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Novel Bexarotene Analogs

AzTE Case # M09-155

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Invention Description

Bexarotene (Targretin®) is a synthetic retinoid analog used to treat cutaneous T-cell lymphoma (as well as off label to treat other types of cancer). It is especially effective because it has specific affinity for retinoid X receptors (RXR), enabling up-regulation of RXR genes to slow or stop cell proliferation of cancer cells. Despite these advantages, there are major drawbacks to the use of bexarotene including hypothyroidism, hyperlipidemia, and cutaneous toxicity.

To reduce these detrimental effects, researchers at Arizona State University have developed bexarotene analogs that are specific only for the RXR homodimer. By targeting the drug only to the homodimer, other pathways that require RXR as a heterodimeric partner for other nuclear receptors are not disrupted.

With this improved specificity of the new analogs discovered here, the therapeutic effects of bexarotene are retained while the side effects are minimized.

Potential Applications

- Anti-cancer treatment
- Drug discovery

Benefits and Advantages

- Reduces side effects associated with Bexarotrene treatment

Intellectual Property Status:
Patent Pending

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