Resita Bio

A breakthrough in dermatology using continuous topical protein therapy

Corporate Overview

Q4 2024

Executive Summary

Platform

- ResVita Bio is a synthetic biology startup focused on high unmet need skin diseases
- Platform produces continuous topical protein therapy using genetically engineered bacteria
- Continuous protein therapy enables the function of biologics with the topical convenience of small molecules, while avoiding both modalities' systemic safety concerns

Programs

- Lead program starting IND-enabling studies in Q1 2025 to treat Netherton Syndrome, a serious rare pediatric disease affecting ~13 K patients in the U.S. and EU
  - Efficacy demonstrated in *ex vivo* human eczematous skin and *in vivo* Netherton mice
  - Rare pediatric voucher granted; FDA Interact aligned on biocontainment, CMC, preclinical
- Additional programs in atopic dermatitis, acne, and others in discovery

Corporate Context

- Developed platform and nominated lead development candidate
- Seeking to deliver Phase I/II results for Netherton Syndrome, IND for Atopic Dermatitis, and platform buildout to partner on other diseases
- Advisory board consists of leaders in drug development, inflammatory dermatology diseases, and Netherton Syndrome

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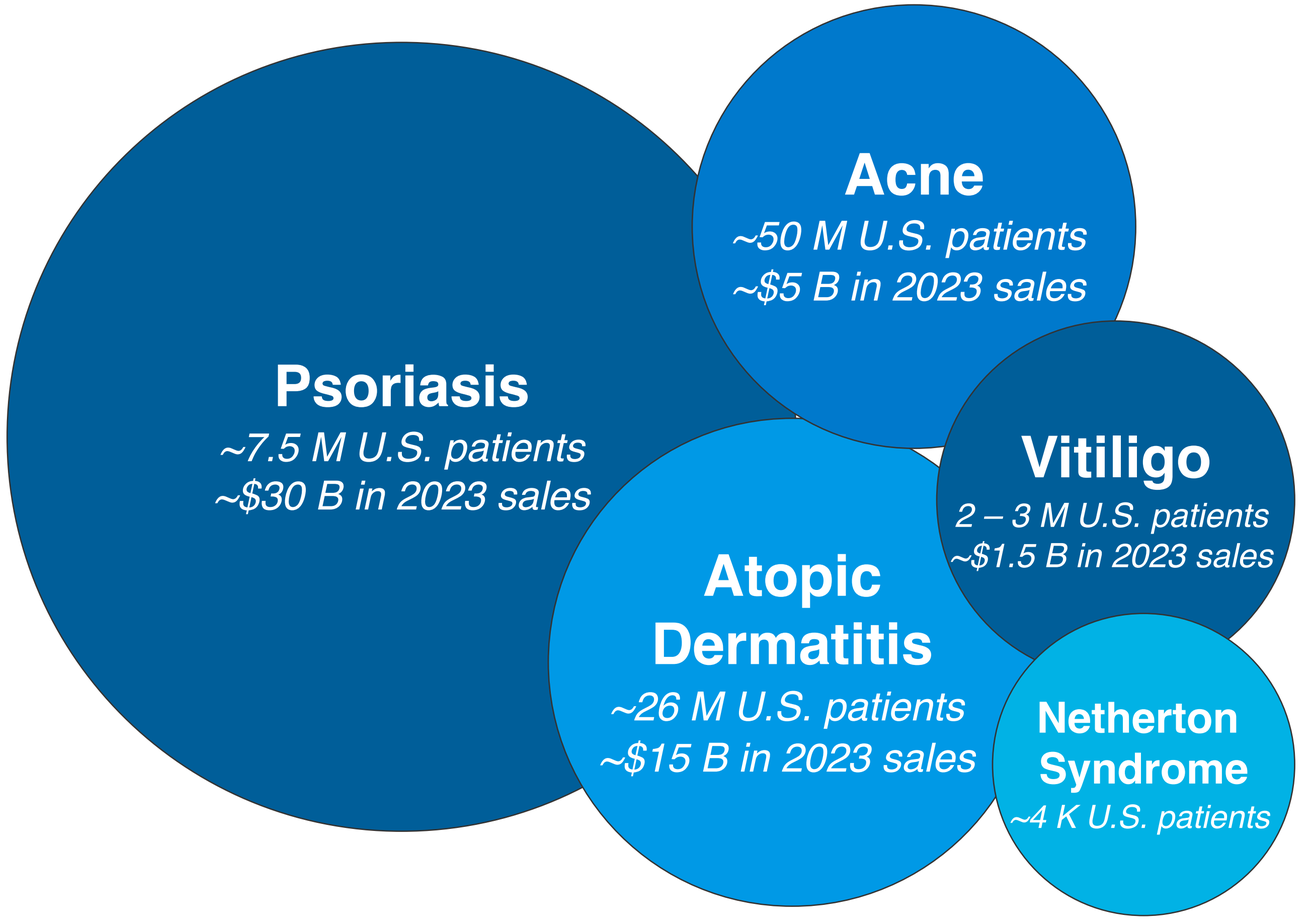
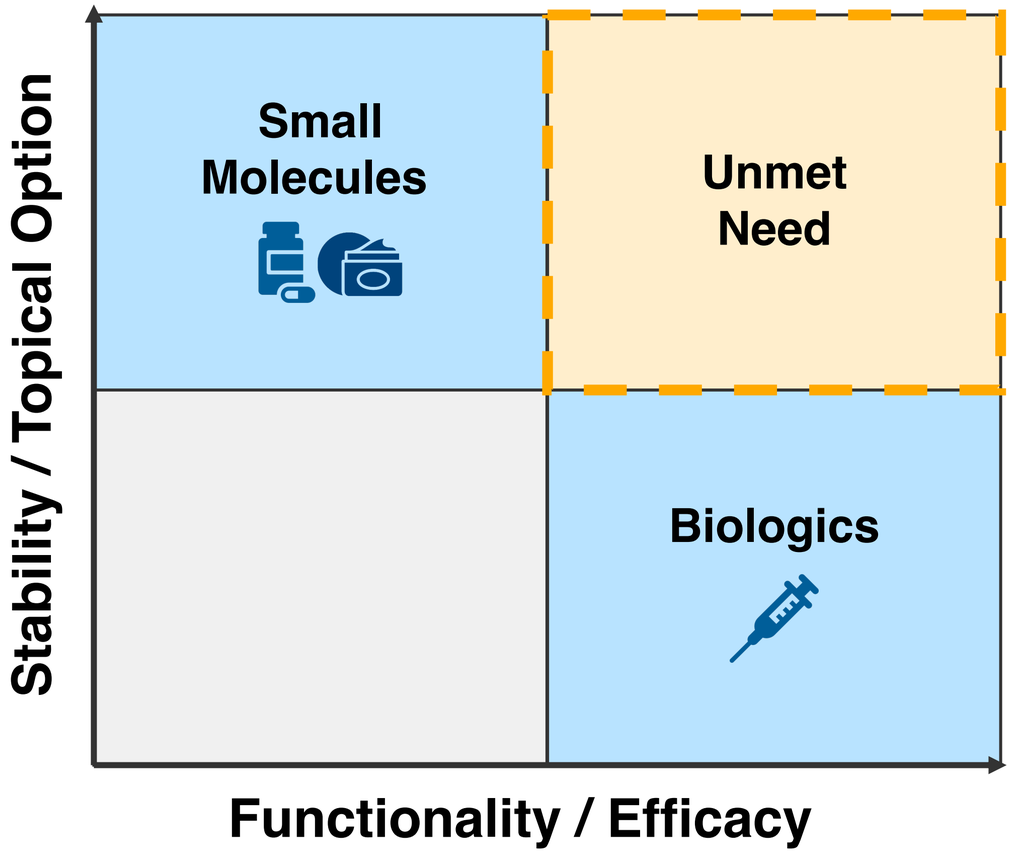
Large derm market in need of efficacious, safe topicals

