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.

**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.

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

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