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New Immunotherapeutic Target for the Treatment of Lung Cancer and Fibrotic Lung Diseases

Stanford scientists have discovered a new immunotherapeutic target for treating lung cancer and fibrotic lung disease.

Lung cancer represents the primary cause of cancer-related death, and patients who develop lung fibrosis are at increased risk for lung cancer. For both lung cancer and lung fibrosis, mortality rates are high while sufficient therapies are still not available. Immunotherapy represents a promising treatment methodology, but even with the current slate of immunotherapies in the clinic, survival rates for lung cancer patients remain too low.

Here, scientists in Dr. Gerlinde Wernig's lab demonstrate that blocking a new immune target upregulated in lung cancer and fibrotic lung tissue increases phagocytosis and increases the efficiency of the innate immune system to eliminate cancer cells and diseased fibroblasts. Blocking this new target represents a novel immunotherapeutic method that targets the innate immune system and a "don't-eat-me" signal for the treatment of lung cancer and fibrotic lung diseases.

Applications

- Treatment of of lung cancer, with the potential to treat other cancers as well
- Treatment of lung fibrosis

Advantages

- Novel target for immunotherapeutic treatment of cancer and other diseases

- Much like CD47 antibodies, method targets "don't-eat-me" signal to increase phagocytosis by the innate immune system instead of targeting the adaptive immune system like many existing therapies

Patents

- Published Application: WO2022140446
- Published Application: 20240110183

Innovators

- Gerlinde Wernig
- Tristan Lerbs
- Lu Cui
- Qiwen Deng
- Cristabelle De Souza

Licensing Contact

Eileen Lee

Email