Integrating Alternative Approaches to Replace Animals in Inhalation Toxicity Testing

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Non-animal approaches for acute inhalation toxicity testing must address the multiple mechanisms associated with acute local and systemic toxicity of inhaled substances. A September 2016 workshop co-hosted by NICEATM and PISC resulted in recommendations and prioritizations of actions needed to achieve regulatory acceptance of in vitro and in silico approaches. This presentation will summarize the workshop and report on the status of subsequent activities. These activities will more fully characterize the state of the science of non-animal alternatives, catalog the available inhalation toxicology data resources for developing and evaluating alternative approaches, and establish the steps necessary to implement an integrated testing framework to reduce and replace animal use for hazard-based acute inhalation toxicity testing. This was funded with U.S. Federal funds from NIEHS/NIH/HHS under Contract HHSN27320140003C.