



**CORPORATE PRESENTATION**

July 2026

**Precision dermatology powered by synthetic biology.**

# DISCLAIMER AND SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

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This document contains forward-looking statements concerning Azitra. The words “believe,” “may,” “will,” “potentially,” “estimate,” “continue,” “anticipate,” “intend,” “could,” “would,” “project,” “plan,” “expect” and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, statements concerning the following: (i) our future financial and operating results; (ii) our intentions, expectations and beliefs regarding anticipated growth, market penetration and trends in our business; (iii) the timing and success of our plan of commercialization; and (iv) our ability to successfully develop and clinically test our product candidates.

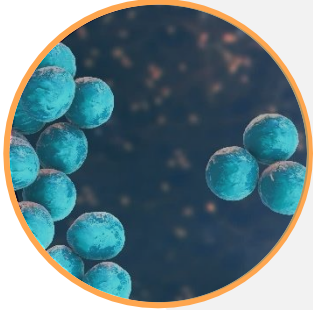
These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including (i) we are an early-stage clinical biopharmaceutical company with limited operating history, (ii) there are no drug products to date that incorporate our microbial library and genetic engineering platform and the clinical and commercial utility of our microbial library and genetic engineering platform is uncertain and may never be realized; (iii) we have only recently commenced Phase 1 clinical studies of our initial product candidates and our product candidates will require extensive additional preclinical and clinical testing; (iv) we expect we will need additional financing to execute our business plan and fund operations, which additional financing may not be available on reasonable terms or at all; and (v) those other risks described or incorporated by reference in the “Risk Factors” section in our Form 10-K filed by Azitra with the Securities and Exchange Commission (“SEC”) on February 24, 2025 and in any subsequently filed quarterly reports on Form 10-Q.

In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this document may not occur and actual results could differ materially and adversely from those anticipated or implied in our forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Azitra does not undertake and specifically disclaims any obligation to update or revise our forward-looking statements to reflect new circumstances or unanticipated events as they occur, except as required by law.

This document contains only basic information concerning Azitra. Because it is a summary it does not contain all of the information you should consider with regard to Azitra. You should read our Form 10-K filed with the SEC on February 24, 2025, as supplemented and/or amended from time to time, and our other filings with the SEC for more complete information about Azitra.

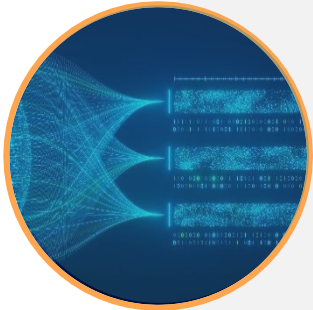
# Three foundational platforms for precision dermatology

POWERED BY SYNTHETIC BIOLOGY AND THE METAGENOME



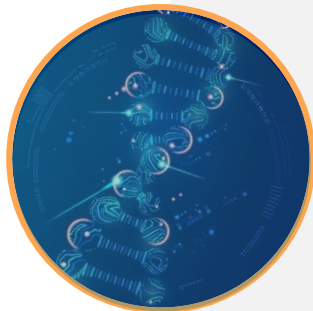
## Bacterial Cell Library

- Proprietary, robust library of **~1,500 microbial strains**
- Engineered and non-engineered bacterial chassis
- Over 60 species in house, mostly *Staphylococcus epidermidis*



## Artificial Intelligence / Machine Learning Discovery

- Predictive algorithms for **novel microbial-derived proteins, peptides & small molecules**
  - Exclusive agreement covering specific strains with team from Carnegie Mellon
  - Based on genetic sequences and biosynthetic gene clusters

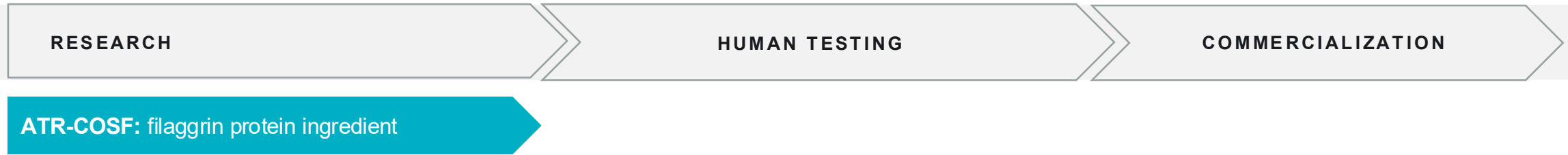


## Microbial Genetic Engineering Platform

- Demonstrated ability to make **novel transformations** to overcome challenge of thick cell walls and restriction modification systems
  - Exclusive worldwide license with Fred Hutchinson Cancer Center

