

Optical Mapping First to Definitively Determine Deadly *E. coli* Strains in German Outbreak Are From a Single Source and Related to Earlier Outbreaks - See more at: <http://opgen.com/news/press-releases#sthash.IZ7mrxlV.dpuf>

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Whole Genome Analysis Adds Crucial Information to Better Understand and Manage the Ongoing *E. Coli* Outbreak in Germany

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GAITHERSBURG, MD, June 13, 2011 — OpGen, Inc. today announced successful completion of whole genome maps of the German outbreak *E. coli* isolates, performed in cooperation with the University Hospital Münster, Germany on the Argus™ Optical Mapping System. In less than 48 hours, the company completed *de novo*, whole genome maps of six isolates from the outbreak and reference strains, confirming that the outbreak *E. coli* are clonal or genetically identical, providing the strongest evidence to date of a single source for the outbreak. In addition, comparison of the optical maps clearly shows the relationship of the current outbreak to prior outbreak strains.

“Working with OpGen, Optical Mapping allowed us to quickly compare multiple isolates from this outbreak to demonstrate convincingly the clonality of the ongoing outbreak here in Germany,” commented Dr. Dag Harmsen, university professor and head of research at the University Hospital Münster, Germany. “We believe that Optical Mapping is an important breakthrough technology for outbreak identification and clarification, which will enable our ability to intervene and make appropriate public health decisions earlier in future outbreaks.”

The OpGen Optical Mapping technology and ARGUS system provide rapid, accurate analysis of microbial genomes. Optical Mapping is the only technology that provides complete, ordered, high-resolution DNA maps of microorganisms like bacteria, yeast and fungi. Comparison of multiple outbreak and reference strain Optical Maps enables public health agencies and researchers to identify unique, specific and conserved regions of the genome. As a result, when combined with sequencing technologies this powerful technology can identify the presence and location of important virulence, resistance and toxin genes in the bacterial genome. During this outbreak OpGen used Optical Maps to order and orient sequence contigs to produce a complete, whole genome sequence of the outbreak organism. In addition, combining sequence and Optical Map data definitively shows which virulence and toxin genes are on the chromosome and which are on plasmids, information which has implications for the development of diagnostic tests.

“OpGen’s Optical Mapping technology has added critical information to better understand the epidemiology of the ongoing *E. coli* outbreak in Germany, and we look forward to publishing the full data set from our findings,” commented Doug White, chief executive officer of OpGen. “We believe that the rapid turnaround time and higher resolution whole genome data provided by optical maps offer an important new advance for outbreak response and identification of targets for the development of accurate, rapid molecular diagnostics. We will continue to work with public health officials in Germany and elsewhere to address these outbreaks and rapidly deliver the genomic information needed to make prompt decisions to protect public health.”

About OpGen, Inc.

OpGen, Inc. is a leading innovator in rapid, accurate genomic and DNA analysis systems and services. The company has developed the Argus™ Optical Mapping System and also offers MapIt™ Services that provide high resolution, whole genome DNA sequence maps and finished DNA sequence information. This proprietary *de novo* technology is free from the limitations of sequencing-based methodologies. OpGen's technology is being used by public health agencies worldwide to help rapidly analyze microbial genomes and track disease outbreaks. Optical mapping has also been applied to the analysis of large genomes. OpGen's customers include leading genomic research centers, biodefense organizations, academic institutions, clinical research organizations and biotechnology companies. For more information, visit www.opgen.com.