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Press release

UbiClear: a new ultra-fast and natural biological tissue clearing process

Idylle and Erganeo have concluded a licensing contract to use a new process for achieving transparency in biological samples for tissue imaging: a fast, ultra-efficient, non-toxic and universal method from the CNRS-SPPIN laboratory.

In microscopic imaging of biological tissues, the study of large cellular structures at sub-cellular level is hampered by tissue opacity. Achieving tissue transparency by chemical means solves this issue via refractive index homogenisation and/or delimitation — but this solution involves complex technology that often takes a long time to put in place.

Led by Dr Martin Oheim, director of the Saint-Pères Paris Institute for the Neurosciences (SPPIN, CNRS UMR 8003, Université Paris Cité) and research engineer Brigitte Delhomme, the team honed a new, ultra-fast process for clearing biological samples. This extremely simple process is powered by a combination of two compounds that can turn tissue transparent in a matter of minutes. Known as UbiClear, the reagent is based on a natural, biodegradable and non-toxic agent that yields high levels of transparency. Its universal quality means it can be used on whole insects (tried and tested on wasps, grasshoppers, spiders, flies and more), molluscs (mussels, slugs), plant matter (leaves, roots) and adult zebrafish. The process was also shown to be effective on organs in mice, with preliminary experiments indicating effectiveness in humans, too (brain, intestine). This opens up new avenues of possibility in volume imaging for medical, biomedical and agricultural applications, as well as for teaching and biomimetic design.

UbiClear's innovative process caught Idylle's eye: a company specialising in developing and marketing research products and tools for life sciences laboratories. To bring this new Idylle-Labs¹ process to market, on 22 May 2024 the company signed an operating license contract with Erganeo, which has filed and managed the innovation's patent since October 2022. The company aims to roll out an international business strategy by the end of 2024, focusing on Europe, North America and Asia.

“A team of researchers have produced a groundbreaking innovation for research laboratories to use, making it easier to analyse biological tissues,” explains Erganeo CEO Naceur Tounekti. *“Our collaboration with Idylle ensures that this technology is platformed around the world: technology produced by French public research and designed for life sciences laboratories.”*

¹ <https://www.idylle-labs.com/shop/ubiclear-clearing-kit-for-biological-tissues-531#attr=359>



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About Erganeo – www.erganeo.com

Erganeo is a French tech transfer company specialises in breakthrough innovations (deep tech) with a major societal impact. We invest early in the game to secure researchers' newest inventions before they are transferred to companies or before start-ups are founded, across a wide range of scientific fields. Erganeo aims to accelerate and simplify links between research and industry for the benefit of society. To do so, we finance and support the new generation of French researchers and entrepreneurs on the road to international recognition and success.

As a member of the SATT Network, Erganeo draws on the Ile-de-France network in building the foundations of a better tomorrow, tapping into a talent pool of over 20,000 researchers across 350 cutting-edge, leading laboratories. Since it was founded, Erganeo has invested over €44m, thus contributing to the signing of 120 licensing agreements with companies of all sizes and setting up 34 start-ups.

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About Idylle – www.idylle-labs.com

Idylle launched at the Quattrocento start-up studio in 2019, and is a technology transfer platform with a focus on innovating in research tools for life sciences. We develop and market products, working hand in hand with researchers who design and use pioneering R&D tools.

About the SPPIN - www.sppin.fr

Set up in 2019 by the CNRS on the Université Paris Cité's Saint Germain campus, the Saints-Pères Paris Institute (SPPIN) is at the forefront of basic research in neuroscience. Working across eight teams and a shared technical platform, the SPPIN's researchers and engineers conduct research into applied optics, biophysics, molecular and cellular neuroscience and neurophysiology. UbiClear stems from the "Driven by curiosity, enabled by technology" policy that the SPPIN strives to champion.