



## Evaluation of Humane Endpoints for Pertussis Vaccine Safety Testing

### Welcoming Remarks and Introduction

William S. Stokes, DVM, DACLAM, DACAW, BCES,  
RADM, U.S. Public Health Service,  
Executive Director, ICCVAM

Director, NICEATM

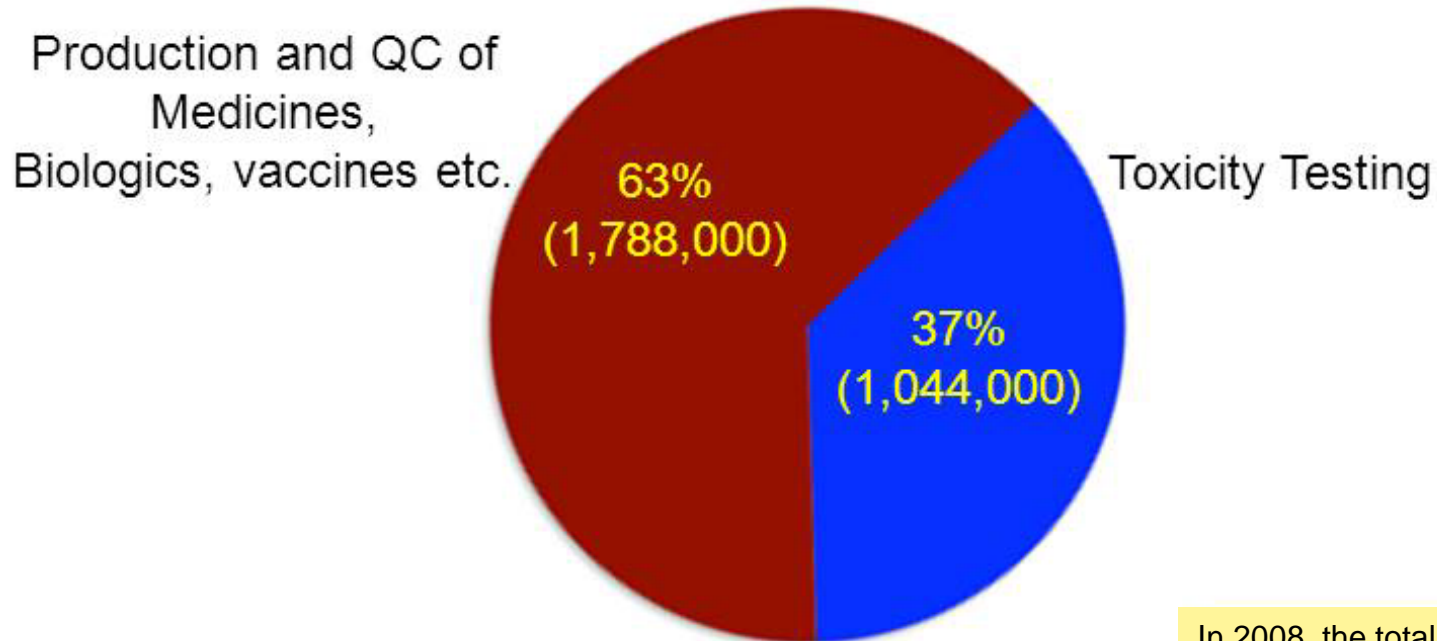
November 27, 2012

William H. Natcher Conference Center  
Bethesda, MD



# Animals Used for Testing by Major Categories (EU 2010)

Total EU annual animal use for testing: 2,832,000

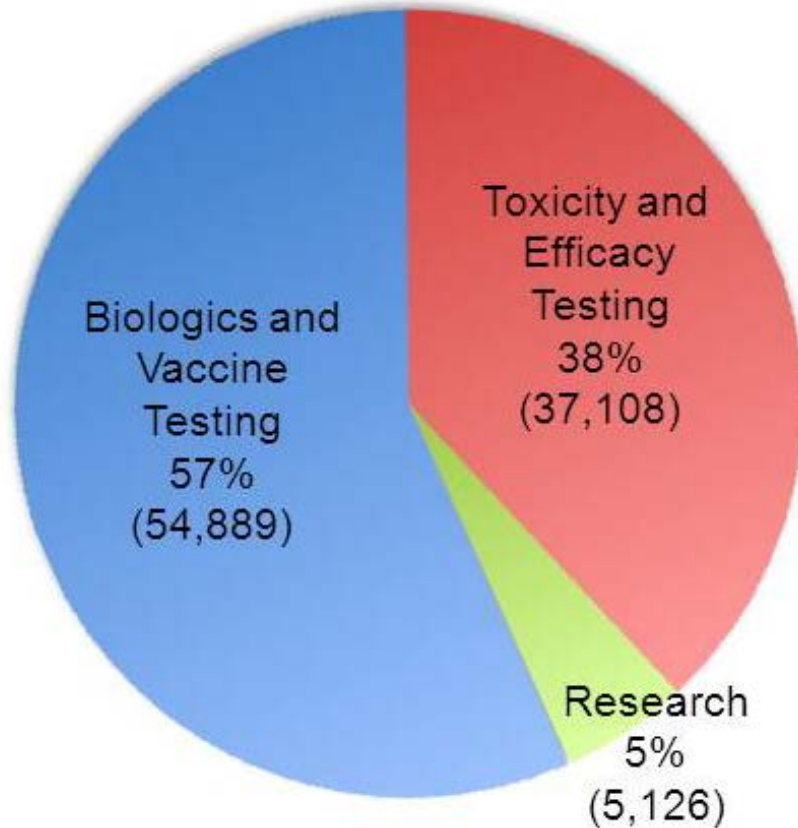


In 2008, the total number of animals used for experimental and other scientific purposes amounted to just over 12 million

Report on the Statistics on the Number of Animals used for Experimental and other Scientific Purposes in the Member States of the European Union COM(2010) 511

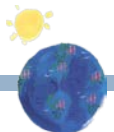
# Use of Animals for Testing that Involves Unrelieved Pain and Distress (No Pain Relievers Used)

Animals by Testing Type  
Reported to USDA (2010):



- 57% (54,889) of the animals reported to USDA that experience unrelieved pain and distress are used for testing Biologics and Vaccines
- Including rats, mice, and birds (not reported to USDA):
  - Est. 2 million animals used for testing that involves unrelieved pain and distress (in the U.S.)

Data for all states with all animal data for Column E of APHIS Form 7023; USDA. 2010. Annual Report - Animal Usage by Fiscal Year. United States Department of Agriculture. Animal and Plant Health Inspection Service. Available at: [http://www.aphis.usda.gov/animal\\_welfare/efoia/7023.shtml](http://www.aphis.usda.gov/animal_welfare/efoia/7023.shtml)



# Humane Endpoints for HIST



**Evaluation of Humane Endpoints for Pertussis Vaccine Safety Testing**

**Masaki Ochiai, Ph.D.**  
National Institute of Infectious Disease, Japan

**Juan Arciniega, D.Sc.**  
Center for Biologics Evaluation and Research, U.S. FDA

**November 27, 2012 – 2:00-4:00 p.m.**  
**William H. Natcher Conference Center**  
**National Institutes of Health**  
**Bethesda, Maryland, USA**

Organized by members of the International Cooperation on Alternative Test Methods:  
NICEATM - National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods  
ICCVAM - Interagency Coordinating Committee on the Validation of Alternative Methods  
