
Advancing Human Placental Models to Study Endocrine Disrupting Chemicals in Pregnancy

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Project leader:	Fiona Kumnová
Participating universities:	Charles University, University of Copenhagen, University of Geneva

The project investigates endocrine-disrupting chemicals (EDCs), a broad group of environmental contaminants found in plastics, pesticides, cosmetics and pharmaceuticals that interfere with hormonal signaling and may contribute to adverse pregnancy outcomes. Because EDCs can cross the placenta, the initiative brings together placental research teams from Charles University, the University of Copenhagen and the University of Geneva, each contributing expertise in models such as placental explants, primary trophoblast cultures and placental perfusion.

The aim is to develop human placental models for assessing the effects of EDCs while providing short-term training at partner institutions to gain hands-on experience. This collaboration strengthens interdisciplinary research, expands professional networks and advances knowledge in placental toxicology.

Planned activities include laboratory training in Copenhagen on placental perfusion, followed by training in Geneva on trophoblast isolation. A workshop at Charles University will bring master's and PhD students together to discuss placental toxicology, experimental models and research methods.

The project is expected to enhance the participating PhD student's methodological expertise, deepen scientific understanding and support comprehensive research on placental responses to EDCs. Stronger cooperation among the three institutions will continue beyond the project, and findings will be shared through conference presentations, publications and outreach materials.