Arsanis Researchers Report
Broadly Neutralizing Cross-Reactive Monoclonal Antibody Targeting Multiple *Staphylococcus aureus* Cytotoxins

- Fully human mAb neutralizes multiple virulence factors of S. aureus, including alpha-hemolysin
- Arsanis is developing this cross reactive antibody as part of its ASN100 product candidate, and aims to initiate human testing in 2015
- Novel clinical biomarker for prediction of Ventilator-Associated Pneumonia is also described

Lebanon, New Hampshire and Vienna, Austria, January 15, 2015:
Arsanis, Inc. scientists and their collaborators at Adimab, LLC have described a unique monoclonal antibody with the potential to treat *Staphylococcus aureus (S. aureus)* infections through the simultaneous neutralization of multiple key toxins produced by *S. aureus*, including alpha-hemolysin and four additional leukocidins. The findings are published online this week in the journal mAb and demonstrate superior *in vitro* potency compared to antibodies targeting alpha-hemolysin alone. The mAb also shows high protective efficacy from lethal *S. aureus* infections in several animal models.

Arsanis also noted the recent online publication in the ***American Journal of Respiratory and Critical Care Medicine*** describing alpha-hemolysin expression as a novel predictive biomarker for *S. aureus* ventilator-associated pneumonia (VAP) enabling the possibility to identify at risk patients and use prophylactic approaches to prevent the disease.

"The growing problem of *S. aureus* antibiotic resistance and the inability of antibiotics to counteract cytotoxins involved in the bacterium's pathogenesis of disease call for novel therapeutic approaches,"
Eszter Nagy, M.D., Ph.D., President and Chief Scientific Officer of Arsanis, lead author of the new publications commented, "We believe that targeted therapies such as passive immunization with mAbs, which are much less likely to cause resistance, are the way of the future."

Efforts by others have focused on neutralizing alpha-hemolysin, a major virulence factor that damages several types of human cells. However, recent findings suggest that the concerted actions of several cytotoxins, including the bi-component leukocidins, also play important roles in staphylococcal pathogenesis. Arsanis' research team has drawn on its extensive infectious disease experience and the company's partnership with Adimab LLC (Lebanon, NH), a leading discovery platform company, to develop this unique cross reactive antibody which is incorporated in Arsanis' lead product candidate, ASN100.

"VAP contributes to prolonged ventilation and stay in the intensive care unit, increased healthcare costs, and unacceptably high patient mortality," said Dr. Nagy. "Early detection of these at-risk patients, potentially through novel point-of-care diagnostics, will lead to better clinical management of VAP, and the use of prophylactic approaches such as Arsanis' pioneering ASN100 antibody product."

ASN100 is currently in preclinical development for GMP manufacture with a leading contract research organization, and Arsanis expects to begin human clinical trials with ASN100 in 2015. Further preclinical programs in Arsanis' pipeline target MDR (Multi-Drug Resistant) Gram-negative nosocomial infections and severe community acquired infections.

About Arsanis

Arsanis, Inc. is a development-stage company creating precision therapeutics for serious bacterial infections not effectively controlled by currently available treatments. The company applies its extensive knowledge of infectious disease biology to design optimal human monoclonal antibody therapeutics that precisely target pathogens directly and/or support host defenses against the infecting bacteria and their toxins. The company is building a broad product pipeline addressing the most important Grampositive and Gram-negative bacterial pathogens threatening hospitalized and high-risk patients, with its lead therapeutic candidate, ASN100, addressed to the prevention and treatment of serious *Staphylococcus aureus* infections and expected to enter clinical development within 12-15 months.
Arsanis is a U.S. company headquartered in Lebanon, New Hampshire, with European research and 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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