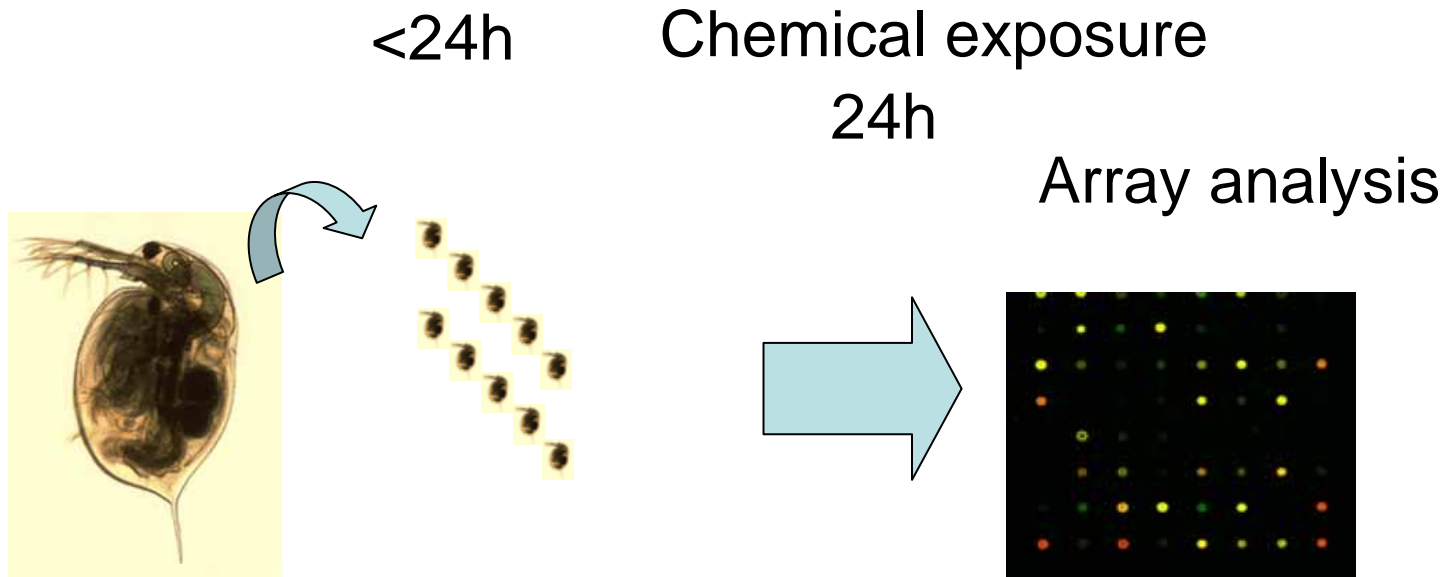
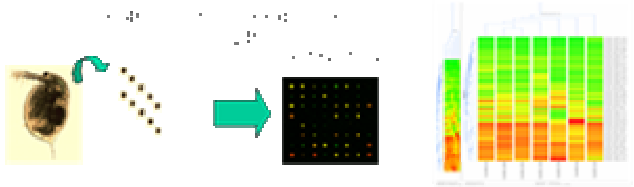


