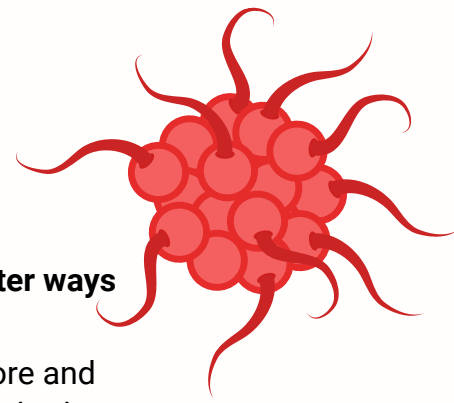


Fighting glioblastoma on different fronts



Singapore researchers have received a **\$9.88 million** grant to discover better ways to diagnose and treat glioblastoma.

The grant, which is supported by the National Research Foundation Singapore and administered by the National Medical Research Council, allows the multi-institution research collaboration to focus on four key themes.

THEME 1

Creating original tumour models for research and drug testing

Patients' tumours are stored at **Glioport** tissue bank after surgery.

The samples are used to create glioblastoma models with the same molecular fingerprint, enabling in-depth tumour studies and more accurate pre-clinical drug testing.

Patients with tumour tissue banked at **Glioport** can be re-identified for inclusion in drug trials.

Principal Investigators:
Assoc Prof Ang Beng Ti &
Assoc Prof Carol Tang
National Neuroscience Institute

THEME 2

Accelerating tumour knowledge and drug discovery with artificial intelligence (AI)

i) Using data-mining to identify genes linked to glioblastoma, what happens when they are turned on or off, why this differs between patients and how this affects the spread and recurrence of tumours.

ii) Partnership with **Benevolent AI** to use AI to identify and prioritise drugs with the highest potential to de-activate the STAT3 pathway, which NNI previously identified as having a role in tumour recurrence and spread.

Principal Investigators
i) Prof Patrick Tan, Duke-NUS Medical School
ii) Assoc Prof Carol Tang, National Neuroscience Institute

Improving outcomes for glioblastoma

THEME 4

Global adaptive drug trials for better outcomes

Drug trials are expected to start in Asia in late 2022, with participants selected based on their tumour sub-types.

An algorithm developed by the Singapore team will sort participants into different treatment arms of the trial, making it easier to identify which treatments are effective for different sub-types.

The adaptive trial design allows for continuous data analysis and modifications to minimise adverse effects on non-responders.

Principal Investigators:
Assoc Prof Ang Beng Ti & Dr Lin Xuling, National Neuroscience Institute

THEME 3

Bringing precision medicine into clinical practice

Development of a nanosensor platform to detect multiple tumour biomarkers and identify tumour sub-types via blood tests. This avoids the need to remove tumours for testing which is often not possible.

Accurate tumour sub-typing is important for appropriate treatment, monitoring response and disease progression, and patient selection for drug trials.

Principal Investigator:
Asst Prof Shao Huilin
National University of Singapore