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SCIENTIFIC RELEASE

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A*STAR's GIS collaborates with pharmaceutical giant GlaxoSmithKline to further research on lung cancer

In a latest boost to A*STAR's collaborations with the industry, Dr Bing LIM, Associate Director of Cancer Stem Cell Biology, and Senior Group Leader at the Genome Institute of Singapore (GIS), was recently awarded a GlaxoSmithKline (GSK) grant under the Academic Centre of Excellence¹ (ACE) to further his research on lung cancer at the GIS.

This partnership between GIS and GSK, a multinational pharmaceutical, biologics, vaccines and consumer healthcare company which administers the ACE in Singapore, will significantly advance both organizations' joint efforts towards finding a cure for the disease.

The central goal of this grant awarded to GIS, worth SGD\$350,000, is the identification of new diagnostic and therapeutic targets for cancer, and the initiation of a commit-to-target (C2T) milestone in GSK discovery. A three-pronged approach will be adopted in order to achieve this.

Leveraging on GIS' successes in identifying and characterizing lung cancer tumour initiating cells, and hence allowing for the identification of new diagnostic and therapeutic targets in lung cancer, the first of the three-pronged approach is to fully validate these targets as candidates for discovery initiation, focusing on those that are amenable to bio-therapeutics.

¹ ACE is a research network for pursuing projects of mutual interest to GSK and Singapore scientists.

The second stage of the grant will focus on using high-throughput sequencing technologies to sequence the lung cancer cells and identify unique and novel variant tumors markers, which could be used as diagnostic and therapeutic targets in cancers.

The third stage involves the full characterization of monoclonal antibodies that have been generated by GIS against lung cancer cells that are highly enriched for cancer tumor initiating cells.

Dr Bing LIM said, “This collaboration with GSK provides a great opportunity for both parties to learn what the most effective way is for industry and academic research to join forces in the constantly changing landscape of scientific paradigm, biomedical technology and health care goals.”

Executive Director of GIS, Prof NG Huck Hui said, “Prof Bing Lim’s lab is doing cutting-edge research in lung cancer initiating cells and the award of this ACE grant is a clear endorsement of the translational value of his research. This is an exemplar of how world class research done at the Biopolis is attracting industry interest and building strategic alliance.”

Dr Benjamin SEET, Executive Director of the Biomedical Research Council at A*STAR added, “This partnership is an example of the value proposition we seek to create here in Biopolis. It brings together a leading scientist with a pharmaceutical company, with the aim of taking a scientific discovery closer to the clinic, and finding new cures for a disease that is currently difficult to treat”.

National Archives of Singapore

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About the 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 improve public health and public prosperity. Established in 2001 as a centre for genomic discovery, the GIS will pursue the integration of technology, genetics and biology towards the goal of individualized medicine.

The key research areas at the GIS include Systems Biology, Stem Cell & Developmental Biology, Cancer Biology & Pharmacology, Human Genetics, Infectious Diseases, Genomic Technologies, and Computational & Mathematical Biology. The genomics infrastructure at the GIS is utilized to train new scientific talent, to function as a bridge for academic and industrial research, and to explore scientific questions of high impact.

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 fosters world-class scientific research and talent to drive economic growth and transform Singapore into a vibrant knowledge-based and innovation driven economy.

In line with its mission-oriented mandate, A*STAR spearheads research and development in fields that are essential to growing Singapore's manufacturing sector and catalysing new growth industries. A*STAR supports these economic clusters by providing intellectual, human and industrial capital to its partners in industry.

A*STAR oversees 20 biomedical sciences and physical sciences and engineering research entities, located in Biopolis and Fusionopolis as well as their vicinity. These two R&D hubs house a bustling and diverse community of local and international research scientists and engineers from A*STAR's research entities as well as a growing number of corporate laboratories.

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