantly prevent or reduce heavy *S. aureus* colonization and did not halt progression to pneumonia. These results will be presented in a poster session at IDWeek 2016 in New Orleans on Friday, October 28.

“Arsanis is driven by a sense of urgency to advance novel approaches for the prevention and treatment of serious infections,” said Rene Russo, Pharm.D., BCPS, chief executive officer of Arsanis. “This study shines a bright light on the unmet need in *S. aureus* pneumonia in high-risk, mechanically ventilated patients, and has informed the design of our Phase 2 trial of ASN100.”

Colonization of the airways by *S. aureus* is a risk factor for the development of *S. aureus* pneumonia, and several preventive strategies have been employed to decrease its incidence. Mechanically ventilated patients are at increased risk for *S. aureus* airway colonization and pneumonia and often receive antibiotics believed to prevent this life-threatening infection, which has a mortality rate of approximately 30 percent.

The prospective study included a total of 238 patients in three ICUs who had been mechanically ventilated for more than 48 hours. Of the total population, 15.5 percent (n=37) had heavy tracheal *S. aureus* colonization, and 29.7 percent of these patients (n=11) progressed to *S. aureus* pneumonia while still mechanically ventilated. This rate of pneumonia occurred despite nearly 91 percent of these patients receiving microbiologically appropriate antibiotics.

These findings corroborate those of a published retrospective study of 231 mechanically ventilated patients, in which 21.2 percent (n=49) had heavy tracheal *S. aureus* colonization, and 38.5 percent of these heavily colonized patients (n=15) progressed to *S. aureus* pneumonia despite antibiotic treatment (*Stulik et al., AJRCCM, 2014*).

“The progression to *S. aureus* pneumonia observed in approximately one-third of heavily colonized patients, despite the vast majority receiving relevant antibiotic treatment, highlights the unmet need for novel preventative and therapeutic approaches for these critically ill patients,” said Chris Stevens M.D., executive vice president and chief medical officer of Arsanis. “We look forward to beginning our Phase 2 study of ASN100 in heavily colonized, mechanically ventilated patients and expect to dose the first patient in this study in the coming weeks.”

“The practice of administering antibiotics to patients presenting with positive respiratory cultures is common, yet not supported by current guidelines,” said Eszter Nagy M.D. Ph.D., co-founder and chief scientific officer of Arsanis. “Considering the virulence enhancing effect of antibiotics on *S. aureus* due to increased toxin production, and the potentially negative impact on the microbiome and resistance development, these data support antibiotic sparing strategies and antimicrobial stewardship.”

Arsanis collaborated with the Lahey Hospital & Medical Center, formerly known as Lahey Clinic, on both the prospective and previously published retrospective epidemiology studies of *S. aureus* colonization and the progression to pneumonia. The company anticipates full results of the prospective study, including data from additional patients, will be published in an upcoming issue of a peer-reviewed medical journal.

Further details are available in the posted IDWeek 2016 abstract:

Abstract 1258: *Staphylococcus aureus* colonized patients receiving mechanical ventilation progress to pneumonia despite antibiotic treatment

About Arsanis, Inc.

Arsanis is a clinical-stage biotechnology company leading the development of targeted monoclonal antibodies (mAbs) for pre-emptive therapy and treatment of serious infectious diseases. The company's current programs address pathogenic processes selectively, rather than aiming to broadly eliminate bacteria, potentially allowing Arsanis to address critical infections without contributing to the problem of antibiotic resistance. The company is building a broad product pipeline addressing the most important Gram-positive and Gram-negative bacterial pathogens threatening hospitalized and high-risk patients. Its lead clinical program, ASN100, is aimed at serious *Staphylococcus aureus* infections. A Phase 1 clinical trial of ASN100 has recently been completed, and Arsanis expects to initiate a Phase 2 study of ASN100 in 2016.

Arsanis is a U.S. company headquartered in Waltham, Massachusetts, with European research and preclinical development operations headquartered in Vienna, Austria (Arsanis Biosciences GmbH).

For more information, please visit the Arsanis website at www.arsanis.com.

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Media Contact:

Ten Bridge Communications
Krystle Gibbs
krystle@tenbridgecommunications.com, 508-479-6358

Investor Contact:

Michael Gray
Chief Financial and Chief Business Officer
mike.gray@arsanis.com, 781-819-5201