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Identification and Use of Novopeptides for the Treatment of Cancer

AzTE Case # M06-001

Inventors

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Invention Description

In 2009, approximately 1.5 million new cancer cases were diagnosed in the United States. With an annual mortality rate of over 500,000 per year, cancer is the nation's second leading cause of death.

One promising area of treatment and prevention is the development of cancer vaccinations where the body can be stimulated to produce an immune response against tumor cells. However, identifying "tumor specific antigens" (TSAs) from cancer cells has proven elusive.

Researchers at the Biodesign Institute of Arizona State University have discovered methods for identifying candidate antigens for inclusion in a therapeutic cancer vaccine.

The investigators identified tumor specific antigens or "Novopeptides" from frameshift peptides which were uniquely found in tumor cells. These Novopeptides, derived from mutations in cancer cells, are not expected to pose a risk of autoimmunity and tolerance, such as whole-cell based therapies do.

Potential Applications

- Vaccine development
- Early detection of cancer
- Clinical diagnostics

Benefits and Advantages

- Identifies tumor specific Novopeptides for diagnosing, preventing, and treating cancer
- Stimulates immune response against specific cancer
- Low risk of autoimmunity and tolerance

Intellectual Property Status:

Patent Pending

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