



## **Eurostars-funded REPRINT consortium reaches milestones with evidence of complete tumor regression induced by dendritic cell reprogramming**

Zurich, Switzerland – 11 April 2023 – InSphero, a Swiss SME, announces today, together with the REPRINT project partners, Asgard Therapeutics (SE, project coordinator), Lund University (SE) and Antineo (FR), the achievement of proof-of-principle for using dendritic cell reprogramming to kick start in-vivo anti-tumor immunity. This joint successful milestone comes as the biggest output of the second in-person meeting hosted by InSphero and held last week in Zurich.

The REPRINT (REPRogramming tumor INTo Immune Cells: a revolutionary gene therapy to treat cancer) project is a research initiative funded by the EUROSTARS program with the aim to develop an innovative off-the-shelf cancer immunotherapy based on Asgard Therapeutics' proprietary in-vivo reprogramming technology. During these 1,5 years of activities, the four partners have provided extensive proof-of-principle for reprogramming tumor cells into antigen-presenting dendritic cells as a way to restore tumor immunogenicity, using both ex-vivo 3D and in-vivo models. Remarkably, reprogrammed cancer cells have the ability to activate local and systemic polyclonal tumor-specific immune responses, leading to complete tumor regression in animal models.

**Cristiana Pires, PhD, Co-Founder and CEO of Asgard Therapeutics, said:** "Since its launch in October 2021, the REPRINT project has made remarkable progress towards the development of a new cancer immunotherapy based in in-vivo reprogramming of tumor cells. We are thrilled with the recent in-vivo results, which showed that reprogramming can cure tumor-bearing animals! In addition, Asgard has selected the final platform to enable efficient delivery of the reprogramming factors to tumors in-situ and provided extensive validation of reprogramming from a multitude of human patient-derived tumor cells, which supports the platform potential of our lead program. There're also exciting results coming supporting the ultimate vision for our lead program. During our recent in-person meeting, we had the opportunity to delve over the progress made and align priorities for future work with our consortium partners. It has been an absolute pleasure to collaborate with such an outstanding team to accelerate the development of our pioneering reprogramming therapies."

**Wolfgang Moritz, Head of Ext. Collaborations and IP at InSphero AG said:** "The consortium meeting in Zurich was a great success. We are honored to be a part of this historic project and we are excited to work with such a talented group of experts in the field. We are reporting the achievement of two major milestones at this meeting. First, we efficiently replicated tumor cell reprogramming into dendritic cells in our ex-vivo 3D Microtissue Platform. Using high content confocal imaging, we were able to visualize emerging dendritic cells and assess the efficiency of viral transfection and reprogramming. Second, we have successfully tested the prototype of a new plate. The AKURA™ TWIN plate accommodates the tumor models, together with liver or pancreatic islet microtissues, both in coculture with immune cells in adjacent wells, connected by a small channel. This breakthrough will enable the simultaneous evaluation of on- and off-target effects of tumor-dendritic cell reprogramming. InSphero's proprietary in vitro technology will validate clinical benefits of a new therapeutic approach and de-risk potential safety concerns."

**Filipe Pereira, PhD, Professor and Group leader at Lund University commented:** "At this consortium meeting in Zurich, we were excited to discuss progress and define objectives with the entire REPRINT team for the cDC1 reprogramming approach created in our lab. We are grateful to join forces with this great team to pave the way for an entirely new cancer immunotherapy platform based on cellular reprogramming. At this meeting, we discussed the in-vivo results which showed that tumor-bearing models can be cured by our reprogramming strategy! This is a milestone providing proof-of-principle for a new cancer immunotherapy based on in-vivo reprogramming of tumor cells. We also showed that reprogramming progressed in human spheroid models with



or without the presence of an immunosuppressive component of the tumor microenvironment. We are looking forward for development of the second half of this exciting project.”

