BGI Releases a Complete De Novo E. Coli O104 Genome Assembly and is Making Its Detection Kit Protocols and Synthesized Primers Freely Available to Worldwide Disease Control an...

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CAMBRIDGE, Mass. and SHENZHEN, China, June 7, 2011 /PRNewswire/ -- Scientists worldwide have been working on the publicly available genomic sequences of the deadly *E. coli* O104 strain, which is causing the current health crisis in Germany and now spreading throughout Europe. To continue to speed the ongoing international efforts of researchers to assess and halt this growing epidemic, BGI and their collaborators at the University Medical Centre Hamburg-Eppendorf have now released their third version of the assembled genome, which includes new data from this *E. coli* O104. (ftp://ftp.genomics.org.cn/pub/Ecoli_TY-2482/Escherichia_coli_TY-2482.contig.20110606.fa.gz [1]). In addition, the FTP site contains a file that provides the PCR primer sequences BGI and its collaborators have used to create diagnostic kits for rapid identification of this highly infectious bacterium.

The new assembly includes more than 200x single-end reads from the Illumina HighSeq Platform, which allowed BGI to provide a more complete genome map and to correct any assembly errors from the previous version. More importantly, this version is a completely *de novo* assembly, whereas the previous versions by BGI and others used a reference-based assembly method to obtain a consensus sequence. The new assembly continues to support the finding that this infectious strain carries disease-causing genes from two types of pathogenic *E. coli*: enteroaggregative *E. coli* (EAEC) and enterohemorrhagic *E. coli* (EHEC).

Taking advantage of this genomic feature, BGI and the Beijing Institute of Microbiology and Epidemiology researchers have developed a straightforward PCR diagnostic protocol for rapid identification of the outbreak strain. The diagnostic method consists of two pairs of amplification primers that target the enteroaggregative- and hemorrhagic-a
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SOURCE [2]

Source URL (retrieved on *07/11/2014 - 8:35pm*):
http://www.mdtmag.com/news/2011/06/bgi-releases-complete-de-novo-e-coli-o104-genome-assembly-and-making-its-detection-kit-protocols-and-synthesized-primers-freely-available-worldwide-disease-control

Links:

[1] ftp://ftp.genomics.org.cn/pub/Ecoli_TY-2482/Escherichia_coli_TY-2482.contig.20110606.fa.gz
[2] http://www.bio-medicine.org/medicine-technology-1/BGI-Releases-a-Complete-De-Novo-E--Coli-O104-Genome-Assembly-and-is-Making-Its-Detection-Kit-Protocols-and-Synthesized-Primers-Freely-Available-to-Wor-17921-1/