Genoskin launches MANTIS, a spatial biology imaging platform dedicated to skin immunology

- **MANTIS (Multiplex ANnotated Tissue Imaging System) was developed at Infinity (Inserm U1291, France) by Dr. Nicolas Gaudenzio and his team; Dr. Gaudenzio was recently appointed as Genoskin's Chief Scientific Officer (CSO)**

- **Genoskin licensed intellectual property from Inserm to develop MANTIS as a spatial biology platform dedicated to skin immunology and to characterizing drug effects on human skin**

Toulouse, France, and Salem, MA, USA, December 6, 2021 - Genoskin, a biotechnology company that leverages live *ex vivo* human skin to test therapeutic and non-therapeutic products, today announces the launch of MANTIS®, a new spatial biology imaging platform dedicated to skin immunology. This new offer was developed by Dr. Nicolas Gaudenzio and his team at Inserm. Dr. Gaudenzio was recently appointed CSO (Chief Scientific Officer) at Genoskin.

MANTIS is the only spatial biology solution specifically designed to analyze human skin and the only one backed by multiple validated *ex vivo* human skin platforms. This unique service provides researchers with 3D multiplexed imaging of human skin tissue and enables an unbiased complete immune profiling of skin tissue within its spatial context. As the tissue's spatial architecture may affect disease pathology and treatment response, MANTIS is uniquely positioned to resolve and evaluate the immunomodulatory effects of molecules on skin; upon injection, topical application or systemic administration.

MANTIS incorporates technology licensed from Inserm - the French National Institute of Health and Medical Research. This strategic agreement broadens Genoskin's service offer to the global biotech and pharmaceutical industry and brings a unique spatial biology solution to the market. MANTIS will integrate seamlessly with Genoskin's existing data generation platforms to complete the company's offer of cutting-edge AI-based analyses, including next-generation RNA sequencing and high-performance immunoassay analysis.

These technologies position Genoskin as a key partner for biopharmaceutical companies, enabling new drug development processes with time and cost savings.

Dr. Nicolas Gaudenzio and his team developed MANTIS in partnership with Genoskin's R&D department. Dr. Gaudenzio is a world-renowned expert in immunology and allergic skin inflammation, with over 40 peer-reviewed publications and patents. As principal investigator at Inserm, he leads a research group at the Infinity Institute (Toulouse Institute for Infectious and Inflammatory Diseases, France). As Genoskin's CSO, Nicolas heads its R&D team, with a focus on immunology to support the launch of innovative solutions for the biopharmaceutical industry.

Pascal Descargues, Ph.D., CEO of Genoskin, said: "We are thrilled to launch the new MANTIS platform that will allow clients in the pharmaceutical industry to study the effects of drugs, including vaccines, on the cutaneous immune system. MANTIS relies on the extensive work done by Dr. Gaudenzio and his team to develop this powerful, transversal tool. Joining

forces with the Infinity Lab at Inserm to build the MANTIS platform and signing this strategic license agreement has been an amazing journey. We also plan to pursue new co-developments with academic labs. Following the launch of our ISR platform this year, the first *ex vivo* human skin platform to study injection site reactions, we are continuing our strategic shift and fulfilling Genoskin's mission of transforming the way drugs are developed today, using human skin as a reliable tool to generate relevant human data."

The spatial omics market was estimated at $225.81M (€195M) in 2020 and is predicted to grow at a CAGR of ten per cent to reach $484.22M (€418M) in 2028. Most expert companies are located in the US and provide spatial biology devices, not services like MANTIS. Numerous spatial omics companies are focused on cancer research and diagnosis; Genoskin's offer is much more versatile.

About MANTIS technology

MANTIS is a spatial biology technology enabling full immune profiling of skin tissue within its 3D spatial context. Since the biological function of immune cells is directly affected by their anatomical location, MANTIS resolves and evaluates the effects of drugs on skin; upon injection, topical application or systemic administration.

Conventional ImmunoHistoChemistry (IHC) is a classic tool, widely used as a diagnostic technique in tissue pathology to assess spatial distribution of two to four components in a single skin section. However, IHC has a number of limitations, such as the requirement of serial sections to stain more than four markers, which limits multiplexing and non-linear relationships between cell subset abundance and biomarker intensity. Genoskin's technology allows interrogation of fluorescence-based multiplex 3D imaging data that captures single-cell parameters. This enables the automated and simultaneous analysis of more than 12 components with one single acquisition, coupled with deep learning-based in-house computational imaging.

MANTIS can be combined with Genoskin's skin platforms such as the ISR platform, NativeSkin and PSO-InflammaSkin. Three-dimensional multiplexed image acquisition associated with in-house automated image processing allows for unbiased analysis, providing new insights into the human immune response to tested drugs. MANTIS can also be used as part of multi-omic studies.

More information about MANTIS: https://genoskin.com/spatial-biology-mantis-platform/

Notes to editors:

- Established in January 2021, Infinity - The Toulouse Institute for Infectious and Inflammatory Diseases - is a leading research institute providing a productive scientific environment structured along three main themes: immunology, inflammatory and infectious diseases. Infinity is affiliated with Inserm, the French National Center for Scientific Research (CNRS), and the Paul Sabatier University in Toulouse

About Genoskin
Genoskin provides transformative platforms and tools leveraging human skin to test therapeutic and non-therapeutic products and generate actionable first-in-human data. Genoskin uses real human tissues, prepared from donated human skin leftovers ethically-sourced from plastic surgeries, and innovative technologies to maintain viability, immunocompetency and functionality of the human skin samples in a ready-to-use *ex vivo* culture system. Genoskin was founded in 2011, as a spin-off of the French National Center for Scientific Research (CNRS) and the Paul Sabatier University in Toulouse.
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