



AP-1 Inhibitors for the Treatment of Follicular Occlusion Disorders

TECHNOLOGY NUMBER: 2025-514



Technology ID

2025-514

Category

Therapeutics and Vaccines
Life Sciences
Accelerate Blue Foundry -
2025/Life Sciences

Inventor

Sunny Wong
Joe Durgin

Further information

Seohee You
shyou@umich.edu

[View online page](#)

[Accelerate Blue Foundry - 2025 \(Life Sciences\)](#)

OVERVIEW

This new topical treatment targets a key protein that makes acne and related skin conditions resistant to standard therapies, offering a safer and more effective solution—especially for severe cases where current drugs don't work well or cause side effects.

DESCRIPTION

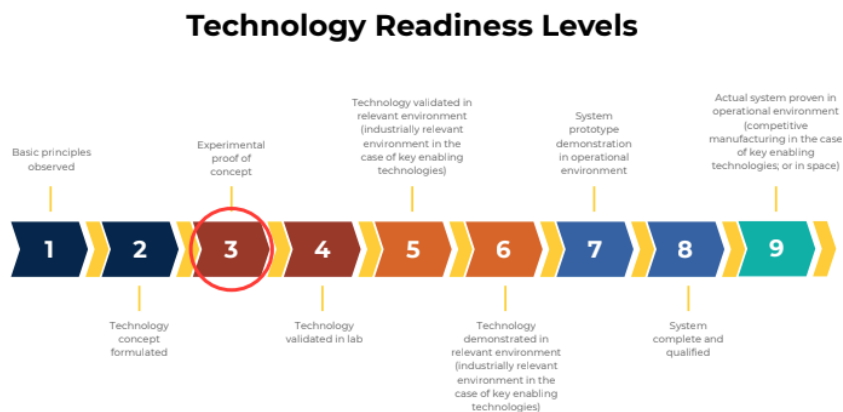
Researchers discovered that the protein FABP5 plays a major role in the development of acne and similar skin issues and may confer resistance to common treatments like retinoids. FABP5 expression is controlled by another set of proteins, the AP-1 complex, which is significantly upregulated in acne pustules. By using a cream or gel that blocks AP-1 (such as the compound T-5224) applied directly to the skin, this therapy reduces FABP5 and calms inflammation in pre-clinical models. Unlike current oral medications that can cause widespread side effects, this approach works locally, is safer, and tackles a recently uncovered cause of acne lesion development and treatment failure.

VALUE PROPOSITION



- **Better Results for Tough Cases:** Directly reverses resistance to existing acne treatments, helping people whose skin doesn't improve with standard care, including severe and difficult cases.
- **Safer, Localized Action:** Because it's applied to the skin, it avoids the risks and side effects that come with pills or injections used throughout the whole body.
- **Breakthrough Mechanism:** It's the first solution that blocks the AP-1/FABP5 pathway in these skin diseases, standing out from all current options.

TECHNOLOGY READINESS LEVEL



Hypothesis testing and initial proof of concept (PoC) is demonstrated in in vitro & in vivo models. IND enabling studies underway in mouse models.

INTELLECTUAL PROPERTY STATUS

Patent applications pending.

MARKET OPPORTUNITY

Acne and related skin disorders are extremely common, chronic, and hard to treat in many people, leading to serious emotional and financial burdens worldwide—especially for those with severe or stubborn cases. This new topical therapy could fill a major gap for dermatology clinics, adolescent medicine, and specialty skin care, especially where standard treatments fail or aren't safe. The global acne and skin inflammation market is worth over \$5 billion, and demand is growing for safer, more effective treatments as current options often fall short; recent industry reports highlight the urgent need for true innovation in this space.