



Vitamin D Analog for Cancer Prevention and Treatment

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a vitamin D analog that is potentially useful as a chemotherapeutic agent.

Overview

The hormonally active form of vitamin D, known as calcitriol or 1,25 dihydroxyvitamin D₃, has shown promise for treating diseases ranging from osteoporosis to cancer to psoriasis. However, the hormone mobilizes calcium from bones and increases intestinal absorption of dietary calcium. Effective therapeutic concentrations can lead to hypercalcemia; a condition characterized by elevated blood calcium levels, alterations in mental status, muscle weakness and calcification of soft tissues and organs such as the heart and kidneys. Therefore, a need exists for non-calcemic compounds that provide desirable therapeutic effects without causing dose-limiting hypercalcemia.

The Invention

UW–Madison researchers have developed a novel vitamin D analog, (20S)-25-hydroxy-1-desoxy-2-methylene-19-nor-vitamin D₃. This compound binds the vitamin D receptor and causes differentiation of cancer cells nearly as well as calcitriol but does not raise tissue calcium levels to the same degree, suggesting that it could be developed into a useful anticancer agent.

Applications

- Cancer prevention and treatment, particularly for leukemia, colon cancer, breast cancer, skin cancer or prostate cancer

Key Benefits

- Exhibits direct cellular activity in causing cell differentiation and gene transcription and in suppressing cell growth
- Less likely to cause dose-limiting hypercalcemia than calcitriol
- Can be administered in many forms

Additional Information

For More Information About the Inventors

- [Margaret Clagett-Dame](#)

Related Intellectual Property

- [View Continuation-in-Part Patent in PDF format](#)

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Tech Fields

- [Therapeutics & Vaccines : Oncology](#)

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- [Therapeutics & Vaccines : Vitamin D](#)

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