# Azitra's pipeline

## Cosmeceutical ingredients



## FDA-regulated candidates for drug development



### ATR-01

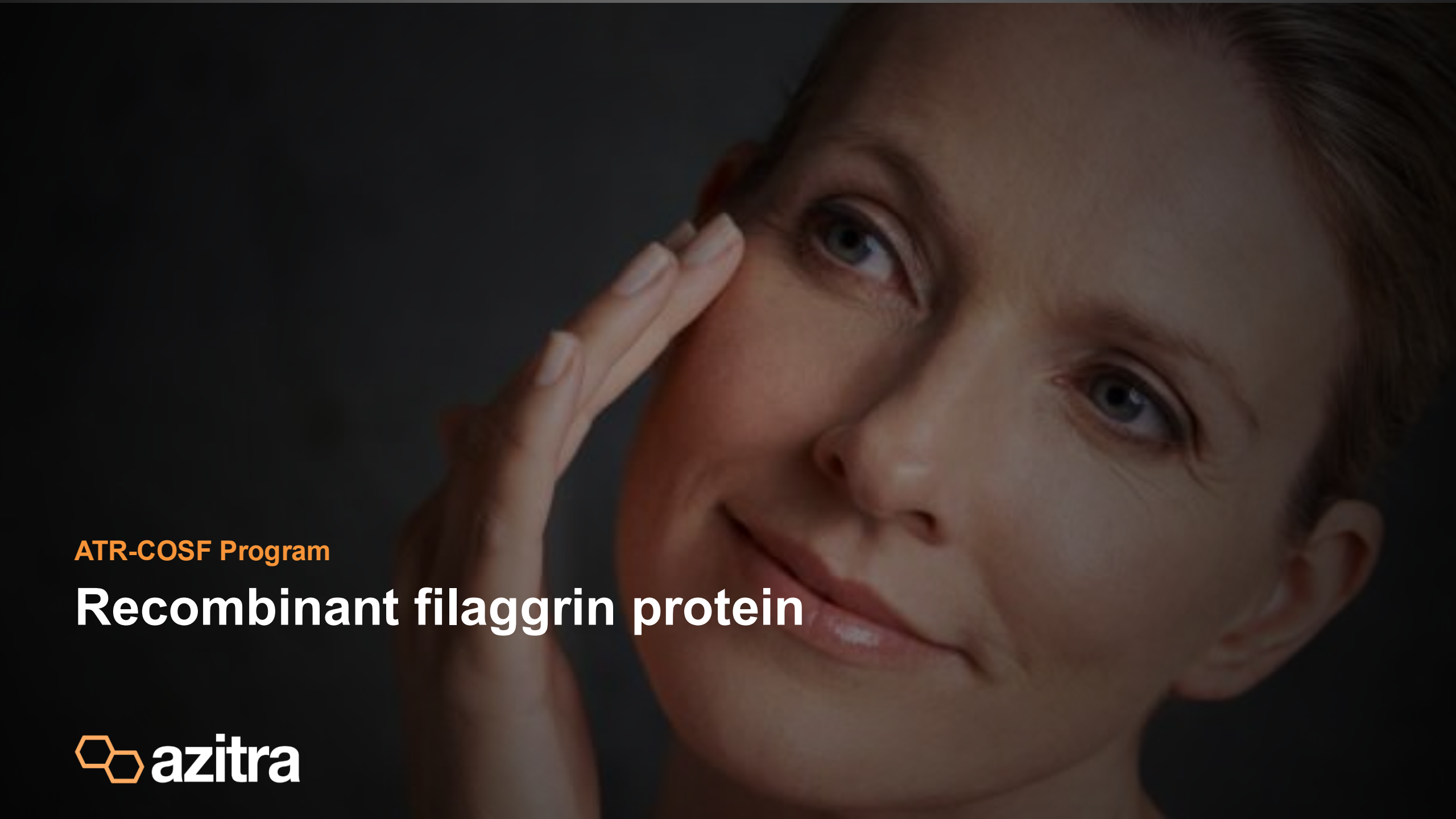
Filaggrin-secreting *S. epidermidis*



### ATR-04

Engineered *S. epidermidis*



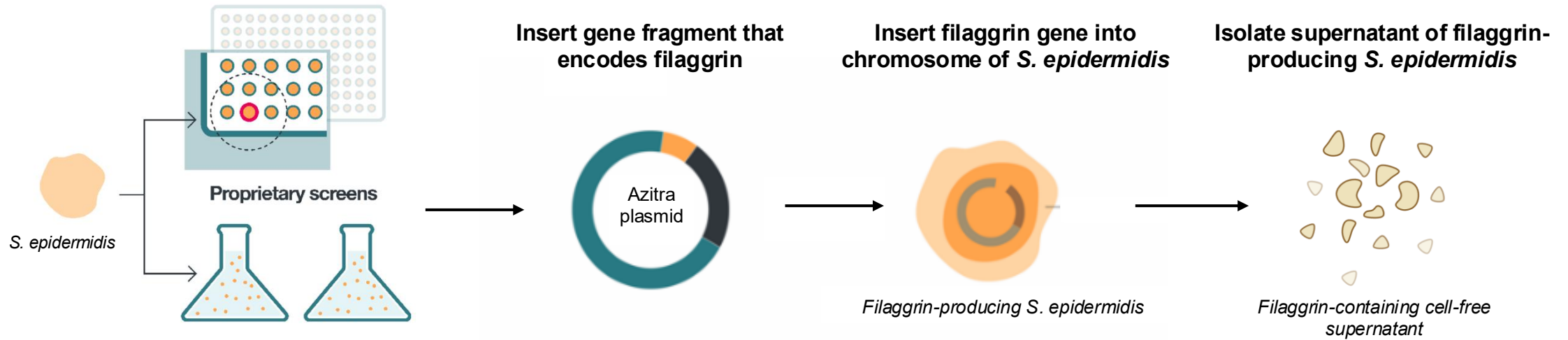
A close-up, low-key photograph of a woman's face. She has light skin and blue eyes, looking slightly upwards and to the right. Her right hand is raised, with fingers gently touching her forehead and eye area. The lighting is soft and focused on her face, creating a warm, intimate feel. The background is dark and out of focus.

ATR-COSF Program

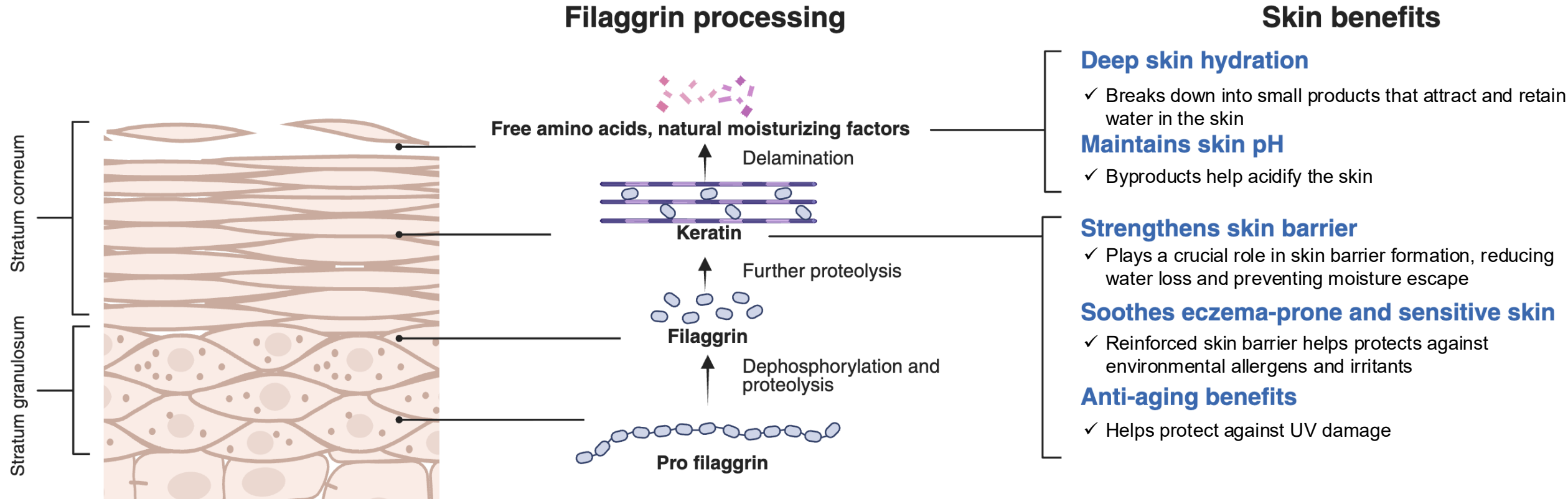
# Recombinant filaggrin protein



# ATR-COSF: topical filaggrin + bacterial lysate for cosmeceutical indications



# Filaggrin's function in the skin



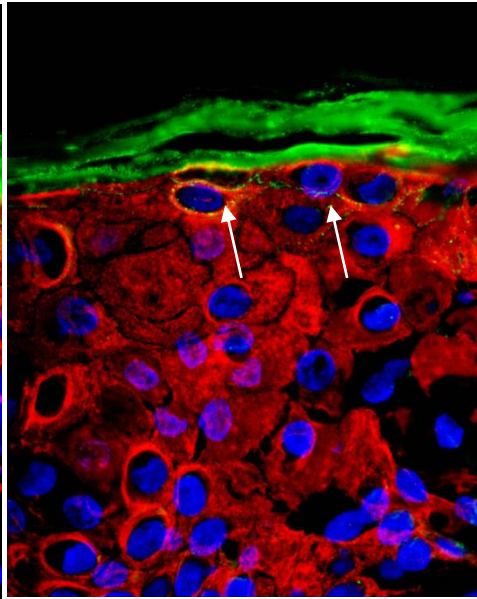
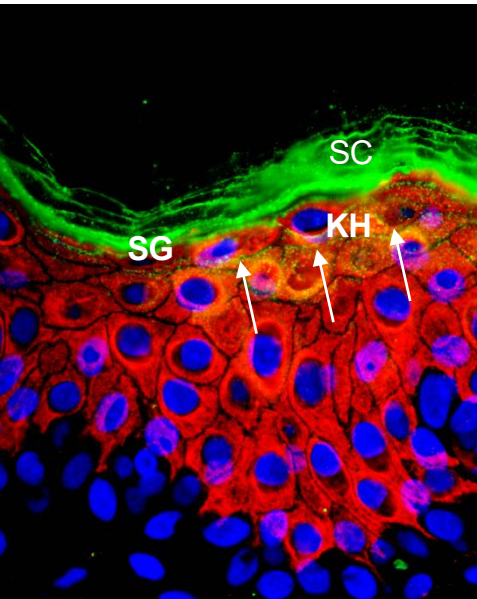
Filaggrin is a vital structural protein in cosmetics that **strengthens the skin barrier**, **enhances hydration** by producing Natural Moisturizing Factors (NMF), and **reduces eczema symptoms**. It acts as a "protein of youth," **repairing dry, sensitive skin**, **reducing transepidermal water loss**, and **protecting against environmental pollutants and UV damage**.

