



**NTP**

National Toxicology Program

# Peer Review of Draft NTP Technical Reports

Michelle Hooth, PhD, DABT  
National Institute of Environmental Health Sciences

NTP Technical Reports Peer Review Meeting  
February 8-9, 2012





**NTP**

National Toxicology Program

## NTP Technical Reports

- NTP conducts rodent toxicity and cancer studies on agents of public health concern to identify potential hazards for human health
- NTP technical reports describe the methods, results, and NTP conclusions as “levels of evidence” under the specific conditions of the study

## Levels of Evidence (LOE) of Carcinogenic Activity

- **Clear evidence of carcinogenic activity**
  - Dose-related (i) increase of malignant neoplasms, (ii) increase of a combination of malignant and benign neoplasms, or (iii) marked increase of benign neoplasms if there is an indication from this or other studies of the ability of such tumors to progress to malignancy
- **Some evidence of carcinogenic activity**
  - Chemical-related increased incidence of neoplasms in which the strength of the response is less than that required for clear evidence
- **Equivocal evidence of carcinogenic activity**
  - Marginal increase of neoplasms that may be chemical related
- **No evidence of carcinogenic activity**
- **Inadequate study**

## Factors for Consideration in Applying LOE Categories

- Statistics
- Dose-relationship
- Common versus uncommon lesions
- Concurrent and historical control data
- Multiplicity
- Decreased latency
- Progression: benign -> malignant and metastases
- Pre-neoplastic lesions
- Survival
- Body weight effects
- Structure-activity correlations
- Biological plausibility, mechanistic data
- Findings in the other sex or species

## LOE Guidelines for Stating Conclusions

- LOE determinations are made independently for each sex and each species
- Doses are not included in the call except for “no evidence” calls
- The primary conclusion is the top call for each sex/species; the remaining calls are written in narrative text as:
  - “... were also related to chemical exposure.” (Some evidence)
  - “... may have been related to chemical exposure.” (Equivocal evidence)



**NTP**

National Toxicology Program

## Charge to the Panel

- Review the scientific and technical elements of the study and its presentation
- Determine whether the study's experimental design, conduct, and findings support the NTP's conclusions regarding the carcinogenic activity of the substance tested



**NTP**

National Toxicology Program

**Questions?**



## Meeting Format

- NTP study scientist and/or pathologist presents a brief overview of the study and its findings and conclusions
  - Questions of clarification from panel to study scientist/pathologist
- Identification of written comments and presentation of oral comments
  - 7 min/speaker; 1 speaker/organization
  - Opportunity for questions to public speaker from panel
- Primary reviewers present their peer review comments
  - NTP staff responds to comments
- Additional comments and general discussion by panel
  - NTP staff responds to comments
- Panel votes on draft NTP conclusions
  - Motion, discussion, and vote by show of hands
  - Panelists who vote no or abstain state “why” for the record