

Technical Project Summary- SDI

Project title

Novel high-throughput screening infrastructure for the identification of small molecule drug candidates

Acronym (optional)

ACESO

Project leader + organisation

Dr. Guido Zaman, Oncolines B.V.

File number:

10920012310004

Key words

List 5 keywords that summarise your project.

High-throughput screening, compound libraries, surface plasmon resonance, Biacore, high-content imaging

Domain 4D Map ([link](#))

- | | |
|---|---|
| ☐ A. Basic Science & Target Identification | ☐ F. Regulatory review |
| ☒ B. Target Pharmacology | ☐ G. Post-marketing |
| ☒ C. Lead Identification | ☐ H. Medical Landscape |
| ☐ D. Lead Optimization | ☐ I. Commercial Manufacturing & Distribution |
| ☐ E. Clinical Research & Development | |

Theme investmentagenda (if applicable)

Investeringsagenda SDI 2025 ([link](#))

- ☐ 2025. "Molecular Diagnostics and Imaging"
- ☒ 2025. "Early Discovery Infrastructure"
- ☐ 2025. "Small scale (shared) manufacturing facilities, "Bioprocessing and fermentation" and "Sustainable manufacturing"

1. Aims and objectives

High-throughput screening is an essential source of new chemical matter for innovative drug discovery. A novel, state-of-the art screening infrastructure will be established, consisting of (1) an automated screening island equipped with acoustic dispensing and a multimode reader, (2) high-content imaging, and (3) a label-free assay platform. The new facility will operate within the laboratories of Oncolines and the Open Access Lab of the Pivot Park.

2. User group and application

Oncolines will exploit the infrastructure to provide fee-for-services to its clients. Once the infrastructure is established and validated in the project, academic groups, start-ups and established companies in the Netherlands interested in application of the infrastructure, for example, to search for starting points for small molecule drug discovery by high-throughput screening, can contact Oncolines to discuss their project needs.

3. Impact

The infrastructure will be the only high-throughput screening facility in the Netherlands. High-throughput screening is an essential capability for early small molecule drug discovery.

4. Technical description of the shared infrastructure

The infrastructure will consist of:

- (1) A screening island for high-throughput screening of compound libraries. The screening island will be equipped with an Echo 655 acoustic dispenser (Beckman Coulter) a PHERAstar multimode reader (BMG Labtech), a liquid dispenser, a plate sealer, de-sealer, a centrifuge, an incubator, and a robotic arm that transfers assay plates between devices.
- (2) A CellInsight CX7 LZR Pro high-content imager (Thermo Fisher Scientific) to visualize the effect of compounds on cells;
- (3) A Biacore 1S+ (Cytiva) for label-free drug–target interaction measurements via surface plasmon resonance.

5. Project group and collaborating partners

Oncolines B.V., a Symeres company, is coordinator of the project and main participant. Oncolines will establish the screening infrastructure and the label-free assay platform in its laboratories at the Pivot Park. The high-content imager will be made available by Pivot Park Holding B.V. in its Open Access Lab. TropiQ Health Services B.V. and Saillant B.V., both established in Nijmegen, will collaborate with Oncolines to validate the infrastructure by executing joint research projects on malaria and cardiovascular disease, respectively.

6. Innovation and Distinctiveness

The infrastructure will be both state-of-the-art and durable. The screening island will be built with new and second hand equipment acquired from the liquidated Pivot Park Screening Centre. Maximum capacity will match with the needs of companies and universities in the Netherlands. There will be no overcapacity. To prevent high costs and dependence on external software providers, programs for data processing and reporting tools will be developed by Oncolines.

7. Additional Information

www.oncolines.com