# ATR-COSF delivers filaggrin below the stratum corneum after single dose

Application of ATR-COSF on skin with reduced filaggrin Levels

Skin with **Normal** levels

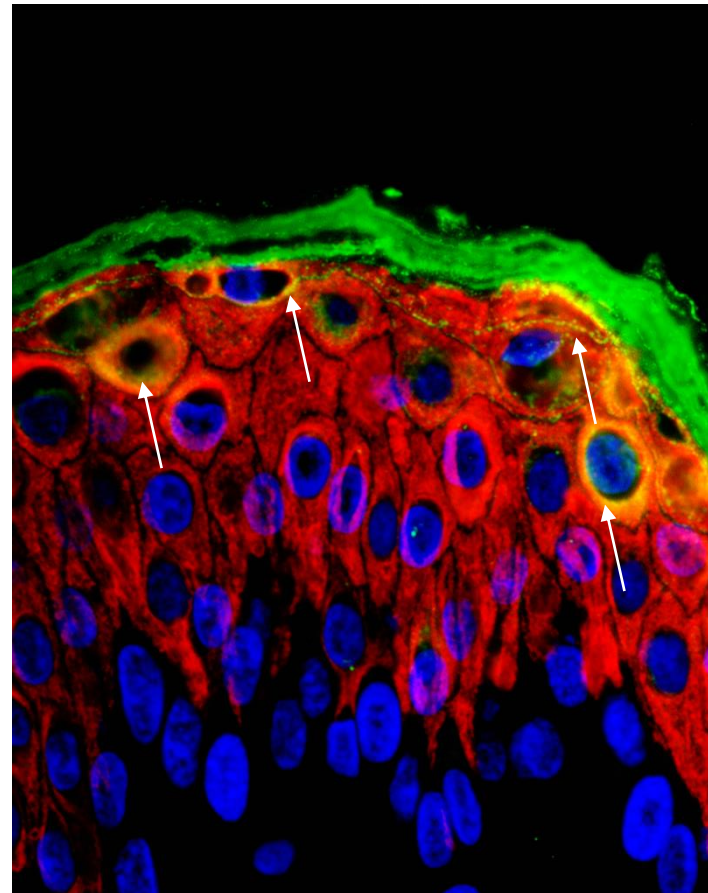
Skin model with **Reduced** filaggrin levels



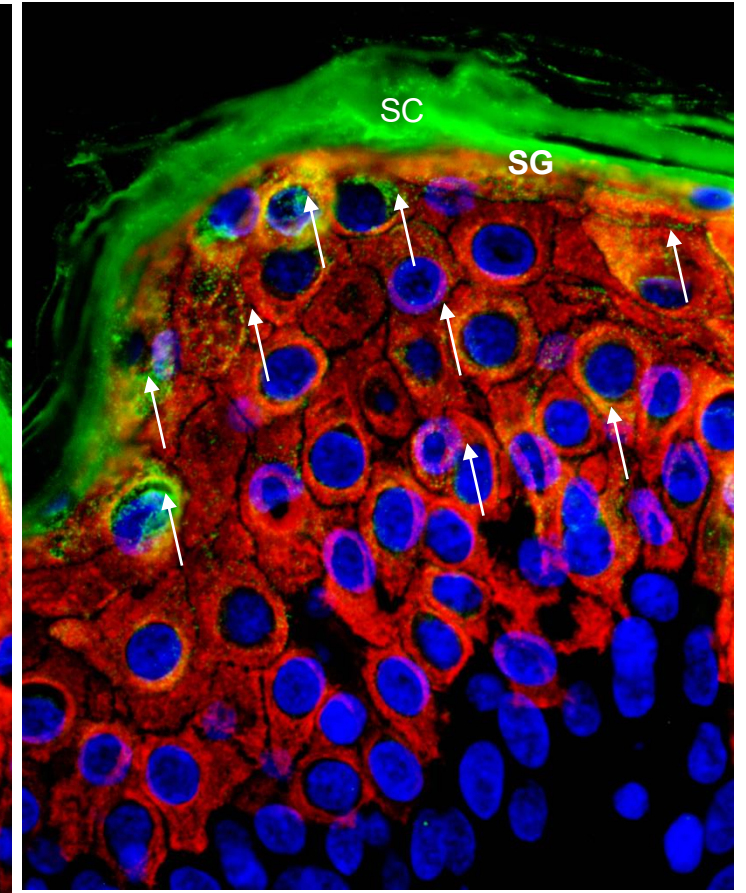
DNA  
Filaggrin  
Keratin-10

SC = Stratum corneum  
SG = Stratum granulosum  
KH = keratohyalin granules

8 hr post application



24 hr post application



Recombinant filaggrin detected below the stratum corneum and in the granular layers after 1 application of ATR-COSF



ATR-04 Program

# EGFR inhibitor-associated rash



# ATR-04: auxotrophic *S. epidermidis* for EGFR inhibitor-associated rash

## ATR-04 Summary

- Chemotherapy agents such as EGFR inhibitors and immunotherapies such as early BTK inhibitors lead to an aggressive and debilitating rash on most patients
- Severity of the rash is linked to IL-36 $\gamma$  signaling as well as correlations to *S. aureus* increases
- EGFR inhibitors produce the most prevalent and most predictable affliction
- **ATR-04** is topically administered and inhibits IL-36 $\gamma$  and *S. aureus*
- Fast Track designation from the FDA

## ATR-04 Key Facts



### Primary Mechanism:

Topical IL36 $\gamma$  inhibition, *S. aureus* control



### Clinical Status:

Phase 1/2 ready



### US Prevalence:

~150,000 patients<sup>1</sup>



### Potential Peak Sales Opportunity:

>\$1B<sup>2</sup>

<sup>1</sup> Bloomberg/Symphony drug prescription data and FDA labels

<sup>2</sup> Company estimates of 150,000 patients x \$10,000/year.

