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# Team identifies growth factor receptors that may prompt metastatic spread of lung cancer

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Two cell surface receptors might be responsible for the most common form of lung cancer spreading to other parts of the body, according to a study led by the Translational Genomics Research Institute (TGen).

The hepatocyte growth factor receptor (HGFR/MET) and fibroblast growth factor-inducible 14 (FN14) are proteins associated with the potential spread of non-small cell lung cancer (NSCLC), according to the TGen study published online April 8 by the scientific journal *Clinical & Experimental Metastasis*.

NSCLC represents more than 85 percent of all lung cancers, which this year will kill an estimated 159,000 Americans, making it by far the leading cause of cancer-related death. It has a 5-year survival rate less than 10 percent.

The invasive and metastatic nature of NSCLC contributes to this high mortality rate, and so finding the cause of this potential to spread is key to helping patients survive.

Therapies targeting MET and FN14 are in clinical development, which could lead to treatments that could help halt or slow the spread of this lung cancer.

"As the metastatic phenotype is a major cause of lung cancer mortality, understanding and potentially targeting these pathways may reduce the high mortality rate in advanced lung cancer," said Dr. Timothy Whitsett,

an Assistant Professor in TGen's Cancer and Cell Biology Division, and the study's lead author.

Significantly, the TGen study found that MET and FN14 were elevated in metastatic tumors compared to primary lung tumors and suppression of MET activation or FN14 expression reduced tumor cell invasion.

"The elevation of these receptors in metastatic disease opens the possibility for therapeutic intervention," said Dr. Nhan Tran, an Associate Professor in TGen's Cancer and Cell Biology Division, and the study's senior author.

Dr. Glen Weiss, Co-Unit Head of TGen's Lung Cancer Research Laboratory and Director of Clinical Research at Cancer Treatment Centers of America at Western Regional Medical Center, said, "This study identifies some targets that already have drugs in clinical trials, and helps put them into context for what might be a rational drug development approach for the treatment of this deadly cancer."

Provided by The Translational Genomics Research Institute