

Uppsala, 21 October 2026

Stardots and BrainZell collaborate to connect human measurements with neural organoid research

BrainZell and Stardots have established Cross-AI, a research collaboration exploring how drug responses in patient-derived neural organoids relate to measurements in people. By combining their complementary technologies and AI expertise, the partners aim to help pharmaceutical teams identify promising drug candidates, stratify trial participants, and measure treatment response. Bipolar disorder is the initial research direction.

BrainZell will draw on Stardots' existing Psilmi research platform as a human reference within its own organoid research workflow. Psilmi combines synchronized measurements of pupil dynamics, eye movements and cognitive performance. The collaboration brings together Stardots' human-measurement, platform and AI expertise with BrainZell's organoid, electrophysiology, experimental and AI expertise.

The name Cross-AI reflects cross-scale artificial intelligence—connecting human-level measurements from Psilmi with cellular-level activity in BrainZell's neural organoid models. The research begins with BrainZell's high-throughput organoid arrays, used to explore biological targets and test compounds. The companies' AI teams will work together on linking laboratory response patterns with Psilmi measurements, including signals unfolding on different time scales. The aim is to investigate how these complementary measurements can inform understanding of drug responses across cellular models and people.

A selected subset of participants could provide matched human and organoid data. Psilmi's underlying dataset comes from a research project at Uppsala University, and Stardots accesses it through collaboration with the university. Any use in the programme, including matched data, remains subject to consent, ethics, data-protection and donor-governance review.

While the collaboration builds on existing technologies, the combined human–organoid approach is still in the early stages of research. Any predictive or clinical applications would require further validation and, where applicable, regulatory review.



“Psilmi brings pupil responses, eye movements and cognitive performance together in one research platform. We are pleased to work with BrainZell to connect those human measurements with complementary cellular models. It is an opportunity for our teams to explore drug response from different scientific perspectives, with a shared interest in questions that matter to pharmaceutical research,” says Daniel Petrini, CEO, Stardots.

“This collaboration brings us closer to one of the greatest goals of drug development: predicting patient outcomes from preclinical models. By linking BrainZell’s human brain organoids and AI with Psilmi’s objective, real-world patient data, we can identify which biological responses truly translate into therapeutic benefit. Together, we can open a new horizon for faster, more precise, and more successful CNS drug development. We look forward to working with the Stardots team to investigate these links and what they could mean for pharmaceutical research,” says Petra Szeszula, CEO, BrainZell.

Link for more information: <https://stardots.se/cross-ai-connecting-human-measurements-with-neural-organoid-research/>

About Stardots

Stardots develops Psilmi, a research platform that combines synchronized pupil, eye-movement, and cognitive measures to study human function and treatment-related change.

About BrainZell

BrainZell develops patient-derived neural organoid models and assays for investigating neural biology and drug responses.

Media contacts

Stardots: Daniel Petrini, CEO, daniel.petrini@stardots.se, +46 70 782 70 01

BrainZell: Petra Szeszula, CEO, petra@brainzell.com, +46 70 926 18 34