FULFILLING DATA REQUIREMENTS FOR THE US EPA ENDOCRINE DISRUPTOR SCREENING PROGRAM USING EXISTING AND NONTRADITIONAL DATA

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ABSTRACT

New methods of generating and evaluating toxicity data for chemicals are needed to support the increasing demands of early testing programs. The U.S. Environmental Protection Agency (EPA) has initiated the Endocrine Disruptor Screening and Endocrine Mechanism Identification (EDSP) program to identify and characterize chemicals that may disrupt endocrine function. Currently, the EDSP collects Tier 1 data, which includes reproductive and developmental toxicity testing of a limited number of chemicals. This program limits the number of chemicals that can be tested due to budget constraints. To expand the EDSP, new and nontraditional data generation should be considered.

1. PRIORITIZATION

1.1. Evaluation of effects of unknown Tier 1 data

1.2. Mechanistic in vitro silico screens

2. MECHANISTIC IN VITRO SILICO SCREENS

2.1. Endpoints or tier 1

2.2. Aromatase inhibition

3. HUMAN STUDIES/EPIDEMIOLOGY

3.1. Epidemiological studies

4. HIGHER TIER IN VITRO TESTS

5. HUMAN STUDIES/EPIDEMIOLOGY

6. HIGHER TIER IN VITRO TESTS

7. MAKING THE CASE FOR NON-TRADITIONAL DATA

REFERENCES

Table 1: Tier 2 species

Table 2: Pesticide data requirements related to EDSP

Table 3: In vitro silico assays

Table 4: Pesticide data requirements related to EDSP

Table 5: Summary of in vitro silico assays

Table 6: Summary of Tier 2 data requirements

Table 7: Summary of Tier 2 data requirements

Table 8: Summary of Tier 2 data requirements

Table 9: Summary of Tier 2 data requirements

Table 10: Summary of Tier 2 data requirements

Table 11: Summary of Tier 2 data requirements

Table 12: Summary of Tier 2 data requirements

Table 13: Summary of Tier 2 data requirements

Table 14: Summary of Tier 2 data requirements

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