



## PRESS RELEASE

25 OCTOBER 2018 | FOR IMMEDIATE RELEASE

### A potential new treatment method for melanoma skin cancer

*Singapore, 25 October 2018* — Researchers at the National University of Singapore's Yong Loo Lin School of Medicine (NUS Medicine) have discovered a small man-made molecule that can activate a receptor in the cell membrane to “kill” tumour cells in melanoma skin cancer, controlling the growth of the cancer cells. This process is activated once the molecule is injected into the body. The small molecule NSC49652 will bind to a death receptor p75<sup>NTR</sup> in the cell membrane, starting a process which then causes melanoma cells to die.

Skin cancers are divided into melanoma and non-melanoma skin cancer (NMSC). The incidence of both non-melanoma and melanoma skin cancers has been increasing over the past decades. Currently, between two and three million non-melanoma skin cancers and 132,000 melanoma skin cancers occur globally each year. In Singapore, NMSC is much more common than melanoma, which behaves much more aggressively than NMSC as it can spread to other organs in the body. Melanoma skin cancer is most prevalent in Northern Europe and the United States.

Started in 2013, the research team screened a prototype library of 1,580 compounds from the United States' National Cancer Institute, and chose the most responsive molecule to further their tests. The research was completed in early 2018, and was published online in *Cell Chemical Biology*, a chemistry and biology journal, on 4 October 2018.

The research team comprises scientists from NUS Medicine' Department of Physiology, NUS' Department of Pharmacy and Life Sciences Institute, University of Calgary's Cumming School of Medicine, as well as University of Virginia's Department of Chemical Engineering.

Current treatment of melanoma skin cancer stands at a success rate of just 55 per cent. The finding by Professor Carlos Ibanez of the Department of Physiology thus potentially offers a new treatment method for the remaining 45 per cent of melanoma skin cancer patients.

“Patients and their cancers are heterogeneous. There is no one cure. The current treatment for skin cancer only works for 55 per cent of patients. It justifies to have different types of treatment for the rest of the patients,” he said.

The research team currently has a two-pronged approach in advancing the research. They are trying to improve the molecule to prolong the survival of melanoma skin cancer patients, while screening more existing molecules in search of something even more potent to target the cells in melanoma skin cancer.

“This research is very interesting and opens up exciting possibilities of various possible targets for treatment of cancers. Melanoma is one of the top three skin cancers, and has a higher mortality and morbidity rate compared to the rest. It is compelling to see when this research moves from bench-to-bedside clinical trials as it provides options in treatment in targeting metastatic disease that may have been unresectable or require potentially more toxic therapeutics,” said Dr Sue-Ann Ho Ju Ee, Consultant, Division of Dermatology, National University Hospital.

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## **About National University of Singapore (NUS)**

The National University of Singapore (NUS) is Singapore's flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 17 faculties across three campuses in Singapore, as well as 11 NUS Overseas Colleges across the world. Close to 40,000 students from 100 countries enrich our vibrant and diverse campus community.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, 30 university-level research institutes, research centres of excellence and corporate labs focus on themes that include energy, environmental and urban sustainability; treatment and prevention of diseases common among Asians; active ageing; advanced materials; as well as risk management and resilience of financial systems. Our latest research focus is on the use of data science, operations research and cybersecurity to support Singapore's Smart Nation initiative.

For more information on NUS, please visit [www.nus.edu.sg](http://www.nus.edu.sg).

## **About NUS Yong Loo Lin School of Medicine (NUS Medicine)**

Established in 1905, the NUS Yong Loo Lin School of Medicine is the first institution of higher learning in Singapore and the genesis of the National University of Singapore.

The School offers one of the finest undergraduate medical programmes in the Asia Pacific region and enjoys international recognition and respect. The Times Higher Education World University Rankings 2018 by subject and Quacquarelli Symonds (QS) World University Rankings by Subject 2017 list NUS Medicine as a leading medical school in Asia.

It admits 300 students to the MBBS degree programme annually and its principal missions are to educate and train the next generation of healthcare professionals, and foster research that will help to advance the practice of medicine.

The 18 NUS Medicine departments in the basic sciences and clinical specialties work closely with the Centre for Medical Education, the Centre for Biomedical Ethics, the Centre for Healthcare Simulation as well as the restructured public hospitals to ensure that teaching and research are aligned and relevant to Singapore's healthcare needs. The School is a founding institutional member of the National University Health System.

For more information on NUS Medicine, please visit <http://nusmedicine.nus.edu.sg>.