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ACTRIS unveils its new cell therapy facility to boost Singapore's cell and gene therapy capabilities

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(Left to Right): *Dr Mimi Choong, Chief Executive Officer, Health Sciences Authority ; A/Prof Danny Soon, Chief Executive Officer, Consortium for Clinical Research and Innovation, Singapore (CRIS) and Interim Executive Director, Advanced Cell Therapy Institute, Singapore (ACTRIS); Ong Ye Kung, Minister for Health, Ministry of Health; Prof Chee Yam Cheng, Chairman, ACTRIS; Prof Tan Chorh Chuan, Chief Health Scientist, Ministry of Health*

The Advanced Cell Therapy and Research Institute, Singapore (ACTRIS) launched a new 2,000 sqm cell therapy facility to meet the increasing clinical demand for cell and gene therapy (CGT) treatments in Singapore. The facility was launched by Minister for Health Mr Ong Ye Kung at the inaugural Singapore Cell and Gene Therapy Conference on 4 August 2023.

The facility comprises 14 Good Manufacturing Practice-compliant (GMP) clean suites, four translational laboratories and one quality control laboratory – the largest national facility of its kind which will support hospital services, academic institutions for research, and biotech start-ups.

ACTRIS state-of-the-art equipment can support end-to-end cell therapy process development and manufacturing steps such as cell selection, genetic modification, closed-system manufacturing and product storage. The facility’s advanced infrastructure, such as its air-handling systems, allows ACTRIS to manufacture different cell therapy products concurrently, speeding up patient access to these novel treatments.

CGT have come to the fore as possible treatment options for certain forms of blood cancer. Advances in CGT research have now opened up new ways to treat cancer with cells, dubbed as “living drugs”.

One such class of products available in Singapore is the chimeric antigen receptor (CAR) T-cell that uses patients’ immune cells to target specific cancer cells. Patients who are undergoing CAR-T therapy would first have their immune cells collected in hospitals; these live cells would then be transported to a GMP-compliant facility – one such as the ACTRIS facility where it undergoes various stages of processing.

These include genetic modification that increases the potency of the patient’s T-cells to fight cancers; cell expansion to increase the numbers of these T-cells; and a final step of quality testing that will ensure the best quality product for patients. These steps will need to be conducted under a highly controlled and clean GMP environment. Thereafter, the modified cells would then be transported back to hospitals and administered to the patient.

Chairman of ACTRIS and President of the Singapore Medical Council, Professor Chee Yam Cheng said “ACTRIS’ new facility will be a game-changer for Singapore’s cell therapy ecosystem. Being able to manufacture high-quality cell therapies locally will mean that treatments can reach our patients in less time, and they get access to life-saving therapies sooner".

ACTRIS is a programme of the Consortium for Clinical Research and Innovation, Singapore (CRIS), a subsidiary of MOH Holdings (MOHH) and supported by the Ministry of Health (MOH), Singapore. ACTRIS was established in April 2020 to meet the increasing clinical demand of using cellular therapeutics to treat various life-threatening diseases. ACTRIS strives to be the national and regional centre of excellence for facilitating discovery, process development and manufacturing of cellular-based therapeutics across the broad spectrum of immunotherapy and regenerative medicine, encompassing both investigational and approval products for Singapore.

“ACTRIS’ new facility will be able to meet the increasing demand for the development and manufacturing of cell therapy products from our local hospitals and research institutes. We look forward to contribute to ground-breaking work that will advance cancer treatment and regenerative medicine. In addition, ACTRIS will facilitate more public-private partnerships in the future and help companies looking to develop their CGT products to obtain the required regulatory approvals to bring their cell therapy products into Singapore.

Associate Professor Danny Soon, Chief Executive Officer of the Consortium for Clinical Research and Innovation, Singapore and the Interim Executive Director of ACTRIS explained, “Singapore’s CGT capacity will facilitate collaboration with academic institutes, hospital clusters, local biotechnology and pharmaceutical industry partners. This facility will be a welcome boost to the CGT ecosystem in Singapore and the region”.

“We can look forward to more innovation, especially as a collaborative effort with our research partners, and this will be a strong impetus for Research & Development to flow through into ACTRIS. This facility will provide the infrastructure to support the manufacture of these advanced cellular therapies which in turn will greatly benefit our patients,” added Dr Francesca Lim, Chief Medical Officer, ACTRIS, and Senior Consultant Haematologist, Singapore General Hospital.

At the launch ceremony, ACTRIS also announced a joint grant call with the National Health Innovation Centre Singapore (NHIC) to accelerate the adoption of cell therapies in local hospitals to enhance healthcare delivery and patient care. Eligible projects will receive funding and support to foster the development of cell therapy products.

ACTRIS aims to continue to promote and foster the entire value chain of the cellular therapy ecosystem by enabling translational research and development, manufacturing, clinical service provision and commercialisation by serving the healthcare, academic and industrial sectors.

By Hithaishi Bhaskar