Multiplex methods in the regulatory analysis of undeclared food allergens

Food allergies affect an estimated 3% of the population and 6% of children, with an increasing number of people suffering from multiple food allergies. The 2004 Food Allergen Labeling and Consumer Protection Act (FALCPA) mandated labeling of foods containing egg, milk, peanut, soy, wheat, tree nuts, crustacean seafood, and fish; these allergens are responsible for 90% of the food allergies in the United States. To enforce FALCPA, antibody-based assays such as ELISAs are commonly employed. While ELISA methods are generally sensitive and robust, they have limitations. As the kits are analyte specific, different assays must be employed in order to detect each of the different food allergens. FDA’s research efforts have focused on the development of methods capable of detecting multiple food allergens, including xMAP, DNA- and mass spectrometry-based methods. This talk will review these methods and their application to the detection of allergens in foods in the United States.

Biography
Shaun MacMahon is the Branch Chief for the Chemical Contaminants Branch at the US FDA’s Center for Food Safety and Applied Nutrition, USA.

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