

Safeguarding female fertility: cracking the egg factor

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Currently available test methods are not well-suited for the identification of chemicals that disturb hormonal processes involved in female reproductive development and function. This renders women's reproductive health at increasing risk globally, which, coupled with increasing incidence rates of reproductive disorders, is of great concern. Still, the effects of human-made chemicals on the endocrine system and female reproductive health are poorly addressed in regulatory chemical safety assessment, partly because adequate test methods are lacking. In this lecture, I will address how a woman's reproductive health is established during embryonic and fetal development and subsequently matures during puberty, the role of hormones therein and how EDCs can affect this. Moreover, I will show how our EU-funded project FREIA aims to provide better test methods for identification of EDCs that are toxic to female reproduction by using human fetal and adult ovarian tissue, follicular fluid and dedicated *in vivo*, *in vitro* and *in silico* assays.