

Researchers find genetic marker for repeat lung cancer

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Current lung cancer survival statistics present a grim prognosis, but new findings could greatly impact survival rates. Researchers led by Lan Guo, Ph.D. at the West Virginia University Mary Babb Randolph Cancer Center have identified a gene pattern associated with lung cancer patients who are at high risk for recurrence of the disease.

Lung cancer recurs in nearly half of early stage patients who initially receive surgery, usually proving fatal. If doctors could predict whose cancer will come back, they could develop a more individualized, effective treatment strategy for each patient.

The team of WVU researchers has determined that a specific sequence of 12 genes can be used as a [lung cancer](#) prognostic tool. Their work “Hybrid Models Identified a 12-Gene Signature for Lung Cancer Prognosis and Chemoresponse Prediction” has been published in the August 17 edition of [PLoS ONE](#), an international, peer-reviewed, online publication of the U.S. Public Library of Science.

“Using a computational model to analyze 442 patient samples, we found that the 12-gene signature was more accurate in predicting lung cancer recurrence than other gene signatures documented in articles previously published in the ‘[New England Journal of Medicine](#)’ and ‘Nature Medicine’,” Dr. Guo said. “We also found that the [gene signature](#) could predict response to chemotherapy in cancer cell lines, indicating its potential use to predict patient response to chemotherapy commonly used to treat lung cancer.”

WVU has filed for a patent on the 12-gene signature. Guo's group has already been successful in identifying specific genes found in lung cancer tumors.

Guo is a faculty member of the WVU Department of Community Medicine and part of the Center of Biomedical Research Excellence (COBRE) for Signal Transduction and Cancer, led by Laura Gibson, Ph.D., the Cancer Center's deputy director.

More information: To view the research online see [dx.plos.org/10.1371/journal.pone.0012222](https://doi.org/10.1371/journal.pone.0012222)

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