

Summary

Charles River offers custom endocrine disruptor testing services and consultancy, combining excellent project communication and support from our dedicated team of experts. With rapid turnaround times, we are also able to shorten timelines with our testing program.



SAFETY ASSESSMENT

Endocrine Disruptor Testing Services

Testing is required to determine whether or not a compound acts as an endocrine disruptor. Testing strategies are defined by the EPA and OECD, starting with Tier I (EPA) or Level 2 (OECD) tests to identify a potential mode of action. Charles River can then help with the evaluation and interpretation of the collected data for hazard/risk assessment.

Charles River scientists participated in the OECD-led international validation of the uterotrophic assay, as well as validation of the male and female pubertal assays, the aromatase assay, and testing packages on many chemicals identified in the EPA's first round of test orders.

Endocrine Disruption Assays

We offer the complete package of the 11 endocrine disruption assays presented by the EPA as Tier I screening and 7 assays presented by the OECD as Level 2 (*in vitro*) and 3 (*in vivo*) screening under the EDSP (Table 1). All studies are validated and performed according to the principles of Good Laboratory Practice (GLP).

In addition, we also offer all guideline-based *in vitro* assays as rapid screening alternatives performed under non-GLP conditions, as well as a variety of non-guideline-based endocrine disruptor assays.

EVERY STEP OF THE WAY

Table 1: Overview of assays for endocrine disruption as proposed by EPA and OECD.

<i>In Vitro</i>	OPPTS Guideline	OECD Guideline
Estrogen receptor (ER) binding – rat uterine cytosol	890.1250	
Estrogen receptor (hER α) binding – human recombinant		493
Estrogen receptor – (hER α) transcriptional activation – human cell line (HeLa-9903)	890.1300	455
Androgen receptor (AR) binding – rat prostate cytosol	890.1150	
Androgen receptor (AR) – transcriptional activation – CHO-K1 cell line (AR-EcoScreen™)		458
Steroidogenesis – human cell line (H295R)	890.1550	456
Aromatase (human recombinant) assay	890.1200	
<i>In Vivo</i>		
Uterotrophic assay (rat)	890.1600	440
Hershberger (rat)	890.1400	441
Pubertal female (rat)	890.1450	
Pubertal male (rat)	890.1500	
Amphibian metamorphosis (frog)	890.1100	231
Fish short-term reproduction	890.1350	229

Delivering a One-Stop Service for Endocrine Disruptor Testing Services

- Customized programs are developed to best assess possible endocrine disruptive effects.
- Large capacity, highest-quality lab space and state-of-the-art equipment is available to screen multiple compounds simultaneously.
- We combine rapid turnaround times with excellent project communication and support from our dedicated team of experts.
- Our scientists help clients to prioritize a testing schedule, minimize animal use, and maximize budget efficiency.