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ATTAGENE unveils a groundbreaking technology to screen for chemicals' toxicity to humans and wildlife.

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[Attagene](#) Inc. has presented its innovative ecotoxicity testing platform in a highly ranked journal [Environmental Science and Technology](#). "The Ecotox FACTORIAL® is the first to market technology to assess chemicals' toxicity for multiple species simultaneously," says Sergei Makarov, CEO of Attagene and the senior author on the paper. "It allows for testing the adverse effects of chemicals on mammals, fishes, birds, amphibians, and reptiles."

Today, tens of thousands of human-made chemicals infiltrate our environment. Only a fraction of those has been adequately tested for their adverse effects in humans. Even less is known about their influence on other biological species.

The Ecotox FACTORIAL is a cell-based reporter assay that detects the endocrine and metabolic disrupting activities of chemicals. These chemicals interfere with cellular nuclear receptors, leading to reproductive dysfunction, diabetes, metabolic diseases, and cancer. The assay encompasses the estrogen, androgen, thyroid, and PPAR receptors of multiple species.

To enable the multi-species assessments, Attagene researchers invented a parallel detection approach. "What's important, we profile chemicals' effects on multiple nuclear receptors of different species by a single assay," says Alexander Medvedev, R&D Director at Attagene and the first author on the paper. "That harmonizes the cross-species toxicity assessments and ensures remarkable consistency of results."

In collaboration with the U.S. Environmental Protection Agency, Attagene researchers have tested hundreds of environmentally relevant chemicals. They also showed that the Ecotox FACTORIAL permitted efficacious biological evaluation of contaminated water sources.

The new technology permitted Attagene to begin cost-effective, high-throughput ecological screening of chemicals and water samples for their hazardous potential to humans and wildlife.

About the company:

Attagene Inc. is a life science company. It has developed innovative solutions for the comprehensive biological evaluation of pharmaceuticals and environmental chemicals. The company provides research services for the industry, academia, and regulatory agencies.

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