Method for Cancer Cell Reprogramming

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Technology description

A novel assay for the detection and characterization of the removal of cellular regulators as a diagnostic tool for hematological cancers that will respond to treatment by a repurposed therapeutic. This assay will allow for individualized medicine by testing individual patient blood samples. Furthermore, this technology allows for the reprogramming of cancer cells, a technique that can be applied to the treatment of malignancies on a patient-by-patient basis.

Background

The metastasis of tumors in cancer patients allows cancerous cells to spread from one part of the body to another. Metastatic tumors can cause a wide range of problems, many of which are highly severe and even life-threatening. Cancer that becomes metastatic becomes much more difficult to treat, as the metastatic tumors can be difficult to detect early on and provide further complications for the patient. One of the main causes of tumor initiation, progression, and metastasis is a loss of apoptosis of tumor cells. The cessation of cancer cell death results in the spread and enlargement of tumors. Previously, explanations for this phenomenon have been rare and tentative. The ability to reverse the loss of apoptosis—and to reinitiate apoptosis in cancer cells—would provide a novel and effective treatment method for patients suffering from malignant, progressing tumors. Such a treatment could even result in the diminishment of tumors by promoting continued death of cancerous cells.

Technology Description

Researchers at the University of New Mexico have developed a novel assay for the detection and characterization of the removal of cellular regulators as a diagnostic tool for hematological cancers that will respond to treatment by a repurposed therapeutic. This assay will allow for individualized medicine by testing individual patient blood samples. Furthermore, this technology allows for the reprogramming of cancer cells, a technique that can be applied to the treatment of malignancies on a patient-by-patient basis.

Publications

Cyclic AMP efflux inhibitors as potential therapeutic agents for leukemia

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Application area

A novel diagnostic tool for hematological cancers
An assay that allows for individualized testing of patients via blood samples
Reprograms cancer cells that would no longer undergo apoptosis
May be used in the treatment of cancer-related malignancies on a patient-by-patient basis

Institution

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