



EcoToxChip Project Overview

BACKGROUND INFORMATION

Our project aims to develop, test, validate, and commercialize quantitative PCR arrays (EcoToxChips) and a data evaluation tool (EcoToxXplorer.ca) for the characterization, prioritization, and management of environmental chemicals and complex mixtures of regulatory concern. This builds on our recent successes in developing and prototyping an Avian ToxChip to prioritize chemicals and assess contaminated sites. This approach was immediately embraced by Canadian regulators and other end-users thus providing a template and mandate to scale-up activities here. To date, we have shown that our Deliverables address the needs of diverse end-users.

DELIVERABLE 1

EcoToxChips containing 384 prioritized genes for three standard lab species used worldwide in testing (fathead minnow, *Xenopus laevis*, Japanese quail)

DELIVERABLE 2

EcoToxChips for three native species of commercial, recreational and Aboriginal concern in Canada (rainbow trout, double-crested cormorant, leopard frog)

DELIVERABLE 3

An intuitive, cloud-based bioinformatics data analysis, visualization, and interpretation tool (EcoToxXplorer.ca) co-developed with key stakeholders

DELIVERABLE 4

Technical guidance document to facilitate end-user uptake; informed by social sciences research that takes an institutional entrepreneurship lens

TAKE-AWAY

The deliverables from our proposed project provide a solution to pressing practical problems in the field of ecological and chemical risk assessment. They meet the needs of our diverse collaborators and end-users for toxicogenomic tools that are in an accessible format while also being affordable, consistent, reliable, and capable of informing regulatory decision-making in a timely and ethical manner for effective chemicals management.

Notes

Briefing note 8.1 was developed for the Genome Canada-funded project "EcoToxChip: A Toxicogenomics Tool for Chemical Prioritization and Environmental Management"

www.ecotoxchip.ca / @ecotoxchip

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