Vitamin D Analog "N-23" for Cancer Prevention and Treatment

Published date: March 14, 2017

Technology description

The hormonally active form of vitamin D, known as calcitriol or 1,25 dihydroxyvitamin D_3, 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. UW–Madison researchers have developed a novel vitamin D analog, (20S,22E)-methylene-19-nor-22-ene-1α,25-dihydroxyvitamin D_3, also known as N-23. This compound binds the vitamin D receptor with the same affinity as the native hormone but is more potent in causing cellular differentiation and increasing expression of the 24-hydroxylase gene. It also is less active than calcitriol in causing intestinal calcium transport. It potentially may be developed into a useful anticancer agent.
The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a vitamin D analog known as N-23 that is potentially useful as a chemotherapeutic agent.

Application area

Cancer prevention and treatment, particularly for colorectal, breast or prostate cancer

Advantages

More potent than calcitriol in causing cell differentiation and gene transcription
Less likely to cause dose-limiting hypercalcemia than calcitriol
Can be administered in many forms

Institution

Wisconsin Alumni Research Foundation

Inventors

Lori Plum
Margaret Clagett-Dame
Hector DeLuca
Pawel Grzywacz

联系我们

叶先生

电 话：021-65679356
手 机：13414935137
邮 箱：yeyingsheng@zf-ym.com