13th Biotechnology Congress

November 28-30, 2016   San Francisco, USA

Xiaohua He

United States Department of Agriculture-Agricultural Research Service, USA

Outbreaks of Shiga toxin-related poisoning and methods for early detection

Shiga toxin (Stx) is one of the major virulence factors produced by Shiga toxin-producing *Escherichia coli* (STEC) and is noted for its association with a wide spectrum of diseases such as hemorrhagic colitis (HC) and hemolytic uremic syndrome (HUS), the leading cause of acute renal failure in children. The outbreaks caused by Stx have raised serious public health concerns and resulted in huge economic losses. In 1982 the first reported outbreak of STEC was caused by an *E. coli* O157:H7 serotype in undercooked hamburger but in a report published in 2012, six non-O157 serotypes were revealed to be responsible for 113,000 illnesses annually in the United States alone, almost double the amount of illness caused by O157. Other sera-groups, including the highly virulent *E. coli* O104:H4, have also caused large outbreaks of HC and HUS. As the sources of outbreaks have changed, a variety of detection methods for Stxs and organisms that produce them have evolved as well. Here, we will discuss the recent advances on the detection, characterization and typing of Stxs with emphasis on work performed at the Western Regional Research Center, USDA, ARS.

Biography

Xiaohua He is a Research Molecular Biologist at the Western Regional Research Center, USDA-ARS. She has completed her PhD from UC Riverside and had Post-doc experiences at Purdue and Cornell Universities. She has received the 2015 USDA Federal Laboratory Consortium for Technology Transfer, Far West Region and Outstanding Technology Development Award for her contribution to the development of novel monoclonal antibodies against a broad range of Shiga toxins. She has served as an Academic Editor and Editorial Board Member of several leading journals and is an author/inventor of over 70 publications and patents with 14 technologies licensed to industry.

xiaohua.he@ars.usda.gov

J Biotechnol Biomater

ISSN: 2155-952X JBTBM, an open access journal

Bio America 2016
November 28-30, 2016

Volume 6, Issue 8 (Suppl)

Page 18