Experimental Flow

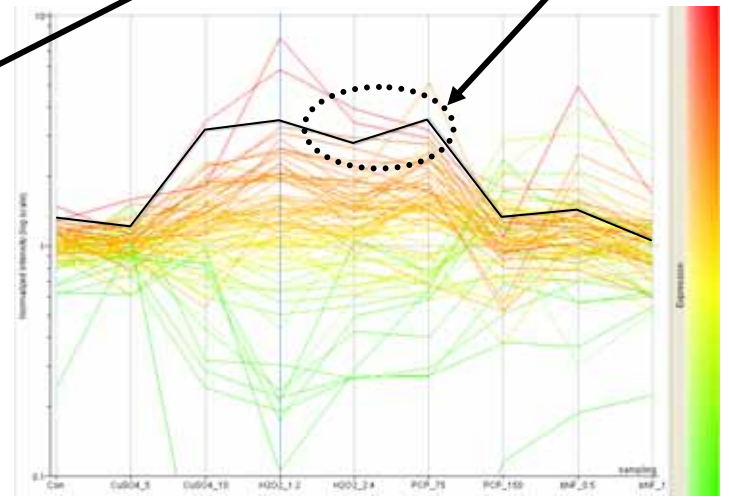
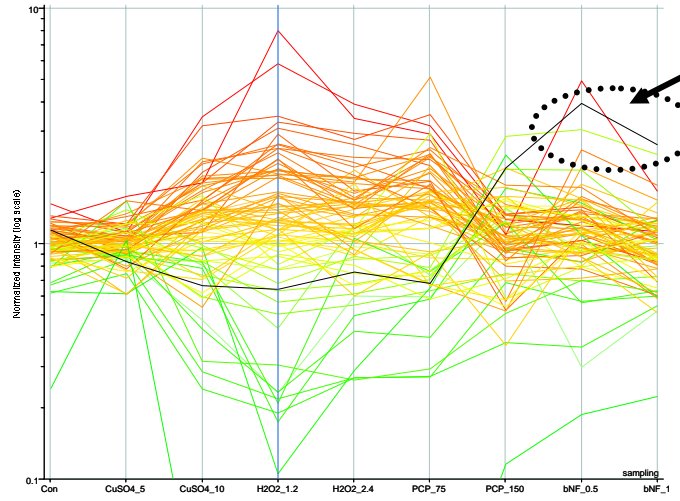
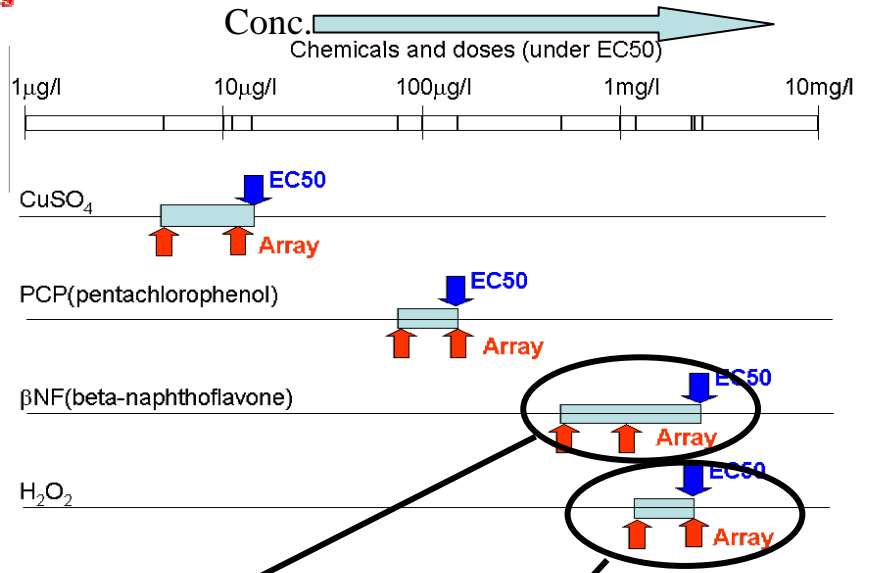
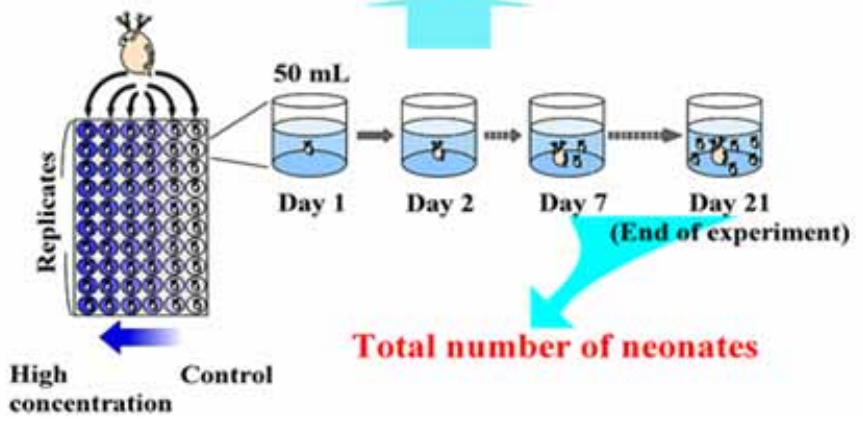


Only 10 neonates can be analyzed

Adlut: problem in reproducibility



**Multiple endpoints
in a short period**



Y-axis: N3allEXP_Default Interpretation
 Colored by: H2O2_1.2
 Gene List: [t-test p<0.05(1of9)] and [FC>2(1of9 N3allEXP)] (79), IGU001_0045_F09.r selected

Summary

- ESTs (Genome in press)
 - <http://daphnia.nibb.ac.jp>
- Development of DNA microarray
 - Oligonucleotide, carbon coated glass, inkjet printing)
- Evaluation of chemicals
 - High reproducibility
 - Characteristic gene expression profile
 - Shorter time

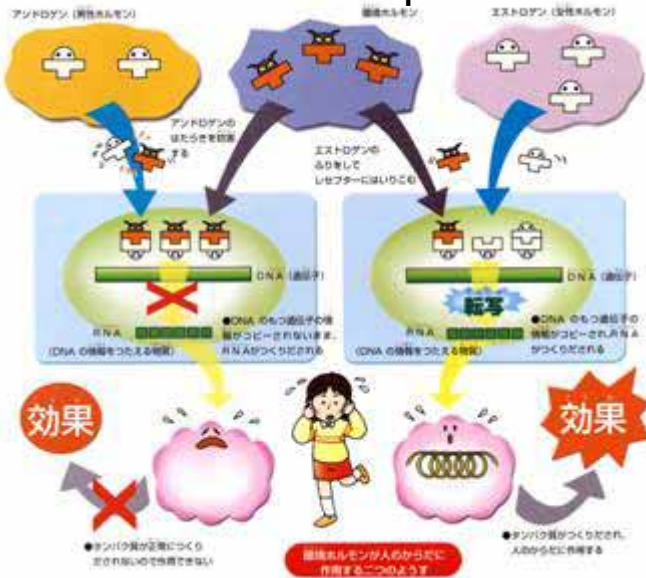
 - Can be used as substitutes of model animals?

Additional 45,000 ESTs (15K from female, 15K from male)

Larger size of DNA microarray (5000-10000 non-redundant genes)

Biased approach

mammal
hormone receptors



Unbiased approach

Toxicogenomic approach

Different effects of EDCs depending
on tissues and maturation stages

Ecotoxicogenomic approach

Common mechanism in different
phenotypes

Target identification

Unexpected mode of action

Daphnia

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