Acne affects people of all ages, and can have serious physical and emotional consequences. Biologically active retinoids, of which all-trans retinoic acid is the prototype, are potent drugs that can be used to control the condition. However, while retinoids can be an effective treatment for acne, their toxicity can cause significant skin inflammation and side effects.

The Solution

University of Michigan’s James Varani, Ph.D., Department of Pathology, has developed a new family of retinoids that are comparable to current all-trans retinoic acid (ATRA)-containing products, but without skin irritation and other side effects.

While the team’s initial efforts are directed toward developing a topical agent for acne, a non-irritating retinoid with efficacy comparable to ATRA could eventually have several therapeutic uses, including as a potential systemic treatment for cancer, in the treatment of other inflammatory skin diseases such as psoriasis, and as an ingredient in anti-aging products.
A relevant patent protection application has been filed.

Create a topical treatment for acne followed by systemic acne therapeutic, topical for skin repair and cancer.

Complete safety studies followed by an IND submission, conduct clinical investigations, and apply for FDA approval.

Commercialization Strategy

Create a topical treatment for acne followed by systemic acne therapeutic, topical for skin repair and cancer.

James Varani, Ph.D.

"The issue with retinoids is not efficacy, but toxicity. We recently designed a synthesized family of novel retinoids that are comparable in potency to ATRA, but haven’t produced skin irritation. MTRAC funding enables us to conduct the studies we need in order to continue and expand our research. The feedback and guidance we’ve received helped focus our efforts and fine-tune our project plan."