

# BIOASSAYS FOR BIOMARKERS: TOOLS FOR DETERMINING HUMAN EXPOSURE TO FOOD TOXINS

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We are exposed to multiple chemical threats through food, water and the environment. Many excellent techniques have been developed to measure these contaminants in feeds, foods and water and indeed human exposure has also been measured in some cases. The great difficulty with detecting exposure in humans in that traditional analysis to detect compounds and their metabolites will only give an indication of very recent exposure. The importance of having tools for detecting indirect measurements of longer term exposure has now been realised and the use of biomarkers in exposure studies is now a rapidly growing field in food safety. Biomarkers can be considered to be chemicals, metabolites, susceptibility characteristics, or changes in the body that relate to the exposure of an organism to a chemical compound. Biomarkers have the ability to identify if an exposure has occurred, the route of exposure, the pathway of exposure and the resulting effects of the exposure. An overview of the means of identification of biomarkers to a range of chemical contaminants will be presented and how they can be implemented to understand better the consequences of low level exposure to mixtures of substances.

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