THE BUSINESS PARTNER FOR YOUR IDEAS

MYC-DRIVEN DIAGNOSTIC FOR SMALL CELL LUNG CANCER

DIAGNOSTICS

Biomarkers that enable characterization and stratification of small cell lung cancer subtypes to facilitate more accurate diagnosis and treatment.

TECHNOLOGY TYPE

Oncology
Biomarker
Small Cell Lung Cancer

STAGE OF DEVELOPMENT

Proof of concept demonstrated using mouse models and patient samples.

IP PROTECTION

PCT Pending

Methods and Compositions for Identifying and Treating Patients with Small Cell Lung Cancer

LEARN MORE

Reference Number: U-6240

Aaron Duffy
Technology Manager
aaron.duffy@tvc.utah.edu
801-585-1377

TECHNOLOGY SUMMARY

Small cell lung cancer (SCLC) accounts for almost 30,000 deaths each year in the United States, with a two-year survival rate of less than six percent. Almost 40 percent of SCLC patients develop resistance to platinum-based chemotherapy, the current first-line treatment. Studies indicate that MYC amplification is associated with treatment resistance and poor outcomes, but little was known regarding how MYC impacts SCLC. Researchers at Huntsman Cancer Institute and the University of Utah have discovered that roughly 20 percent of SCLC patients develop a variant form of the disease, characterized by certain MYC-related biomarkers. The proposed technology detects variant SCLC by identifying the concentration of specific biomarkers in a patient. The technology can also be used to predict patient response to chemotherapy to help guide clinician decisions and improve patient outcomes.

FEATURES AND BENEFITS

- Enables stratification of SCLC subtypes, rather than viewing SCLC as a single disease state.
- Guides treatment plan by identifying patients who will not respond to current first-line treatments.
- Improves accuracy of diagnosis and patient prognosis predictions.
- Facilitates approval of new drugs as a companion diagnostic.

RECENT PUBLICATIONS

Mollaoglu, G., Guthrie, M.R., Bohm, S., Bragelmann, J., Can, I., Ballieu, P.M.,… Oliver, T.G. (2017). MYC drives progression of small cell lung cancer to a variant neuroendocrine subtype with vulnerability to aurora kinase inhibition. *Cancer Cell. 31*(2): 270-285. doi: 10.1016.12.005

Mouse model available for purchase through the Jackson Laboratory: https://www.jax.org/strain/029971

INVENTOR PROFILE

Trudy Oliver, Ph.D., Associate Professor - Oncological Sciences
Martin Sos, Ph.D., Professor – Molecular Pathology, University of Cologne
Rob Wechsler-Reya, Ph.D., Director – SBP Medical Discovery Institute

DATE UPDATED: 2/21/2019