# EGFRi-driven rash is highly prevalent with significant clinical impact



Grade 1

Grade 2

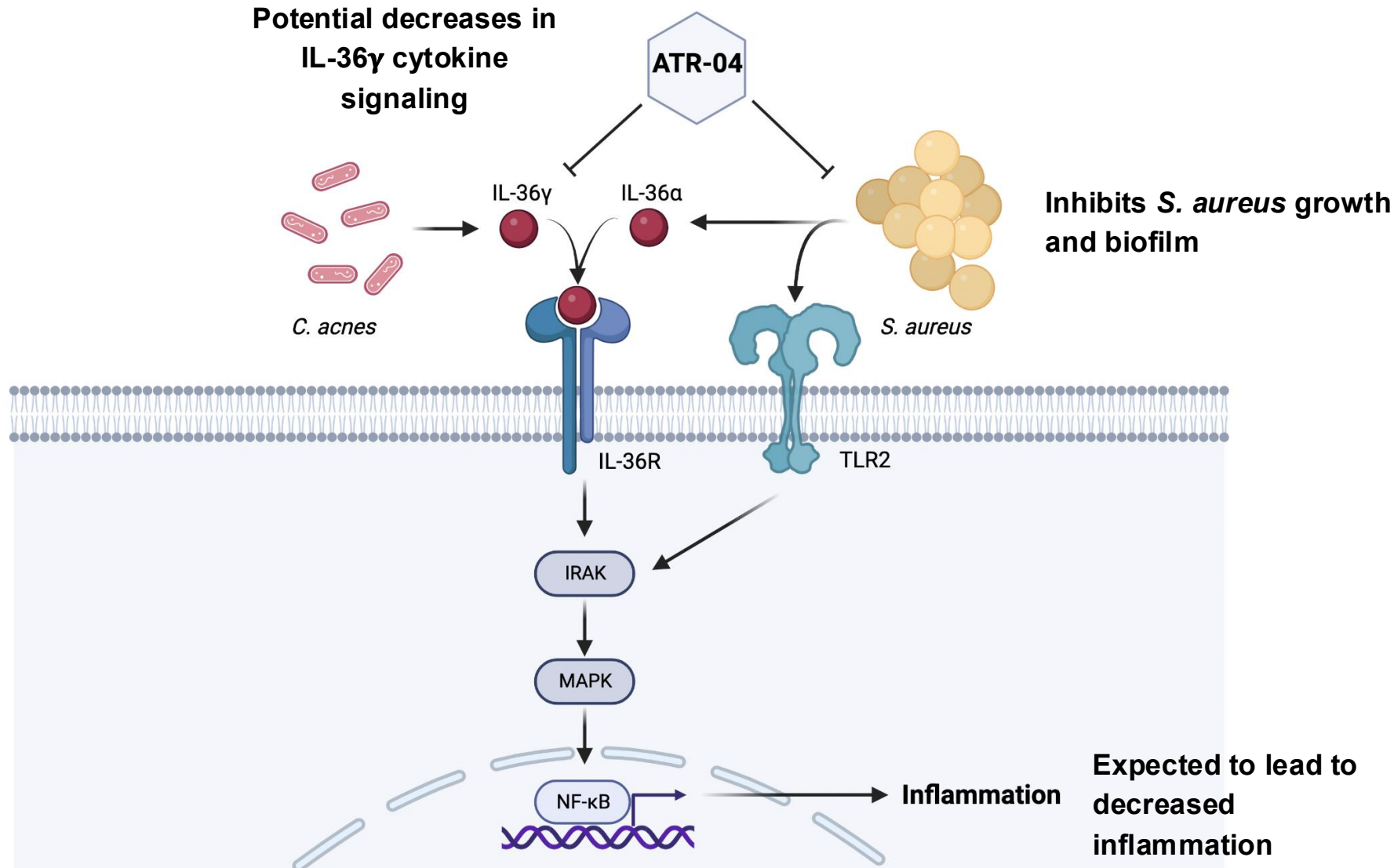
Grade 3

Grade 4

- Rash severity often linked to cancer drug dosing and correlates with *S. aureus* levels on the skin
- Rash can lead to significant changes in course of therapy and QOL
- **As many as 15-20% discontinue EGFRi therapy due to skin rash**

Source: Melosky et al. (2015). Grade 1, gefitinib; grade 2, erlotinib; grade 3, erlotinib; grade 4, erlotinib

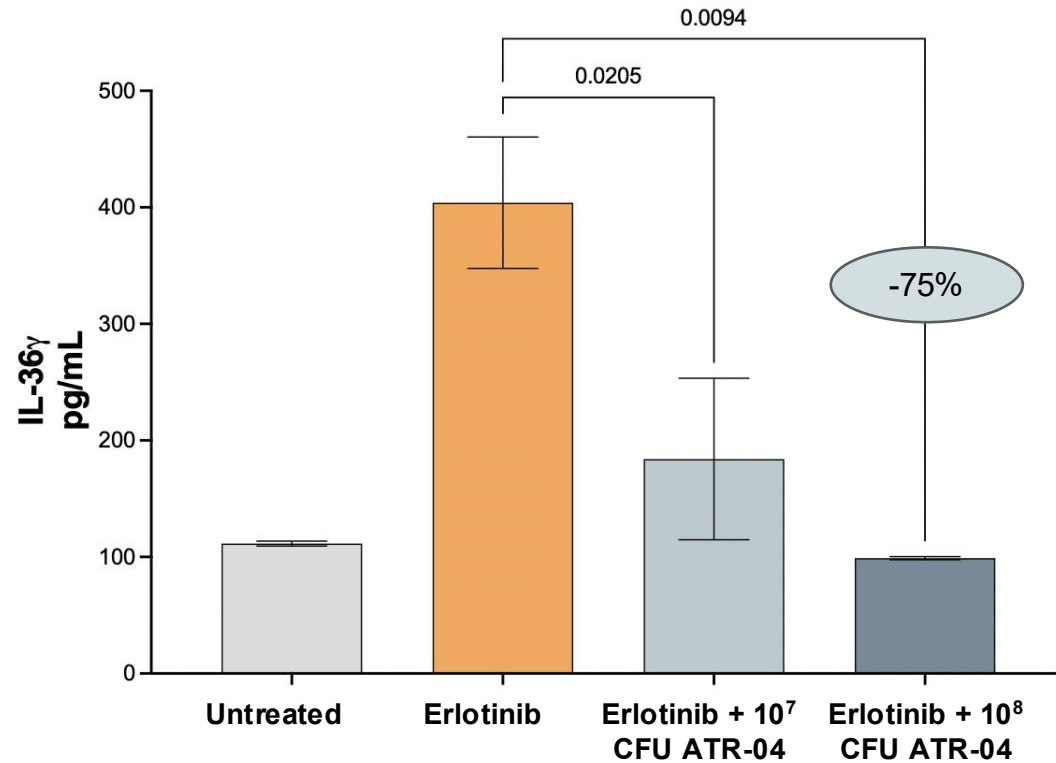
# Mechanism of action of ATR-04



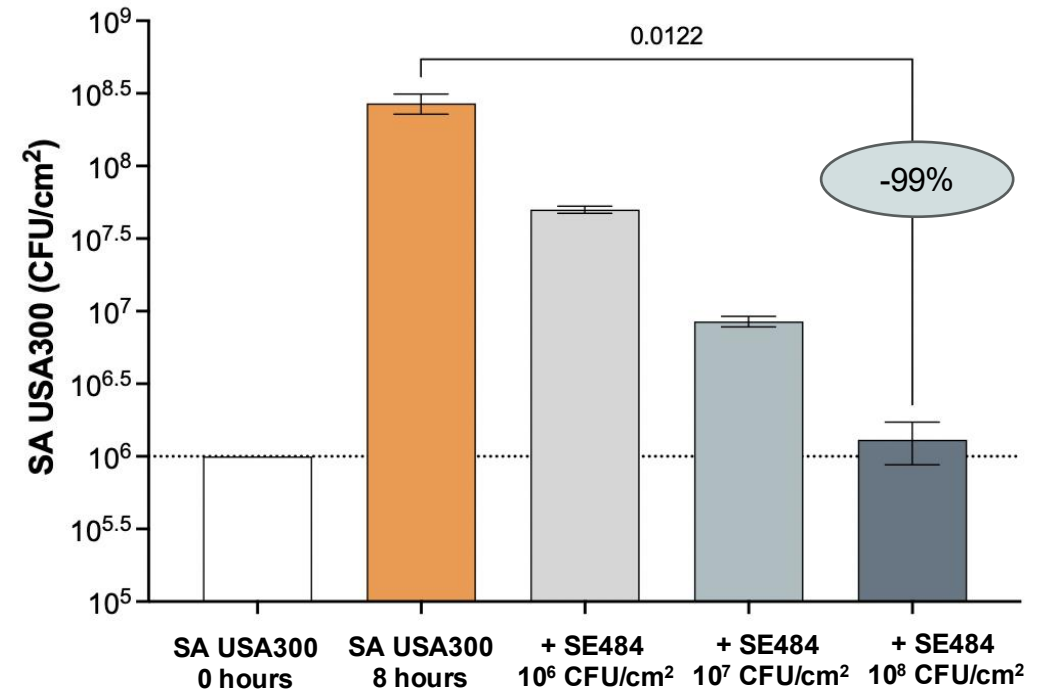
Collectively,  
ATR-04 addresses  
rash severity driven  
by EGFR inhibition

