



OpGen Collaborates With Merck to Develop Novel Rapid Diagnostics and Informatics Tools to Combat Antibiotic Resistance

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GAITHERSBURG, M.d., Nov. 14, 2016 (GLOBE NEWSWIRE) -- OpGen, Inc. (NASDAQ:OPGN) today announced it has entered into a research collaboration with Merck, known as MSD outside the United States and Canada, to develop new rapid diagnostics and information technology products to help combat the threat of antimicrobial resistance. The companies will collaborate to support OpGen's development of rapid DNA tests and a genomic knowledgebase of antibiotic-resistant pathogens for predicting antibiotic susceptibility based on test results.

Under the terms of the agreement, Merck will provide access to its archive of over 200,000 bacterial pathogens gathered over the last 15 years through the Study for Monitoring Antimicrobial Resistance Trends (SMART), one of the world's largest surveillance studies of antimicrobial resistance supported by Merck in collaboration with International Health Management Associates (IHMA). OpGen will perform genomic analysis, microbiology testing for drug resistance, and incorporate this information into its Acuitas[®] Lighthouse Knowledgebase and the development of rapid DNA tests. This new molecular testing and informatics approach is being developed to help transform antibiotic decision making for doctors managing acute care patients with blood, respiratory, urinary tract, and soft tissue infections. In addition to identifying resistance determinants to predict antibiotic failures, the OpGen technology is being evaluated as the foundation for utilizing molecular diagnostic tests to predict pathogen susceptibility and guide patient management choices to improve patient outcomes.

"This collaboration builds upon the promise of our DNA-based genetic tests, Lighthouse Knowledgebase and antibiotic resistance decision making tools to make a significant impact on hospital infections," said Evan Jones, chairman and CEO of OpGen. "Access to Merck's SMART surveillance network data has the potential to greatly accelerate our internal development efforts in validating our rapid diagnostic tools and bolster data acquisition for our Lighthouse Knowledgebase."

Recent studies have indicated that antimicrobial resistant infections currently claim 50,000 lives each year across the United States and Europe alone, with many hundreds of thousands more dying in other areas of the world. In September, world leaders at the United Nations called rising antimicrobial resistance a fundamental threat to human health, development, and security. As a result, for the first time, Heads of State committed to taking a broad, coordinated approach to combat rising antimicrobial resistance including the development of new medicines and rapid diagnostics.

"Rapid diagnostics for pathogen identification and antibiotic susceptibility testing are central to developing global solutions for antimicrobial resistance," said Dr. Eliav Barr, senior vice president, Infectious Diseases and Vaccines Clinical Development, Merck Research Laboratories. "By providing OpGen with access to our archive of bacterial pathogens, we hope to expedite the development of rapid diagnostic tests and enable prompt and informed antibiotic prescribing to improve patient outcomes."

OpGen will initially perform molecular analyses on up to 10,000 pathogens to identify markers of resistance to support rapid decision making using the Acuitas Lighthouse[®] MDRO Management System ("Lighthouse Portal"), and to speed development of OpGen's rapid diagnostic platforms. OpGen's Lighthouse Portal and Knowledgebase are being developed to provide antibiotic stewardship and tracking information for drug resistant pathogens in hospitals and health systems. Merck will gain access to the high-resolution genotype data for the SMART isolates as well as access to OpGen's Lighthouse Portal to support internal research and development programs.

About the SMART Study

The Study for Monitoring Antimicrobial Resistance Trends (SMART) was initiated by Merck in 2002 to monitor the *in vitro* susceptibility of clinical isolates to 12 commonly used antibiotics in different regions of the world to survey changing trends in antibiotic susceptibility. SMART currently monitors antibiotic activity against gram-negative bacteria isolated from two common types of infection: intra-abdominal and urinary tract infections. Isolates have been collected from patients with complicated intra-abdominal infections since 2002 and from patients with complicated urinary tract infections since 2010. In 2016, Merck anticipates that more than 41,000 isolates will be collected.

This research agreement is executed between OpGen and Merck Sharp & Dohme Corp., a wholly-owned subsidiary of Merck & Co. Inc. The Merck Global Health Innovation Fund, a venture capital arm of Merck, is an investor in OpGen Inc.

About OpGen

OpGen, Inc. is harnessing the power of informatics and genomic analysis to provide complete solutions for patient, hospital and network-wide infection prevention and treatment. Learn more at www.opgen.com and follow OpGen on Twitter and LinkedIn.

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