Innovative “Omics” technologies for supporting food risk assessment

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Innovation is one of the pillars for the development of food risk assessment programmes that lead to the fundamental role for health consumer's protection. In line with this objective, it would be worth to include evolving high-throughput technologies and improved knowledge of applications of genomics, metagenomics, transcriptomics, proteomics, metabolomics, phenomics and, recently, toxicogenomics, integromics and interactomics scientific tools and their possible use for validating models for food risk assessment. An example of the Omics applications (expertise for the future) has been done on the food field of probiotics that are described as beneficial microorganisms used for improving human health. However, the evaluation of the real effects and risk of the probiotic formulations is extremely complicated and complex as well the specific legislative frame. An overview of probiotics will be provided explaining the basis of the interactions and their human effects through compilation of data obtained by Omics technologies results. These tools have shown to have an add value compared to the conventional tools, moreover they have allowed to have more information for unintended and/or potentially adverse effects. The proper implementation of the Omics technologies in risk assessment will constitute a global positive output.

Biography

Margarita Aguilera is Associate Professor at the Department of Microbiology of the University of Granada (Spain), where she completed her PhD in 2002 and performed Postdoctoral studies within European Project Frame and further collaborations at the Joint Research Center-EC on Biotechnology Unit. She has published 40 manuscripts in recognised journals and has been serving as an Editorial Board Member of Food, Microbiology and Biotechnology journals. She is currently Seconded National Expert at the European Food Safety Authority.

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