Additional Information for Offerors Concerning Research Funding Opportunities through the FDA Broad Agency Announcement (FDABAA-17-00123N) to Facilitate Antibacterial Drug Development and Address Antibacterial Drug Resistance

FDA Broad Agency Announcement (FDABAA-17-00123N)

The FDA Broad Agency Announcement (FDABAA-17-00123N) is an open solicitation for research and development to support regulatory science and innovation. The BAA link can be viewed at: https://www.fbo.gov/index?s=opportunity&mode=form&id=2c7e08cb79fe0db148f567c14827e096&tab=core&_cview=0

In fiscal year 2017, research area 2.4.2 (advance the science of *in vitro*, animal model, and/or pharmacokinetic studies to facilitate antibacterial drug development, including studies focused on drug development for special populations) has been identified as a priority area by the Office of Antimicrobial Products in FDA's Center for Drug Evaluation and Research. Specifically, research proposals focused on advancing the development of animal models of serious infections caused by *Acinetobacter baumannii* or *Pseudomonas aeruginosa* will be prioritized.

Depending on scientific merit of Full Proposals, the Agency anticipates awarding 2 - 4 research contracts on or before September 30, 2017 to address priority area 2.4.2. The funding for this priority area will not exceed $5,000,000.

Information regarding proposal preparation and submission is available at the link above. **To ensure consideration for awarding of research contracts by September 30, 2017, please submit the Quad Chart and White Paper by March 31, 2017.**

Following a successful review of the Quad Chart and White Paper, the Offeror may be invited to submit a Full Proposal. FDA's Office of Acquisitions & Grants Services (OAGS) will send invitation letters requesting that a Full Proposal be submitted by June 26, 2017.

Background

There is an urgent need for new antibacterial drugs that are active against pathogens associated with antibacterial drug resistance and poor clinical outcomes. On February 27, 2017, The World Health Organization (WHO) announced its first list of antibiotic-resistant "priority pathogens" where new antibacterial drugs are urgently needed. *Acinetobacter baumannii and Pseudomonas aeruginosa* were listed in the first-tier group or the highest priority category. http://www.who.int/medicines/publications/WHO-PPL-Short_Summary_25Feb-ET_NM_WHO.pdf?ua=1

Some investigational drugs active against *Acinetobacter baumannii* or *Pseudomonas aeruginosa* are in development but may be active against only a single species of bacteria. Performing clinical trials of such drugs will be challenging as the target species is a relatively infrequent cause of human disease and utilization of pre-study and concomitant antibacterial drug therapy is likely. These challenges were discussed at the July 18 - 19, 2016 FDA Public Workshop "Facilitating Antibacterial Drug Development for Patients with Unmet Need and Developing Antibacterial Drugs that Target a Single Species". Meeting materials can be reviewed at: http://www.fda.gov/Drugs/NewsEvents/ucm497650.htm .

On March 1, 2017, FDA held a Public Workshop entitled, "Current State and Further Development of Animal Models of Serious Infections Caused by *Acinetobacter baumannii* and *Pseudomonas aeruginosa.*" The Public Workshop included an overview of the challenges with development of a new antibacterial drug targeting a single species, lessons learned from past and current animal models of infection development efforts, and discussion of next steps and research priorities. Meeting materials can be reviewed at: https://www.fda.gov/Drugs/NewsEvents/ucm534031.htm.

While every effort should be made to perform human clinical trials, animal models of serious bacterial infection are useful to explore the activity of a candidate antibacterial drug targeting a single species and may be further developed to help to predict whether the drug will be efficacious in humans.

Research Proposal Objectives

FDA will prioritize White Papers submitted in response to the FDA BAA by the March 31, 2017 deadline that propose efforts focused on animal model development or animal model refinement for serious infections caused by *Acinetobacter baumannii* or *Pseudomonas aeruginosa*. Proposed efforts may include a systematic approach to reproduce the pathophysiology of human disease in an animal species following challenge with the infectious agent including median lethal and/or infectious dose determination, natural history of infection, and serial pathogenesis studies. If possible, efforts may include a systematic approach to improve the performance of an existing animal model, adapting an existing animal model that reproduces the disease caused by one infectious agent to a different but related infectious agent, or adapting an existing animal model to optimize its ability to support the evaluation of an antibacterial drug following challenge with the infectious agent.

Research Proposal Preparation Considerations

White Papers and Full Proposals will be evaluated based on program relevance to new drug development and regulatory review, overall scientific and technical merit, and offeror capability.

FDA is particularly interested in advancing the development of animal models of pneumonia or other life-threatening infections caused by *Acinetobacter baumannii* or *Pseudomonas aeruginosa.* Advancement from animal models of antibacterial drug activity to animal models of serious bacterial infections in humans to help predict whether a new antibacterial drug will be efficacious in humans would be considered to have high program relevance.

Offerors should provide a scientific literature review and description of research previously conducted to justify the specific animal model development/refinement research being proposed. Specifically, describe how the proposed research would be expected to advance the development of animal models of serious infections caused by *Acinetobacter baumannii* or *Pseudomonas aeruginosa.* Include information regarding bacterial strains being proposed for testing and rationale, animal species being proposed for use in the model and rationale, animal challenge method, biomarkers that will be studied, and endpoints that will be assessed.

The Full Proposal should include plans to assess the capacity of the model(s) to evaluate the activity of an antibacterial drug and predict the human clinical response including appropriate negative and positive controls. For example, include plans to determine whether antibacterial drugs shown to have lower efficacy at a particular site of infection in clinical trials than would be expected from *in vitro* susceptibility results alone also show lower efficacy in the animal model. In addition, antibacterial drugs

with known efficacy in humans at the relevant infection site should demonstrate similar results in the animal model. Also, include plans to explore reasons for any discrepancies and potential implications for the accuracy of predicting effects of new drugs in humans.

Offerors should include a description of their qualifications, capabilities, related experience, and past performance. Information regarding the facilities, GLP capability, animal care and use accreditation, licensing, and compliance should be included.

Contact Information for Questions:

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Office of Antimicrobial Products Research Webpage Link:

https://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/ucm536676.htm