

# Study suggests patients with lung cancer be screened for MET oncogene

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Research by investigators at Mayo Clinic Cancer Center suggests that physicians should screen patients with lung cancer for MET amplification/overexpression before determining a treatment strategy. Their findings are published *Cancer Discovery*, a journal of the American Association for Cancer Research.

"In our research we found several [lung cancer](#) cases that were not responsive to standard chemotherapy," says Zhenkun Lou, Ph.D., a cancer researcher at Mayo Clinic. "Because these lung cancers were positive for PD-L1, a protein that allows some cells to escape attack by the [immune system](#), we then tried treating these patients with anti-PD1 immunotherapy to relieve PD-L1 mediated immune suppression, however this treatment also failed."

Dr. Lou and his colleagues then used cell line animal models and patient tissue samples to study why these lung cancers were not responding to treatment.

"We discovered that in these particular cases, the cancer exhibited a MET oncogene amplification, which creates a hostile environment for immunotherapy," says Dr. Lou. Abnormal MET activation has been implicated as an oncogenic driver in non-small-cell lung cancer.

After analyzing several independent medical databases, Dr. Lou and his colleagues confirmed that MET oncogene amplification should be a factor to be considered when designing lung cancer therapy. In addition, they showed that in animal models, a combination of a MET inhibitor with anti-PD1 immunotherapy was effective in treating cancers with MET amplification.

"Our study suggests that patients with a MET oncogene amplification will not respond to immunotherapy alone and will require treatment with a combination of a MET inhibitor together with immunotherapy," says Dr. Lou. He cautions that this strategy will require confirmation in a prospective clinical trial before becoming a standard of care. In the meantime, Dr. Lou suggests that patients with lung [cancer](#) be screened for MET amplification/overexpression before determining an immunotherapy strategy.

Provided by Mayo Clinic

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