

## NICEATM Workshop Session Presentation

### Society of Toxicology 44th Annual Meeting

March 6 - 10, 2005  
New Orleans, LA

### Performance of BCOP, IRE, ICE, and HET-CAM in Detecting Substances That Induce Severe Irritation and Irreversible Ocular Damage

N. Choksi<sup>1,2</sup>; D. Allen<sup>1,2</sup>; C. Inhof<sup>1,2</sup>; J. Truax<sup>1,2</sup>; R. Tice<sup>1,2</sup>; W. Stokes<sup>2</sup>

1. ILS, Inc., Research Triangle Park, NC, USA.

2. NICEATM, NIEHS/NIH/DHHS, Research Triangle Park, NC, USA.

Exposure of rabbit eyes to a test substance is one of the most common methods for assessing the ocular hazard potential of substances that are proposed to come in contact with or be placed near the eye. Concerns about animal welfare have led researchers to develop *in vitro* test methods as alternatives to the currently used *in vivo* rabbit eye test method. Recently, the U.S. Environmental Protection Agency (EPA) requested that NICEATM and the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) evaluate four test methods; the Bovine Corneal Opacity and Permeability (BCOP) test; the Isolated Rabbit Eye (IRE) test; the Isolated Chicken Eye (ICE) test; and the Hens Egg Test-Chorioallantoic Membrane (HET-CAM) for their ability to detect severe ocular irritants, as defined by U. S. and international ocular irritancy classification systems. For this evaluation, substances that were classified as Category I ocular irritants according to the EPA classification system, as Category 1 ocular irritants according to the United Nations Globally Harmonized classification system, or as R41 ocular irritants according to the European Union classification system were defined as severe ocular irritants. The accuracy of each of the test methods for identifying severe ocular irritants, as defined by each of the identified regulatory classification systems, was evaluated. Based on the available data, this analysis indicated the extent that each of these *in vitro* test methods could be used to identify severe ocular irritants. Appropriate use of these *in vitro* methods to identify severe irritants prior to animal testing will reduce the likelihood of pain and suffering associated with subsequent ocular testing. Supported by NIEHS contract N01-ES-35504.

#### **SOT Itinerary Information:**

ID#	663
Location:	Room R03
Date/Time:	March 8, 2005 / 9:40 – 10:10 AM
Session:	Current Status and Future Considerations for the Development and Validation of <i>In Vitro</i> Alternatives to the Draize Rabbit Eye Test