

A Brief Introduction to the  
Division of Cellular and Molecular Toxicology,  
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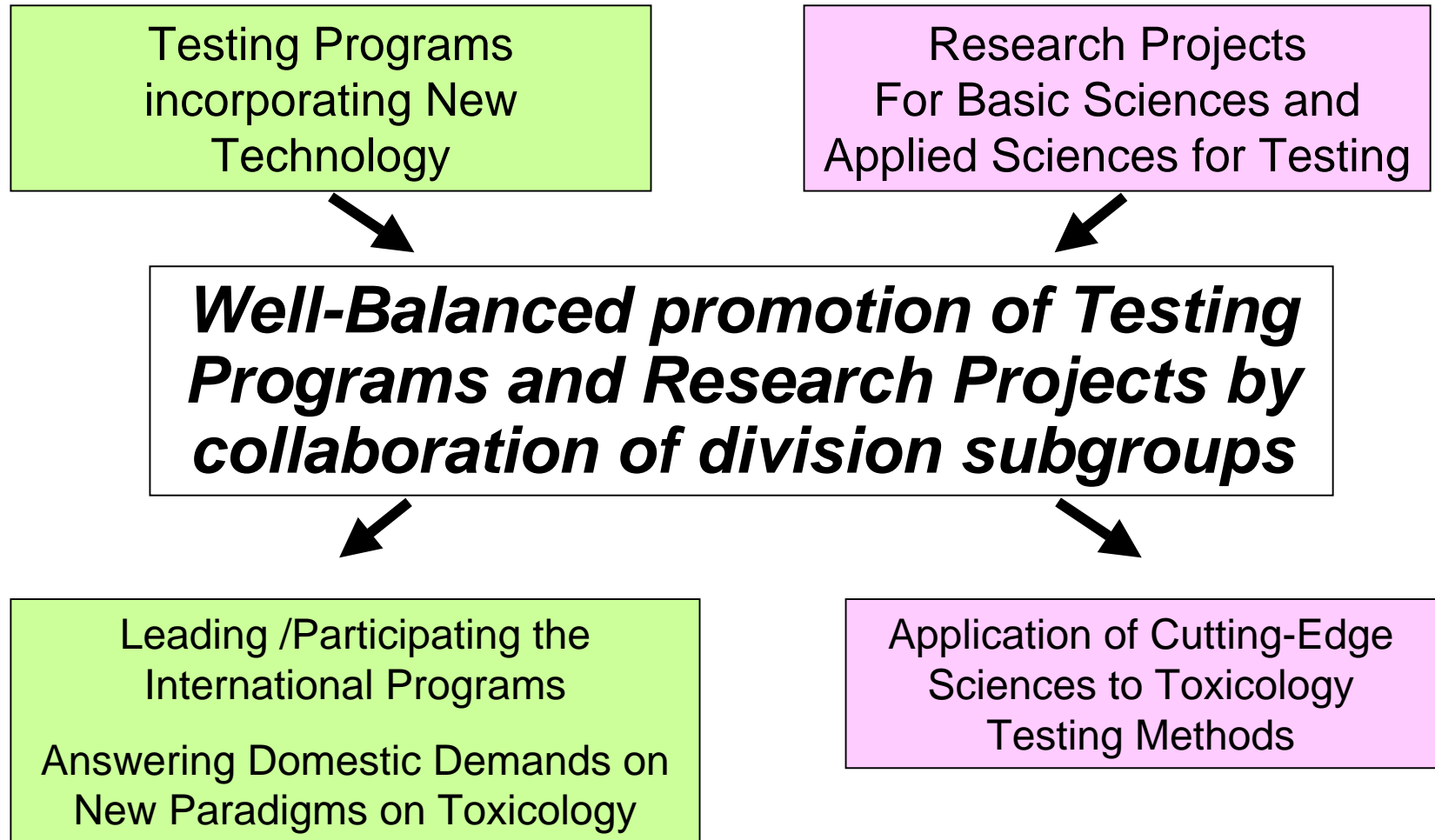
# Targets

