

Vitamin D Analog "DA2HE" to Treat and Prevent Polyps, Hyperplastic Intestinal Disorders

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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 new compounds that provide desirable therapeutic effects without causing dose-limiting hypercalcemia. UW–Madison researchers have developed a vitamin D analog, seco-A-2,19-dinor-1,25-dihydroxyvitamin D $_3$. Known as DA2HE, the compound exhibits high activityin vivo, especially in intestinal tissues. Relatively low receptor binding, differentiation and transcription activities suggest strong cell selectivity for use against polyps, some cancers and intestinal disorders. The compound's high intestinal calcium transport activity may be useful against bone diseases.

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a vitamin D analog showing strong cell selectivity that may provide therapy for some cancers as well as intestinal disorders like Crohn's and celiac disease.

Application area

Therapy for polyps and colon cancer

Treating and preventing Crohn's disease, ulcerative colitis, celiac disease and other intestinal disorders Treating bone diseases

Advantages

High intestinal activity

Potential for strong cell selectivity

Less likely to cause dose-limiting hypercalcemia than calcitriol

Can be administered in many forms

Institution

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