

LAUNCH OF NEW JOINT INNOVATION LABORATORY TO ADVANCE PERSONALISED MEDICINE FOR CANCER TREATMENT

*Public-private partnership between Singapore-based start-up Invitrocue and A*STAR's
Genome Institute of Singapore*

Singapore, July 24, 2017 – Invitrocue, a leading healthcare bio-analytic solutions provider at the forefront of personalised medicine, has established a first-of-its-kind joint laboratory with A*STAR's Genome Institute of Singapore (GIS) to better guide clinical decisions in cancer management. The GIS-IVQ Joint Laboratory aims to boost expertise and develop tumour models to enhance decision-making for clinicians, enabling them to personalise treatments that will help patients manage the disease and prolong survival.

The laboratory is the first in Asia-Pacific to focus on the integration of phenotypic and genomic data with patient response performed prospectively. This means that patient-derived tumour models, functional genomics, and Artificial Intelligence (AI) or data mining will be used to identify novel biomarkers of drug resistance and response, and to provide real-time guidance of treatment in a clinical setting.

Located at the Genome building in Biopolis, the laboratory will focus on the development and integration of Invitrocue's Onco-PDO™¹ platform for four oncology indications, which include head and neck cancer; colorectal cancer; liver cancer; and triple-negative breast cancer. These cancers were specially chosen as they are diseases with no biomarker-guided therapy, and are prevalent in Singapore and across Southeast Asia.

Dr Steven Fang, Executive Director and Founder of Invitrocue, and Adjunct Professor of the University of Adelaide, said, "The GIS-IVQ Joint Laboratory is another significant milestone for Invitrocue, and a happy reunion story since the company was spun-off from A*STAR five years ago in 2012. Our innovative approach in using bioanalytics for healthcare has been validated by leading pharmaceutical companies. The new lab will bring our work another step

¹ Onco-PDO™, which stands for oncology patient-derived organoid, enables Invitrocue to grow patient-derived tumour cells (an organoid) in its laboratories initially for biopharmaceutical companies, medical researchers and academic institutions to understand the impact of cancer treatments prior to conducting time consuming and expensive clinical trials. Subsequently, Onco-PDO™ may also create a new market for personalised drug testing using FDA approved drugs to improve individual treatment outcomes in selected solid tumours.

closer to commercialisation for life-saving technologies that essentially takes the guesswork out of cancer treatment and improves the quality of life for the patient.”

Prof Ng Huck Hui, Executive Director of GIS added, “We are delighted to partner Invitrocue; this collaboration will help to advance our research in precision medicine and most importantly, contribute to better patient outcomes through the development of new treatments.”

The joint laboratory will leverage GIS’ expertise in genomics, oncology and organoid biology, and Invitrocue’s capabilities in developing cell-based products and services for commercialisation. The joint laboratory will employ up to 20 personnel in various scientific and technical roles, and targets to add 18 new positions which require cell biology and bioengineering expertise over the next two years. Invitrocue has also partnered with groups in Australia, such as the Garvan Institute of Medical Research, to scale up its efforts.

The GIS-IVQ Joint Laboratory was officially launched today as part of the University of Adelaide's Third 2017 Australia-Singapore Relationship Conference held in Singapore. The event was graced by the Hon. Martin Hamilton-Smith MP, Minister for Investment and Trade, Government of South Australia.

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About Invitrocue

Invitrocue is a leading healthcare bio-analytic solutions provider including *in vitro* cell-based testing technologies and image analytics software for use in digital pathology. Invitrocue has developed a unique 3D cell-based scaffolding technology that mimics human organ samples for using in the field of infectious diseases. In 2016, the company expanded its work in liver disease to the field of oncology. The technology enables patient-derived cancer cells (organoids) to be cultured in laboratories for testing against a panel of drugs to support clinical decision making for individual patients (personalised medicine).

Invitrocue's technology originated in Singapore's Agency for Science, Technology and Research (A*STAR). Invitrocue has been developed and validated in partnerships with leading biopharmaceutical companies and scientific collaborators.

Invitrocue currently operates in Singapore and China and is listed on the Australian Securities Exchange under the ticker IVQ. Website: www.invitrocue.com

About A*STAR's Genome Institute of Singapore (GIS)

The Genome Institute of Singapore (GIS) is an institute of the Agency for Science, Technology and Research (A*STAR). It has a global vision that seeks to use genomic sciences to achieve extraordinary improvements in human health and public prosperity. Established in 2000 as a centre for genomic discovery, the GIS will pursue the integration of technology, genetics and biology towards academic, economic and societal impact.

The key research areas at the GIS include Human Genetics, Infectious Diseases, Cancer Therapeutics and Stratified Oncology, Stem Cell and Regenerative Biology, Cancer Stem Cell Biology, Computational and Systems Biology, and Translational Research.

The genomics infrastructure at the GIS is utilised to train new scientific talent, to function as a bridge for academic and industrial research, and to explore scientific questions of high impact.

For more information about GIS, please visit www.gis.a-star.edu.sg

About the Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is Singapore's lead public sector agency that spearheads economic oriented research to advance scientific discovery and develop innovative technology. Through open innovation, we collaborate with our partners in both the public and private sectors to benefit society.

As a Science and Technology Organisation, A*STAR bridges the gap between academia and industry. Our research creates economic growth and jobs for Singapore, and enhances lives by contributing to societal benefits such as improving outcomes in healthcare, urban living, and sustainability.

We play a key role in nurturing and developing a diversity of talent and leaders in our Agency and Research Institutes, the wider research community and industry. A*STAR oversees 18 biomedical sciences and physical sciences and engineering research entities primarily located in Biopolis and Fusionopolis.

For more information on A*STAR, please visit www.a-star.edu.sg