# *In vitro* data show ATR-04 reduces erlotinib-induced IL-36 $\gamma$ and *S. aureus*

IL-36 $\gamma$  reduction in reconstructed human epidermis



*S. aureus* reduction on ex vivo pig skin



- ✓ IL-36 $\gamma$  is elevated in reconstructed human epidermis following erlotinib exposure
- ✓ ATR-04 reduces IL-36 $\gamma$  induced by erlotinib and reduces *S. aureus*
- ✓ Dose-dependent effect observed

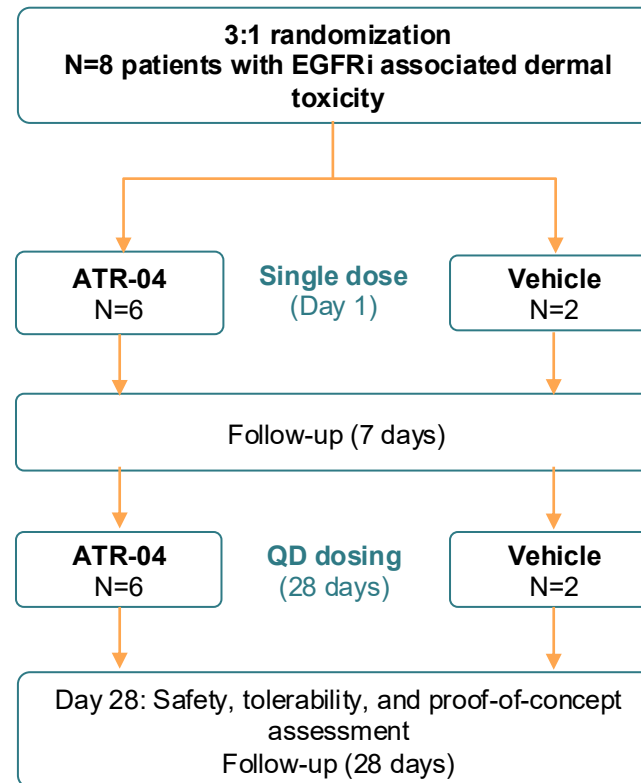
# Phase 1/2 clinical trial design: IND cleared August 2024

## Study overview

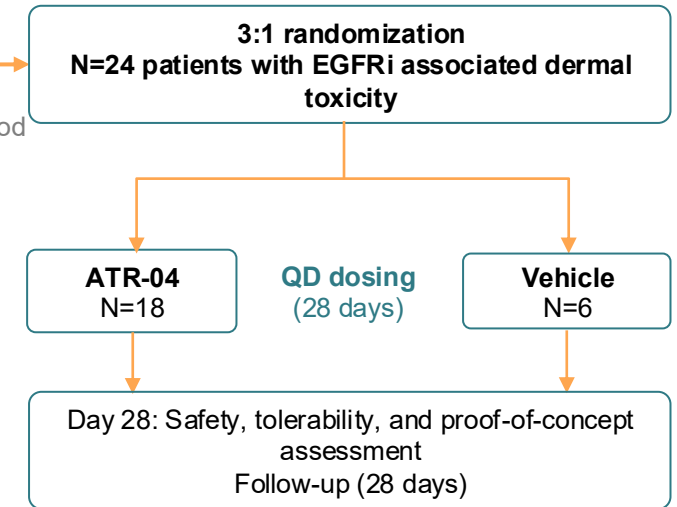
- Multicenter, randomized, double-blind, vehicle-controlled study in adults (n=32) with EGFRi associated dermal toxicity
  - Dose level:  $10^9$  CFU / g ATR-04
  - Cohort 1 (n=8): single dose leading to multiple dose for 28 days
  - Cohort 2 (n=24): multiple dose cohort for 28 days
- Primary objective: to assess the safety and tolerability of topical application of ATR-04
- Secondary objectives:
  - Evaluate efficacy signals (modified CTCAE, pruritus, and pain)
  - Bioavailability of ATR-04
- Exploratory objectives:
  - Evaluate PD parameters, including IL-36 $\gamma$
  - Quality of life questionnaire

## Design

### Cohort 1: Single dose to multiple dosing



### Cohort 2: Multiple dosing





# Future Directions



# SyMPL (SyngenicDNA minicircle plasmid) technology: stealth by engineering

## The problem

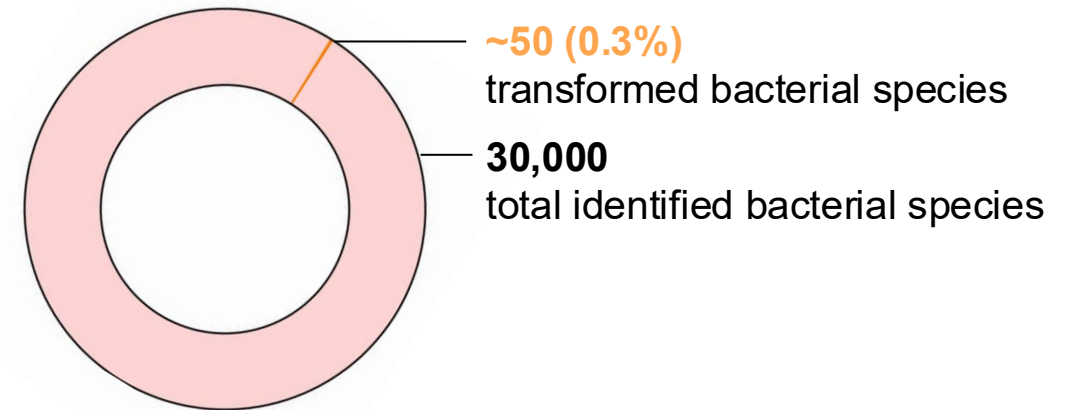
*Current biomanufacturing processes are unable to overcome bacterial defenses, leading to high costs/inefficiency*

### Current challenges in genetic engineering:

- **99% of bacteria** are genetically 'Intractable' due to defense systems against human DNA
- Current approaches rely on inefficient hosts (*E. coli* K12) or expensive CHO cells

