

## **ABSTRACT**

As additional experience is gained with current toxicology testing approaches and as new assays and technologies are developed, it is critical for all stakeholders to engage in active dialog about potential opportunities to advance our overall testing strategies. To facilitate these discussions in the area of immunotoxicology, a workshop was held on the evaluation of current practices for the assessment of immunotoxicity for environmental chemicals. The goal of this workshop was to share perspectives from various stakeholders on current immunotoxicity assessment strategies and experiences, developmental immunotoxicity (DIT) assessments, and integrated and alternative approaches to immunotoxicity testing. In the case of immunotoxicity assessment strategies, approaches and experiences were shared from both the chemical and pharmaceutical industries which suggested that standard toxicity studies in conjunction with triggered-based approaches for additional evaluations represent an effective and efficient approach for evaluation of immunotoxic potential. With respect to DIT, historical perspectives on study designs and critical windows were discussed along with new guideline approaches and experiences. These discussions identified several important factors that should be taken into account before engaging in the conduct of DIT evaluations including assay choice, timing of evaluation and the impact of existing adult data. On the topic of integrating functional immunotoxicity endpoints into standard adult rodent repeat-dose studies, participants agreed that this approach should be considered for fulfilling any immunotoxicity testing requirements, while also maximizing information collection and reducing overall animal use. In the case of *in vitro* approaches for evaluating immunotoxicity, while advancements have been made in the area of sensitization models, it was acknowledged that the mechanisms involved in immunosuppression may be more diverse and therefore will need to address multiple complex pathways and the appropriate assays are still in the early stages of development and evaluation. Overall, the information shared and the discussions that took place during this workshop provided an important scientific exchange that will help to shape the future of immunotoxicity testing for environmental chemicals.