

# Animal-free chemical safety testing with new technology ToxProfiler

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Toxys, Leiden University and Leiden University Medical Center have agreed immediately to commercialize and also develop further the ToxProfiler technology invented at the two institutions. ToxProfiler

allows for rapid toxicity hazard identification of novel and existing drugs, chemicals, and other substances. Furthermore, ToxProfiler has the unique ability to provide detailed and quantitative information about the mode-of-action of such toxic substances. Furthermore, the technique is also free of animal-testing.

## **Expanding the portfolio**

This new technology thereby enormously enlarges the portfolio of toxicity testing that Toxys can make available to the world, complementing the existing genotoxicity and repro-toxicity testing platforms of Toxys.

"Toxys is continuously looking for opportunities to expand its portfolio of unique animal-free assays for chemical [safety](#) testing," says Giel Hendrik, CEO of Toxys. "The ToxProfiler technology aligns perfectly with our already robust portfolio of toxicology services. We are very excited to bring ToxProfiler to our clients and further support the non-animal safety testing of novel medicines, chemicals and other products."

## **Safety testing**

The technology on which the ToxProfiler platform is based, was developed by the Leiden Academic Centre of Drug Research (LACDR). The ToxProfiler platform consists of a large collection of fluorescent reporter cell lines in combination with automated live-cell imaging and data analysis pipelines. ToxProfiler is particularly applicable for early chemical safety testing as well as read-across, adverse outcome pathway and weight-of-evidence approaches.

Bob van de Water, professor of Drug Safety Sciences at LACDR is extremely pleased to see that the is now ready to be commercialized by industry. "The technology was initially developed at LACDR and further

validated within the Horizon2020 EUToxRisk program. It contributes to the [paradigm shift](#) in mechanism-based human safety evaluation and supports the development of safer and more effective medicines and other products. We are very much looking forward to working with Toxys."

"We are proud to work with Toxys to bring our technology to the market' agrees Hubertus Irth, scientific director of the LACDR. "With the scientific expertise and proven experience with bringing innovative cell assays to the market, we believe that Toxys is the ideal partner to further develop and commercialize our ToxProfiler technology. Valorisation and contributing to solving important societal problems like reducing animal testing is a key priority for our university."

## **Human health hazards**

The ToxProfiler platform is a unique New Approach Method, that can be applied to accurately quantify the chemical-induced cellular stress response pathways to reveal the toxicological mode-of-action of novel medicines, (agro)chemicals, cosmetics and food ingredients. Differentiation of the ToxProfiler reporter cells in 3-D spheroids can be applied to study liver metabolism or bioaccumulation and long-term exposure effects by repeated dosing of compounds. Understanding these often complex mechanisms underlying toxicity is essential for extrapolation of in vitro [test](#) results to human health hazards.

**More information:** For more information, see [toxys.com/toxprofiler](https://toxys.com/toxprofiler)

Provided by Leiden University

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