**Regulatory Risk:** Supply chains often require the use of antibiotic resistance genes

**Failed Products:** Many complex molecules cannot be produced in standard hosts



# SyMPL (SyngenicDNA minicircle plasmid) technology: stealth by engineering

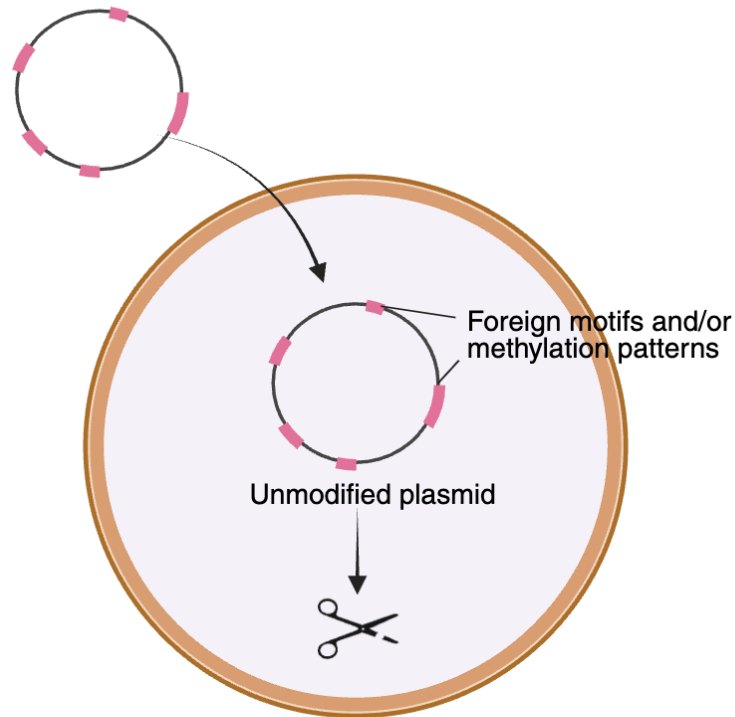
## The solution

*SyMPL technology to evade bacterial defenses for improved genetic engineering*

### The solution:

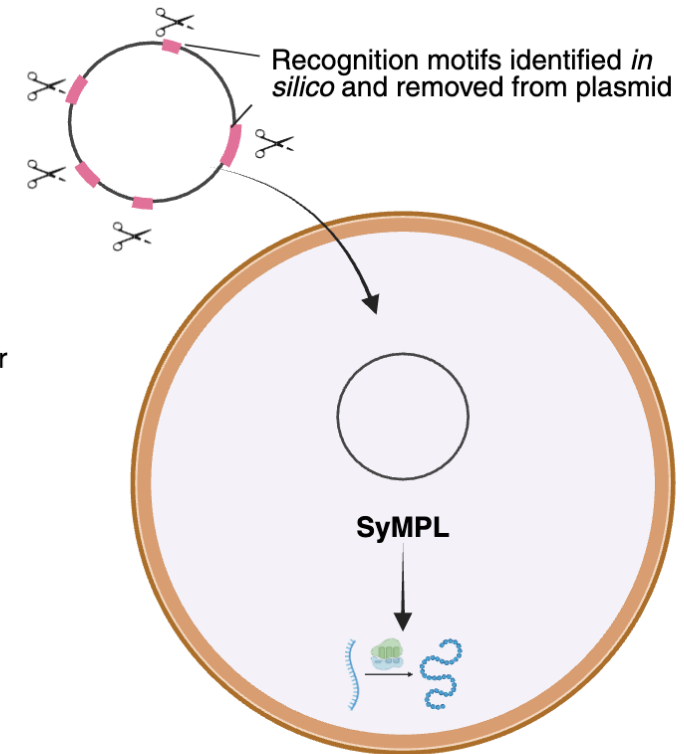
- Instead of adding a disguise to the human DNA, **remove specific recognition motifs** of its sequence
- The bacterial defense systems need the motifs to recognize foreign DNA and mount an attack. Without them, the **human DNA becomes invisible to the bacterium's defense system**

## Traditional engineering



DNA recognized as foreign and digested by restriction enzymes leading to **low protein yields**

## SyMPL engineering



Stealth DNA recognized as self leading to **higher protein yields**

# SyMPL applications: begin with proven markets

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## Initial Product Pipeline of Multiple ~\$1B+ Opportunities:

### **Bio-Identical Filaggrin**

The Issue: Unstable gene prevents production

The Solution: Minicircle stabilization enables mass production

### **mRNA Kit**

The Issue: T7 Pol is toxic; DNA is unstable

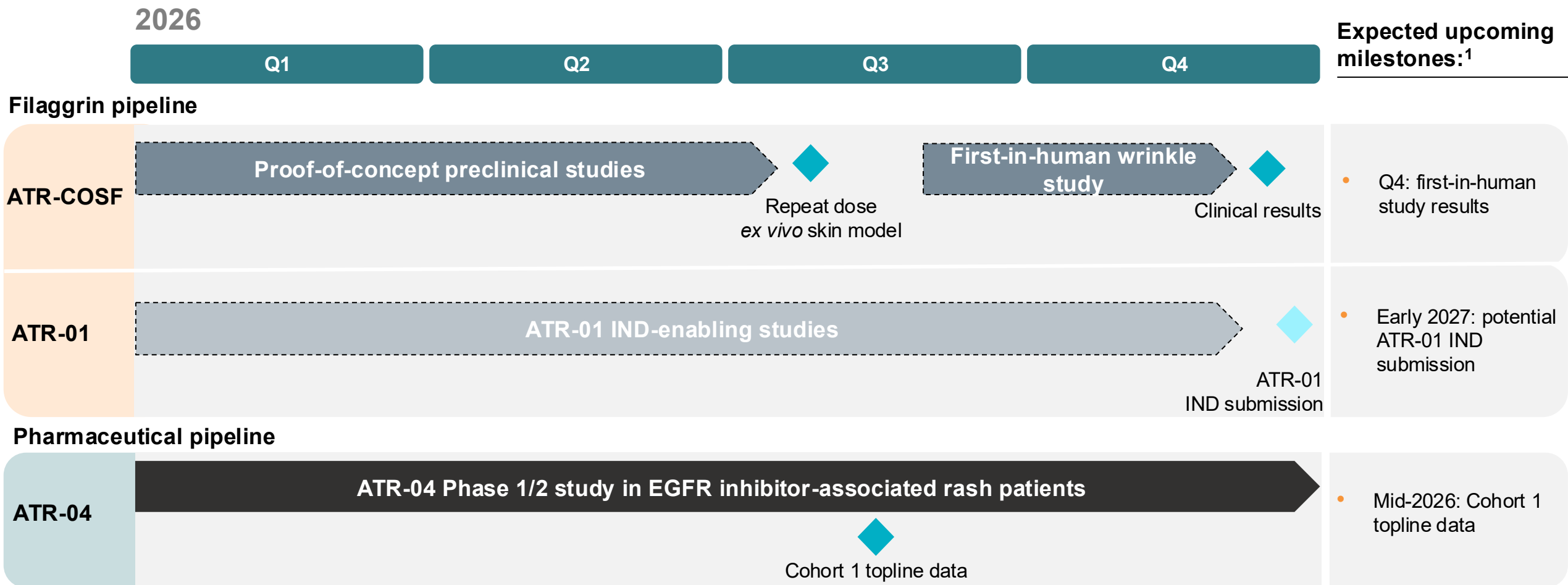
The Solution: Antibiotic-Free DNA + High-Yield Enzymes

### **Recombinant Protein A**

The Issue: Critical antibody ingredient; hard to manufacture

The Solution: Secretion in alternative bacteria with much higher yield

# ATR-COSF and ATR-04 bring value-creating anticipated milestones in 2026<sup>1</sup>





**THANK YOU**

Precision dermatology powered by synthetic biology.