- Chemicals
- Food
- Food Additives
- Pesticides
- Quasi-drugs
- Pharmaceuticals

## – Toxicity

- Mortality as endpoint
  - LD50, MTD
- Non-mortality endpoints
  - » Memory
  - » Visual sense
  - » Auditory
  - » Reproductive
  - » Etc.  
Receptor-mediated malformation/  
dysfunction
  - » Genotoxicity

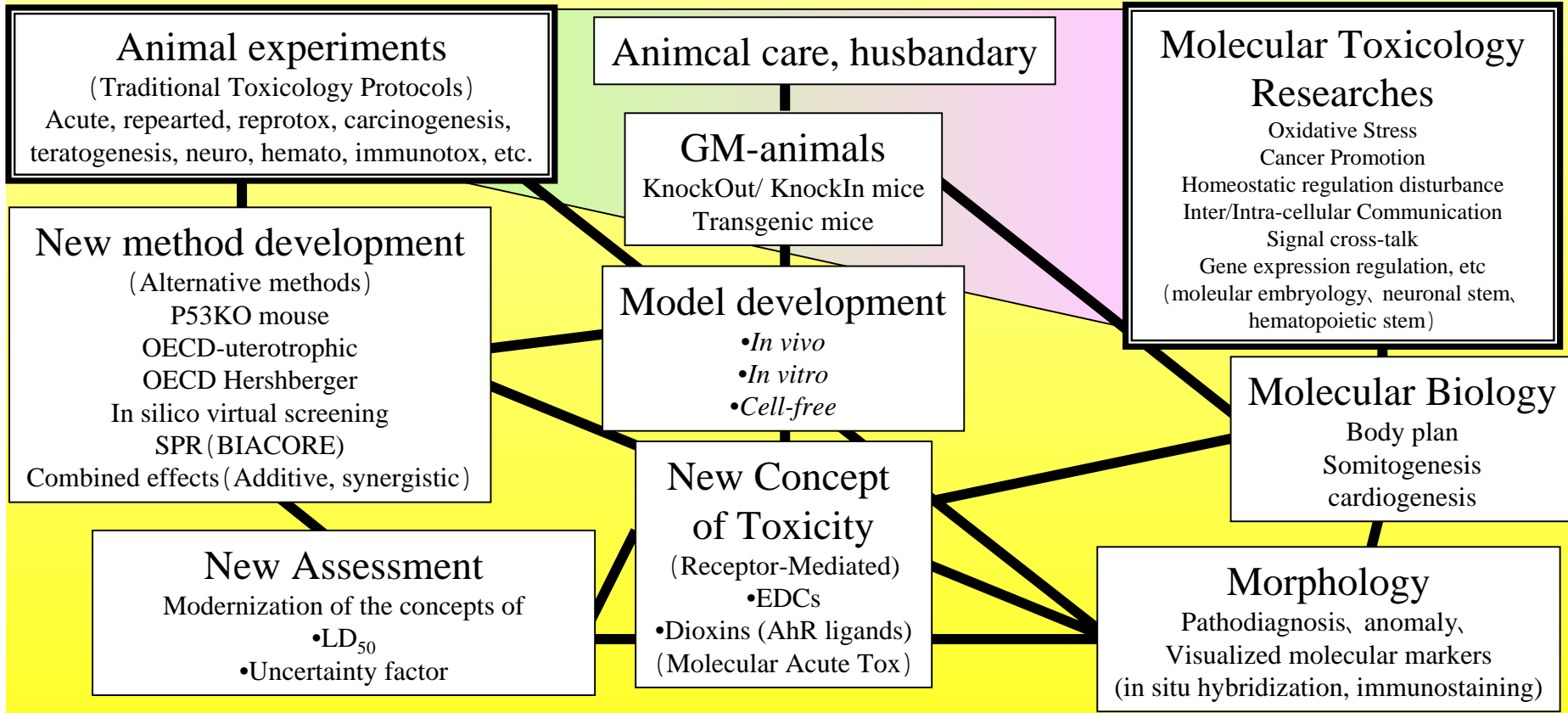
# Division of Cellular and Molecular Toxicology/NIHS



