

Identification of Biomarkers by Serum Protein Profiling

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Technology description

This invention describes serum features that distinguish colorectal carcinoma malignant patient samples versus healthy samples using surface-enhanced laser desorption ionization time-of-flight (SELDI-TOF) mass spectrometry. By comparing healthy versus malignant samples, the investigators were able to identify thirteen (13) serum features that have been validated using an independently collected, blinded validation set of 55 sera samples. The features are characterized by the mass to charge ratio (m/z ratio). The investigators have shown that SELDI-TOF based serum marker protein profiling enables minimally invasive detection of colon cancer with 96.7 percent sensitivity and 100 percent specificity.

Colorectal cancer is the third most common cancer and the third leading cause of cancer-related mortality in the United States. Current diagnostic methods for colorectal cancer have a large non-compliance rate because of discomfort, e.g., sigmoidoscopy or colonoscopy, or have a high rate of false positive results, e.g., fecal occult blood tests.

Advantages

The claimed invention has the potential to be a widely used, easy-to-use, and inexpensive diagnostic.

Institution

[NIH - National Institutes of Health](#)

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