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Osama O Ibrahim

Bioinnovations LLC, USA

Understanding the nature, physiology, taxonomy, diagnostic and the federal compliance guidelines for food-borne pathogen *Listeria monocytogenes*

Listeria monocytogenes is an important food-borne pathogen. It is a causative agent of a severe infection that primarily affects in a dearth or an actually ill infant with a septic disseminated from listeriosis. The association of listeriosis outbreaks with contaminated foods led to recognize that *L. monocytogenes* is a foodborne pathogen and that the intestine is the primary route of entry into the body. The incidence of listeriosis appears to be on increase worldwide, with the number of cases rising, especially in Europe. The annual endemic disease rate varies from 2 to 16 cases per million population. *L. monocytogenes* strains appear to be normal residents in the intestinal tract of a human. This may partially explain why antibodies to *Listeria* spp. are common in healthy people. *L. monocytogenes* detection in food samples traditionally involved culture methods based on selective enrichment and plating followed by the characterization of *Listeria* spp. based on colony morphology, sugar fermentation, and hemolytic properties. These detection methods are lengthy and are not suitable for foods with short shelf lives. As a result, more rapid detection methods of *L. monocytogenes* were developed based on antibodies (ELISA) or molecular techniques (PCR or DNA hybridization). These rapid detection methods, mechanism of infection, disease symptoms, disease treatments, food protection, and food safety protocols will be highlighted in this presentation.

Biography

Osama O Ibrahim is a highly-experienced Principal Research Scientist with particular expertise in the field of microbiology, molecular biology, food safety and bioprocessing for both pharmaceutical and food ingredients. He is knowledgeable in microbial screening, culture improvement; molecular biology and fermentation research for antibiotics, enzymes, therapeutic proteins, organic acids and food flavors; biochemistry for metabolic pathways and enzymes kinetics, enzymes immobilization, bioconversion and analytical biochemistry. He was an External Research Liaison for Kraft Foods with Universities for research projects related to molecular biology and microbial screening and holds three bioprocessing patents and multiple publications. Upon his retirement from Kraft Foods he established his own biotechnology company providing technical and marketing consultation for new startup biotechnology and food companies. He has received his BS in Biochemistry with honor and two MS degrees in Microbial Physiology/Fermentation and in Applied Microbiology. He has received his PhD in Basic Medical Science (Microbiology, Immunology and Molecular biology) from New York Medical College. He is a Member of American Chemical Society, American Society of Microbiology and Society of Industrial Microbiology since 1979.

bioinnovation04@yahoo.com

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