TECHNOLOGY BRIEF

Diagnostics

SkinMet: A Predictive Precision Diagnostic Platform for Cancer Risk

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Background

Cancer remains one of the leading causes of morbidity and mortality worldwide, highlighting the critical importance of prevention strategies. While advancements in treatment have improved outcomes for many patients, preventing cancer before it develops offers the greatest potential for reducing the overall burden of this disease. However, the path from identifying potential preventive measures to implementing effective strategies is fraught with unique challenges.

Aging biomarkers like DNA methylation clocks and inflammatory markers primarily reflect past aging processes rather than predicting future biological decline. This retrospective nature limits their utility in cancer prevention.

Description of the Invention

SkinMet is an innovative diagnostic tool that predicts cancer onset by analyzing metabolic and inflammatory phenotypes. Unlike traditional biomarkers that primarily focus on genetic predisposition, SkinMet offers a dynamic, real-time assessment of cancer risk, incorporating both inherited genetic factors and the influence of past lifestyle or drug interventions. This revolutionary approach empowers personalized cancer prevention strategies by predicting not just who is at risk, but when cancer is likely to develop.

Commercial Applications

In the field of precision oncology, one of the greatest challenges is predicting when a tumor is likely to develop. SkinMet addresses this by offering a predictive tool that forecasts the specific age window during which an individual is most likely to develop cancer. By knowing when cancer is expected to arise, oncologists can tailor surveillance protocols for high-risk individuals, ensuring that early detection efforts are concentrated during the time of highest risk.

Developmental Stage

Our researchers have currently completed preclinical and translational data on this technology. A protocol refinement with human samples is underway. The current primary indication is for Li-Fraumeni Syndrome, with potential for future indications in other cancer areas.

A provisional patent has been filed for technology.

IP&C is seeking partners/investors to further develop the technology.

Keywords: Precision health, cancer prediction, Li-Fraumeni Syndrome