

# Metabolic enzyme is upregulated in patients with non-small cell lung cancer

20 January 2015

---

The majority of lung cancers are classified as non-small cell lung cancer (NSCLC). Even with early detection, the 5-year survival rate for patients with NSCLC is less than 50%. Compared to the surrounding tissue, cancer cells have increased energy demands to maintain rapid proliferation. Cancer cells have been shown to alter their metabolic profile to meet the increased demand in energy.

A new study in the *Journal of Clinical Investigation* identifies a metabolic enzyme that is upregulated in patients with NSCLC.

Teresa Fan and colleagues at the University of Kentucky evaluated expression of pyruvate carboxylase (PC), which generates intermediates for energy production, in [patients](#) with early-stage NSCLC.

PC was selectively activated in NSCLC and its expression was specifically elevated in cancerous tissues. Reduction of PC in cultured cancer cells or in a mouse tumor model decreased cancer cell growth.

Together, the results of this study suggest that inhibition of PC should be further explored for treatment of NSCLC.

**More information:** Pyruvate carboxylase is critical for non-small-cell lung cancer proliferation *J Clin Invest.* [DOI: 10.1172/JCI72873](https://doi.org/10.1172/JCI72873)

In vivo analysis of lung cancer metabolism: nothing like the real thing *J Clin Invest.* [DOI: 10.1172/JCI79188](https://doi.org/10.1172/JCI79188)

Provided by Journal of Clinical Investigation

APA citation: Metabolic enzyme is upregulated in patients with non-small cell lung cancer (2015, January 20) retrieved 8 May 2021 from <https://medicalxpress.com/news/2015-01-metabolic-enzyme-upregulated-patients-non-small.html>

*This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.*