EURL ECVAM - European Union Reference Laboratory for Alternatives to Animal Testing  
JaCVAM - Japanese Center for the Validation of Alternative Methods  
KoCVAM - Korean Center for the Validation of Alternative Methods  
Health Canada

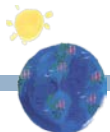
For more information, please contact NICEATM:  
<http://iccvam.niehs.nih.gov/> — (919) 541-2384 — [niceatm@niehs.nih.gov](mailto:niceatm@niehs.nih.gov)

Individuals with disabilities who need accommodation to participate in this event should contact Debbie McCarley at 919-541-2384 or [mccarley@niehs.nih.gov](mailto:mccarley@niehs.nih.gov). TTY users should contact the Federal TTY Relay Service at 800-877-8339. Requests should be made at least 5 days in advance of the event.

**ICCVAM Agencies:**

• Agency for Toxic Substances and Disease Registry	• Department of Energy	• National Institute of Environmental Health Sciences
• Consumer Product Safety Commission	• Food and Drug Administration	• National Institutes of Health
• Department of Agriculture	• National Cancer Institute	• National Library of Medicine
• Department of Defense	• Department of Transportation	• Department of the Interior
	• National Institute for Occupational Safety and Health	• Occupational Safety and Health Administration
		• Environmental Protection Agency

- The most widely used (US and EU) test for absence of residual PTx activity in acellular pertussis containing vaccines is an *in vivo* test based on a lethal histamine sensitizing effect in mice (HIST)
- As an alternative to the lethal end-point assay a more sensitive histamine sensitization test based of measurement of rectal or body temperature in mice has been developed
- Use of body temperature as an endpoint is currently approved in Japan and by the WHO



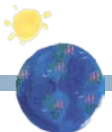
# First Presentation

---

Highly Sensitive Histamine-Sensitization Test for Residual  
Activity of Pertussis Toxin In Acellular Pertussis Vaccine  
Using Body Temperature Monitoring

Masaki Ochiai, PhD

National Institute of Infectious Disease, Japan



# Second Presentation

---

## In Search of a Humane Endpoint for the Histamine Sensitization Assay

Juan Arciniega, DSc,

Center for Biologics Evaluation and Research, U.S. FDA

Open Discussion

