

[P-48]**Evaluation of OECD Screening and Testing Method for Endocrine Disruptors**

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The Organization for Economic Co-operation and Development has initiated the development of new guidelines for the screening and testing of potential endocrine disruptors. The Hershberger assay is one of the assays selected for validation based on the need for in vivo screening to detect androgen agonists or antagonists by measuring the response of five sex accessory organs and tissues of castrated juvenile male rats. The phase-1 feasibility demonstration stage of the Hershberger validation program has been successfully completed with a single androgen agonist and a single antagonist as reference substances. The phase-2 validation program employs a range of additional androgen agonists and antagonists as well as 5-reductase inhibitors. We performed the phase-2 validation studies of the Hershberger assay by OECD protocols using methyltestosterone (0.5, 2, 10, 40 mg/kg/day), procymidone (3, 10, 30, 100mg/kg/day), and 2,2-bis (4-chlorophenyl)-1, 1-dichloroethylene(p,p -DDE; 5, 16, 50, 160mg/kg/day). Castration of sexually immature Sprague-Dawley rats was performed at 6 weeks and the chemicals were dosed after 8 days. All chemicals were orally administered by gavage for 10 consecutive days. In the antagonist version of the assay using procymidone and p, p-DDE, 0.4 mg/kg/day of testosterone propionate was coadministered by subcutaneous injection. All five accessory sex reproductive organs and tissues consistently responded with statistically significant changes in weight within a narrow window. Changes in liver, adrenal, kidney and body weights were also observed. Our results suggest that the Hershberger assay should be used as a reliable and reproducible screening assay for the detection of androgen agonistic and antagonistic effects.

Keyword : OECD validation, Hershberger assay, Methyl testosterone, p,p'-DDE,
Procymidone