# Testing-Research meshwork of the Division

Toxicology for human risk assessment

Model development and mechanism-based extrapolation to humans



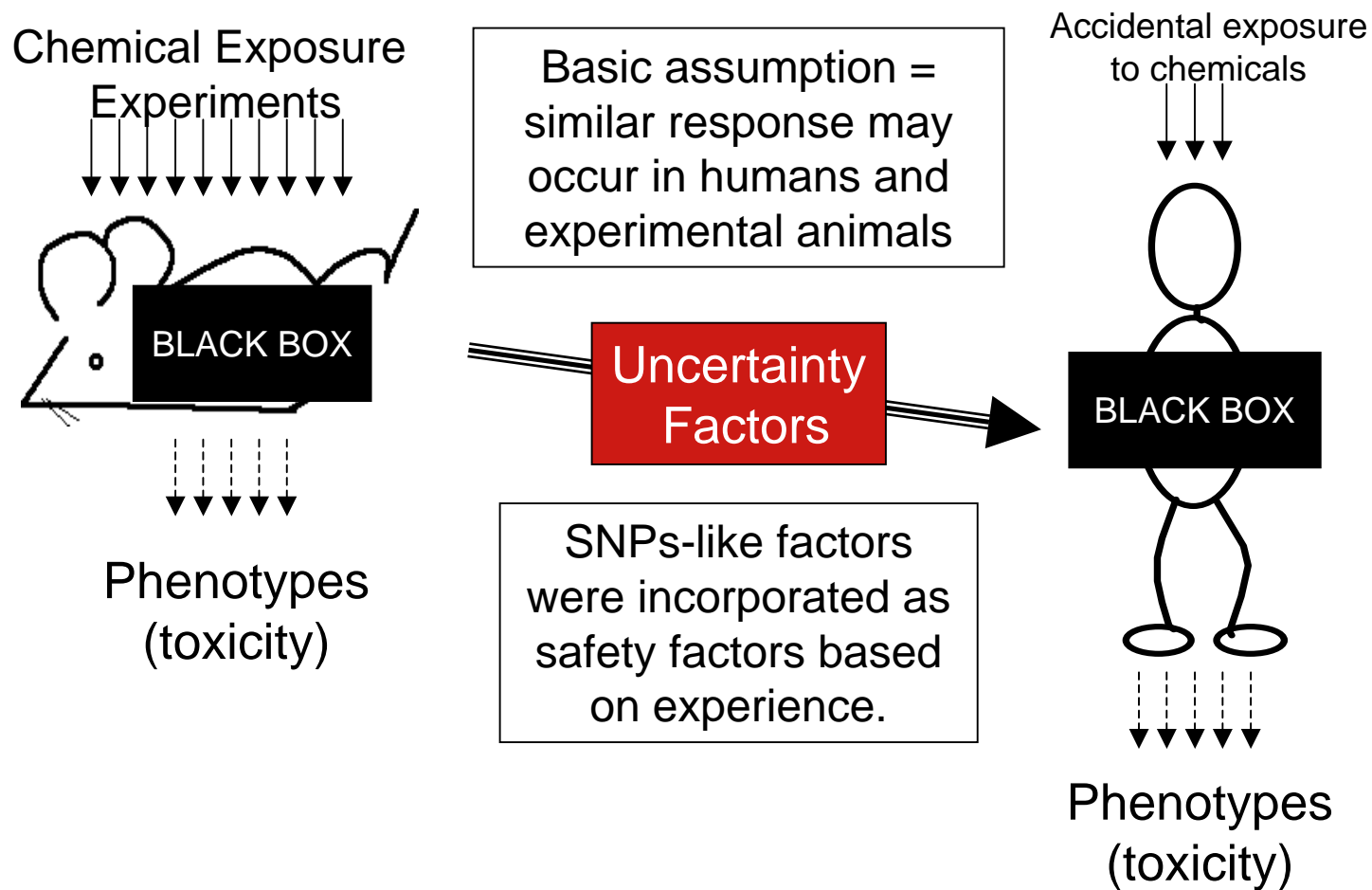
Precise animal handling required for toxicogenomics

Gene expression analysis ( "Percellome" Toxicogenomics ) and protein analysis ( proteomics )