**APPENDIX**

 **azitra**

# Azitra is led by world-class management team



**Francisco Salva, MSc.**  
President and CEO

- Prior Co-Founder and VP of Operations at Acerta Pharma – Sold for \$6.3 billion
- Formerly Senior Director –Corporate Development at Pharmacyclics
- 25+ years experience in life science venture capital, investment banking and operating roles



**Travis Whitfill, Ph.D., M.P.H.**  
Co-Founder and COO

- Prior Partner at Bios Partners, a venture capital fund with \$350M+ assets under management
- Assistant Professor Adjunct in the Department of Pediatrics at Yale University
- Named one of Forbes' 30 Under 30 in healthcare in 2018



**Norman Staskey, CPA**  
CFO

- Currently Acting CFO via Danforth Advisors
- Previously, Managing Director at E&Y
- 20+ years accounting experience, including multiple IPO, SPAC and M&A transactions



**Mary Spellman, M.D.**  
Acting CMO

- Prior CMO of Revance Therapeutics, Menlo Therapeutics, and Castle Creek Biosciences
- Previously Scientific Director at Biogen and Novartis
- 30+ years of dermatology and broad industry experience, including 10+ NDAs



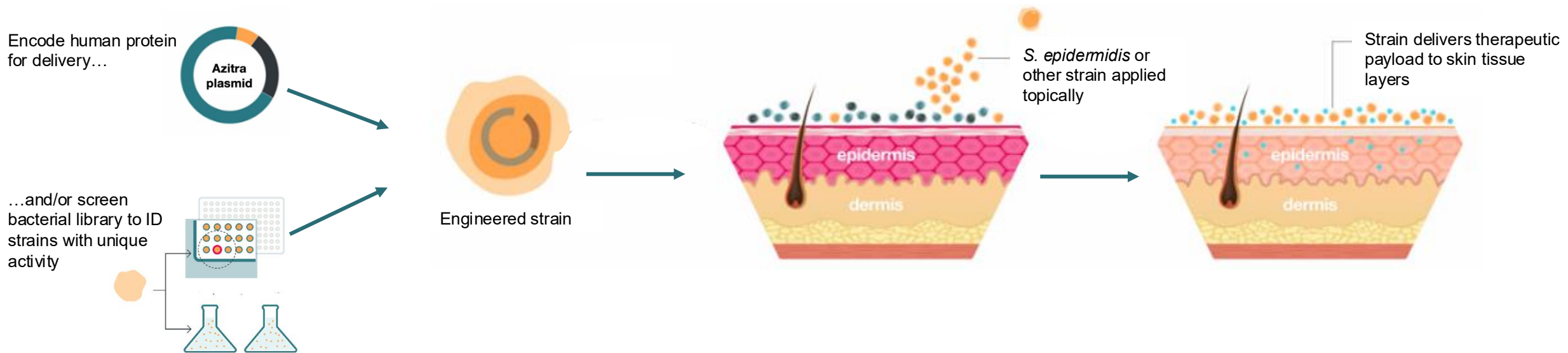
**Leonard Milstone, M.D.**  
Professor Emeritus of Dermatology  
Yale School of Medicine  
Azitra Scientific Advisory Board

- Led the group that first demonstrated gene editing in the epidermis
- Discovered the unique proteoglycan Epican as well as keratins 4 and 13
- Former Chair, Medical and Scientific Advisory Board, Foundation for Ichthyosis and Related Skin Types



# Using synthetic biology and *S. epidermidis* biology for skin therapeutics

- 1 Identify human or bacterial protein or molecule of interest
- 2 Engineer auxotrophy to control strain growth
- 3 Colonize affected skin with engineered strain
- 4 Secrete active molecule throughout layers of the epidermis for therapeutic treatment





ATR-01 Program

Ichthyosis vulgaris

 azitra

# ATR-01: topical filaggrin delivery for ichthyosis vulgaris

## ATR-01 Summary

- **Ichthyosis vulgaris** is a common autosomal dominant disease with no current FDA-approved treatment option
  - Characterized by dry, rough, and scaly skin
  - Caused by loss-of-function mutations in the *filaggrin* gene
- **Mechanism of action:** ATR-01, an engineered strain of *S. epidermidis*, delivers missing filaggrin protein to result in restoration of the skin barrier and skin hydration
  - A human filaggrin subunit is attached to a peptide (RMR) that facilitates transdermal delivery