**Marie Tautou, PhD, Study Director of Antineo added:** “In the context of this consortium, we are thrilled to announce great progress in the establishment of 3D bioprinted cancer cells cubes that have allowed us to show efficient in vitro reprogramming of cancer cells into dendritic cells. In parallel, we have started experiments aiming to show the ability of Asgard’s gene therapy to reprogram tumor cells in vivo and we have exciting promising results. We are now focusing on the project's next steps, which are to show the innocuity of the strategy in mice models. We are very pleased to be part of such a ground-breaking project.”

The Eurostars programme supports innovative international projects led by R&D-performing SMEs and is co-funded by the Eurostars partner states and the EU (through Horizon 2020). In October 2021, Asgard Therapeutics announced that together with the other three partners it has been awarded the Eurostars project REPRINT (project number E!115376). The three-year proposal was ranked #4 out of 644 European applications for Eurostars Cut off 15 and thereby secured a grant of 2 million euros.



This project has received funding from the Eurostars-2 joint programme with co-funding from the European Union Horizon 2020 research and innovation programme





Second in-person meeting of the Eurostars-funded REPRINT project. Top row, left to right: Emilie Renaud (Asgard Therapeutics), Olga Zimmermannova (Lund University), Fábio Rosa (Asgard Therapeutics), Fritiof Åkerström (Asgard Therapeutics). Second row, left to right: Filipe Pereira (Lund University), Xiaoli Huang (Asgard Therapeutics), Nadezhda Rotankova (Insphero), Irina Agarkova (Insphero), André Rosa (Asgard Therapeutics), Stella Peilage (Catalyze, project management). Third row, left to right: Marine Fellmann (Antineo), Wolfgang Moritz (Insphero), Cristiana Pires (Asgard Therapeutics), Marie Tautou (Antineo), Matthias Zbinden (Insphero), Ervin Aščić (Lund University).

**For more information:**

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**About Asgard Therapeutics**

Asgard Therapeutics is a private biotech company exploring the application of direct cell reprogramming technologies for cancer immunotherapies. Formed as a spin-off from Lund University, the Company is pioneering a gene therapy approach based on its proprietary reprogramming technology, designed to set in motion immune responses based on the biological properties of professional antigen-presenting cells. Backed by Novo Holdings, Boehringer Ingelheim Venture Fund, and Industrifonden, Asgard Therapeutics aims to build a pipeline of personalized cancer immunotherapies optimized for each unique patient. For more information, please visit: [www.asgardthx.com](http://www.asgardthx.com).

**About LSCC, Lund University**

Lund University Stem Cell Center (LSCC) is one of six Swedish strategic centers of excellence in life sciences. Dr. Filipe Pereira is head of the Cell Reprogramming in Hematopoiesis Group of the LSCC and considered an influential researcher in the cell reprogramming field with >45 publications, >3,300 citations. Find more at <http://www.pereiralab.com/>.

**About Antineo**

Antineo is a French private Contract Research Organization specializing in Preclinical Oncology. Antineo specializes in exploring the characteristics and effects of new compounds using cutting-edge technologies and our extensive bank of preclinical human and murine tumor models. Our team and scientific committee consist of scientists, oncologists and haematologists with international level expertise in onco-pharmacology, providing a strategic vision for short and medium-term development strategies.

**About Insphero**

Founded in 2009, INSPHERO AG is a Swiss SME that offers in vitro testing platform for new drugs using its physiologically relevant 3D InSight™ Microtissues technology. The company's focus is on providing custom 3D models derived from liver, pancreatic islet, and tumor tissues, which provide unparalleled biological insights into liver toxicology, metabolic diseases, and oncology. INSPHERO AG has established collaborations with major pharmaceutical companies, including Roche Pharma, AstraZeneca, and Janssen, to enhance the efficiency of drug discovery and safety testing.

**About EUREKA Eurostars**

EUREKA is a publicly funded intergovernmental network with an aim to foster innovation-driven entrepreneurship in EU between both small and large industries, research institutes and universities. For more information visit <https://www.eurekanetwork.org/countries/sweden/eurostars/>.

