

**CEFIC Long-range Research Initiative
Request for Proposals (RfP)**

LRI Request For Proposal (project code LRI-EMSG57)

Title:

Critical review of epidemiological evidence for the potential association between endocrine active chemicals and obesity, diabetes and cardiovascular disease

Background:

The term “endocrine disruption” has evolved as a term to describe the ability of exogenous substances to cause adverse health effects in organisms and/or progeny secondary to changes in endocrine function. Until recently the focus of attention has been on substances thought to exert effects primarily through interactions with estrogen, androgen, thyroid and to a lesser extent retinoid hormone. This has resulted in efforts to develop internationally harmonized test guidelines and testing strategies to evaluate substances for endocrine activity mediated via such receptor interactions. The discussion has however now broadened to other mechanisms and endocrine systems with suggestions that changes in signalling of other hormone pathways is responsible for the increase in incidence of obesity, diabetes and heart disease. This has resulted in the OECD speculating on various testing and screening methods to identify substances which might be associated with the development of such conditions. A challenge is to review critically the epidemiological data and biological plausibility of a causative association between exposure hormone active agents and obesity, diabetes and heart disease. The systematic literature review should be done according to the conventional methods generally applied in this area. First a set of key search items must be defined. Open literature databases, such as Medline, Toxline and PubMed should be systematically searched. Reference lists of key papers should be queried to identify missing publications. A final selection must be made by applying inclusion and exclusion criteria. The selected papers should be reviewed and their quality should be assessed by preferably applying the STROBE guidelines or the criteria proposed by Vlaanderen et al. If possible a meta-analysis can be a part of the project.

Scope of Proposal: Provide a review on:

- **Cause and Effect:** Review the data from basic research and human studies, with an emphasis on the epidemiology studies on the potential association between exposures to hormone active agents and development of obesity, diabetes and heart disease.
- **Other Influences on Disease Outcome:** Review the biological plausibility of endocrine disruption being responsible for such conditions in comparison with other causative or associated factors.
- **Testing Methods:** Is there a scientific rationale or need for specific testing methodology

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Deliverables:

- Comprehensive State of Art Report Critical Literature Review of the epidemiological evidence for an association between exposure to endocrine active chemicals and obesity, diabetes and cardiovascular disease.
- “Talking points/Key Messages” – to be used in discussion with non-experts
- Publication

Timing

With the ongoing policy debate on endocrine disruption within the EU there is an urgent need for such a report and “talking points/key messages”. A publication in a peer reviewed scientific literature will take longer

Budget

To conduct literature search prepare document with “Talking Points/Key Messages” in 4 to 5 months with later scientific publication will be in the region of € 100,000.

DEADLINE FOR SUBMISSIONS: August 31, 2012

Please see www.cefic-lri.org for the project proposal form and further guidance for grant applications.