## ATR-01 Key Facts



**Primary Mechanism:**  
Topical protein replacement

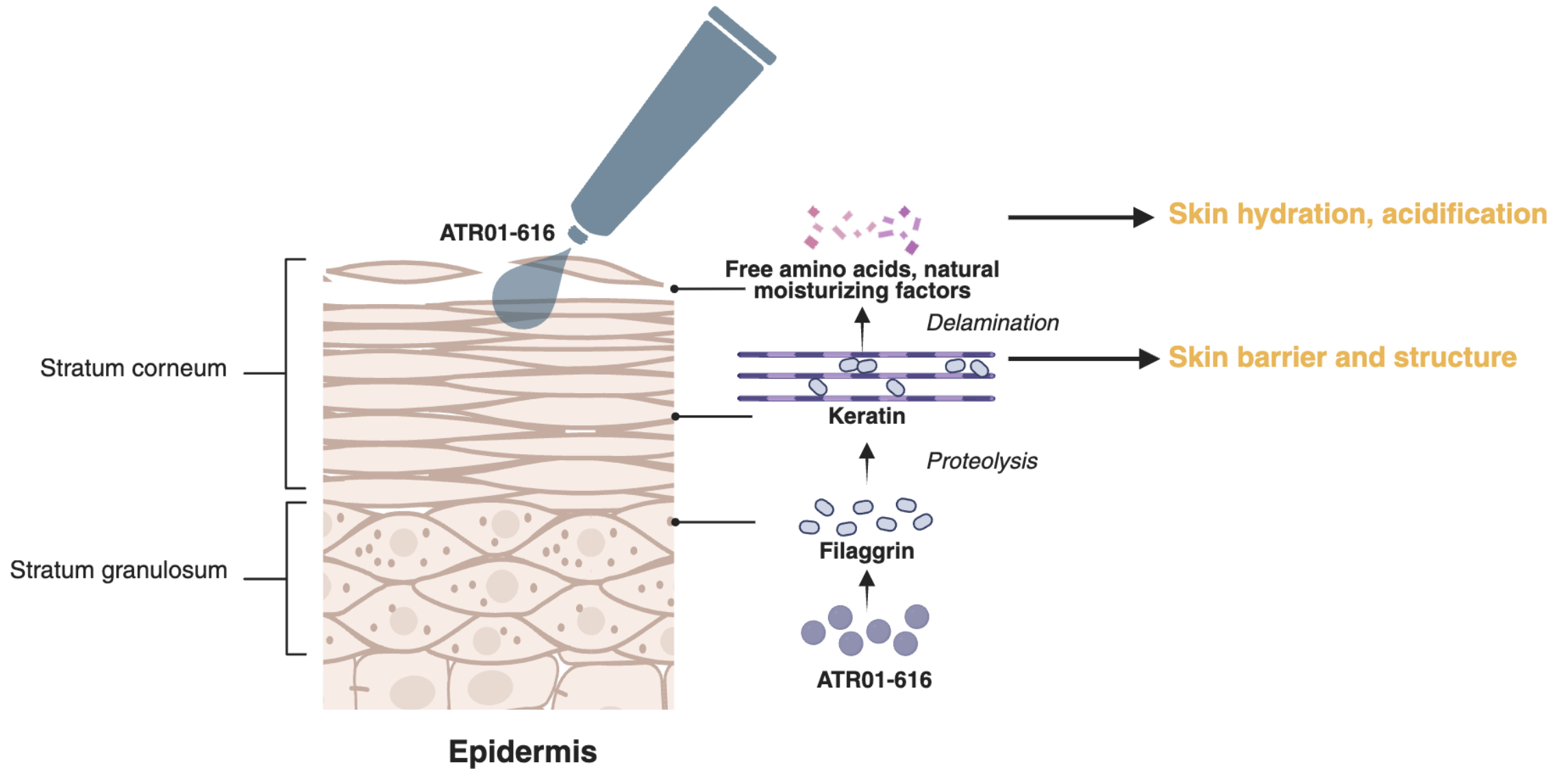


**Clinical Status:**  
IND-enabling studies

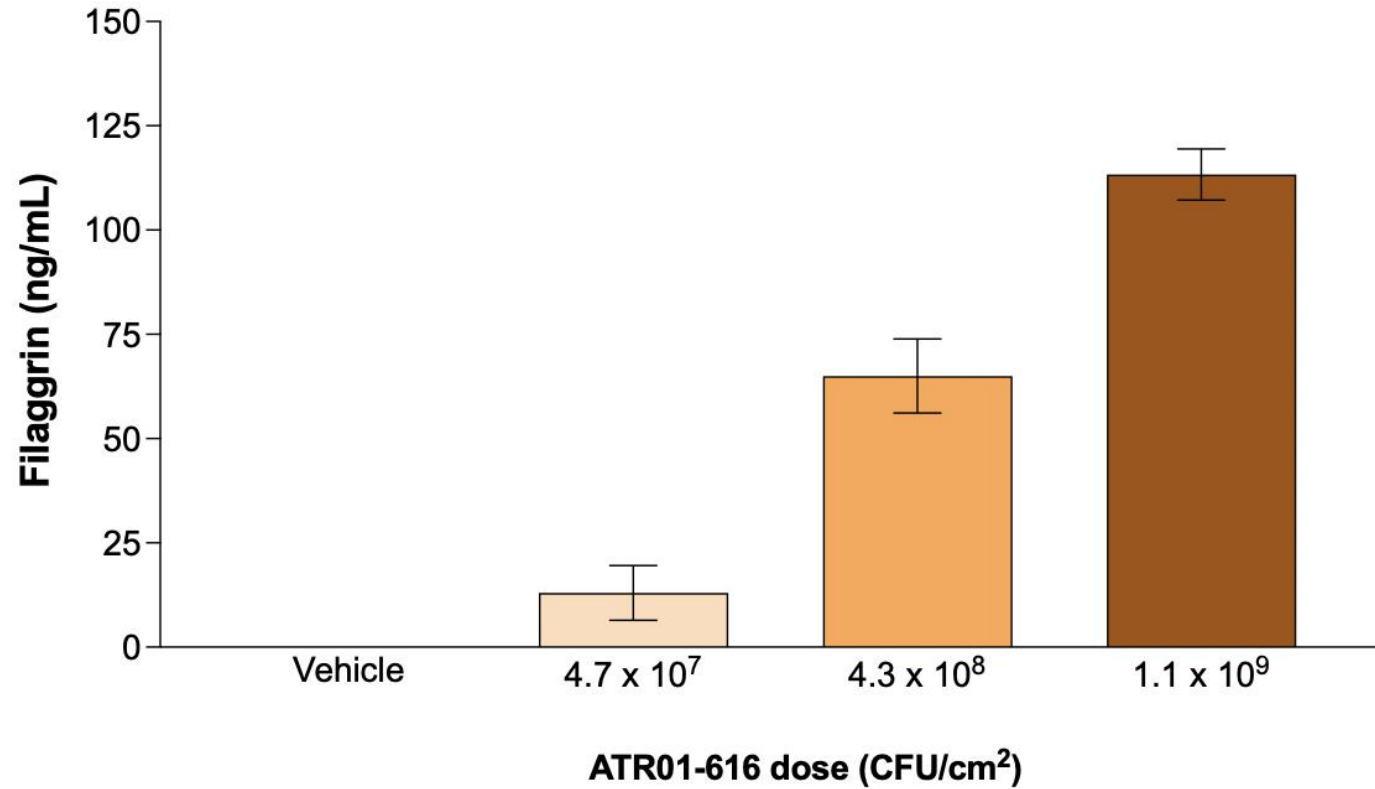


**US Prevalence<sup>1</sup>:**  
>1M patients

# Mechanism of action of ATR01-616

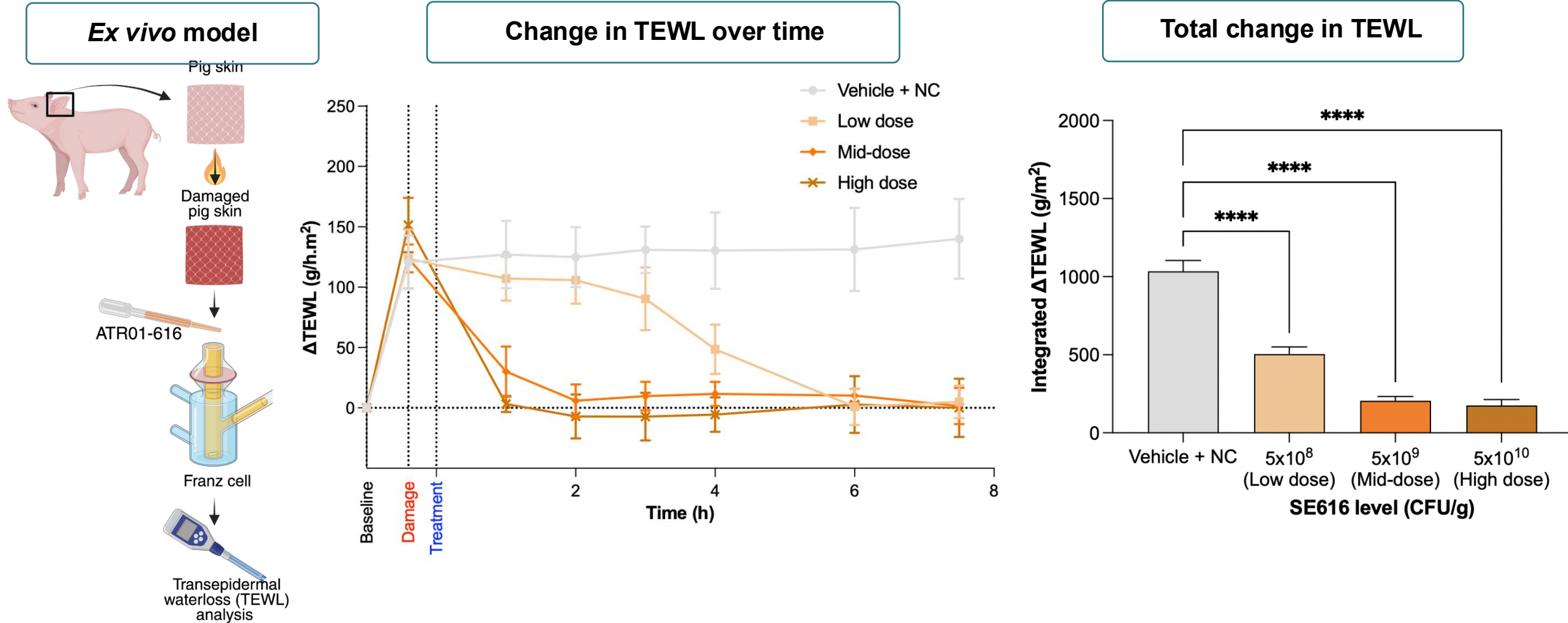


# Dose-dependent filaggrin delivery in *ex vivo* pig skin with ATR01-616



- ✓ ATR01-606 delivers filaggrin in a dose-dependent manner on *ex vivo* pig skin
- ✓ No human filaggrin detected in pig skin using vehicle

# ATR-01 (SE616) decreases transepidermal water loss (TEWL) on *ex vivo* damaged skin



# ATR-01 summary

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- ✓ ATR01-616 delivers human filaggrin in a **dose-dependent manner**, and delivers filaggrin to the stratum granulosum in human skin
- ✓ Filaggrin delivered from ATR01-616 is **functional**, measured by keratin collapse assays and shown to colocalize with keratin in fluorescent imaging
- ✓ ATR01-616 leads to reduced transepidermal water loss (TEWL) in a heat-damaged pig skin model, **demonstrating initial proof-of-concept**
- ✓ Additional IND-enabling studies are ongoing with an **IND submission in 2027**