

Nine-gene MPI can provide accurate survival stratification in patients with NSCLC

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A nine-gene molecular prognostic index (MPI) for patients with early-stage non-small cell lung cancer (NSCLC) was able to provide accurate survival stratification and could potentially inform the use of adjuvant therapy in patients struggling with the disease, according to a study published August 18 in the *JNCI: Journal of the National Cancer Institute*.

Non-small cell lung cancer (NSCLC) accounts for roughly 85% of all lung cancers, additionally; [lung cancer](#) is the leading cause of cancer death through out the world. While gene expression profiles have been shown to provide analytical information in a variety of cancers, translating gene expression-based methods into clinical use has been met with great difficulties.

In order to provide an accurate MPI for [patients](#) with stage I NSCLC, Andrew J. Gentles, Ph.D., Department of Radiology, Stanford University, and colleagues, looked at [gene expression profiles](#) from 1106 nonsquamous NSCLCs for generation and internal validation of a nine-gene MPI and used a quantitative polymerase chain reaction (qPCR) assay to validate an independent cohort of formalin-fixed paraffin-embedded (FFPE) tissues. They then built a prognostic score that combined the molecular MPI with clinical variable data provided by the national Surveillance, Epidemiology, and End Results (SEER.) database.

The researchers found that by incorporating genes expressed in both the tumor and its microenvironment, the MPI was highly robust and can be

applied in a clinical setting using qPCR assays on FFPE tissues. "The MPI outperforms other signatures that satisfy key characteristics of clinical applicability (ie, qPCR assays validated on FFPE tissues)," the authors write. "...our study is the first to provide a composite model that incorporates both gene expression and clinical data from a large, population-based database to leverage the independent prognostic content of these two types of data."

More information: Integrating Tumor and Stromal Gene Expression Signatures With Clinical Indices for Survival Stratification of Early-Stage Non–Small Cell Lung Cancer, [DOI: 10.1093/jnci/djv211](https://doi.org/10.1093/jnci/djv211)

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