Development of New assessment methodology by database/informatics

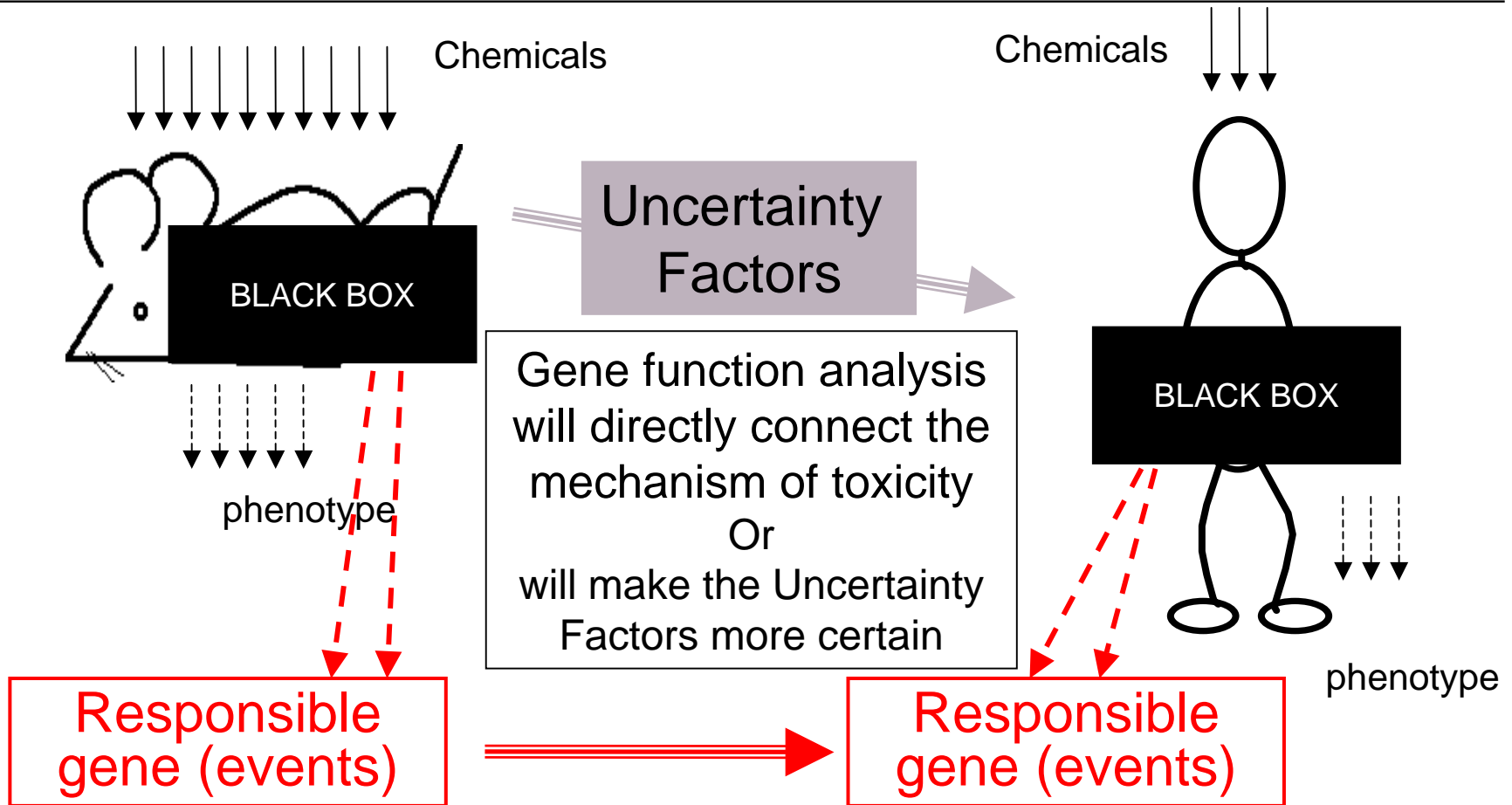
# Do we Use the Magic Number “UNCERTEINTY FACTOR” *for ever* ?

To avoid “Thalidomide Story”



# Mechanism-based Toxicology

(Phenotype-Independent Approach)



Comprehensive analysis of Gene expression is one of the short cut currently available for this purpose → **Toxicogenomics**