Select Dermatology Diseases

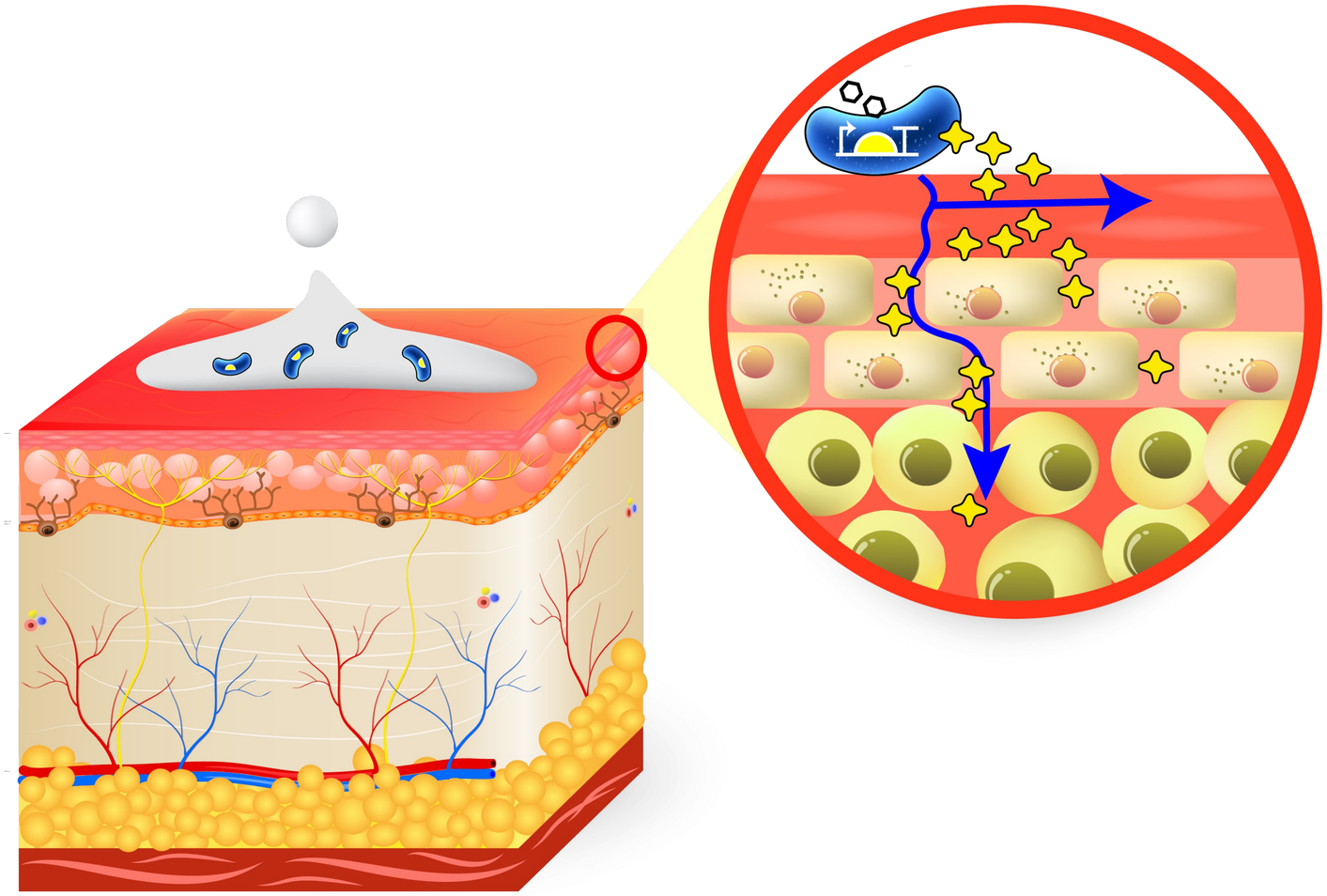


Limitation of Current Modalities



Source: Market Reports.

The ideal topical: continuous protein therapy via RVB Cells



- Our RVB Cell platform enables **continuous topical protein therapy**
- RVB Cells convert nutrients from moisturizer to therapies, delivering **continuous** therapy on skin for **24 hours**
- Continuous protein therapy **increases efficacy & safety while reducing costs**

RVB Cells offer a differentiated function/convenience profile

	Biologics	Small Molecules	Gene Therapy	Resilia Bio Continuous Protein Tx.
Efficacy (Functionality / Specificity)	High	Low-to-moderate	High	High
Safety	Moderate (Global immunosuppression)	Low-to-moderate (JAK black box)	Low (Immunogenicity)	High
Topical Optionality	No	Yes	Yes	Yes
Dosing Regimen	Bi-weekly	Twice daily	Weekly	Daily
Costs	High	Low	Exorbitant	Moderate

RVB cells deliver specificity & functionality, high skin concentration levels & minimal off-site toxicity

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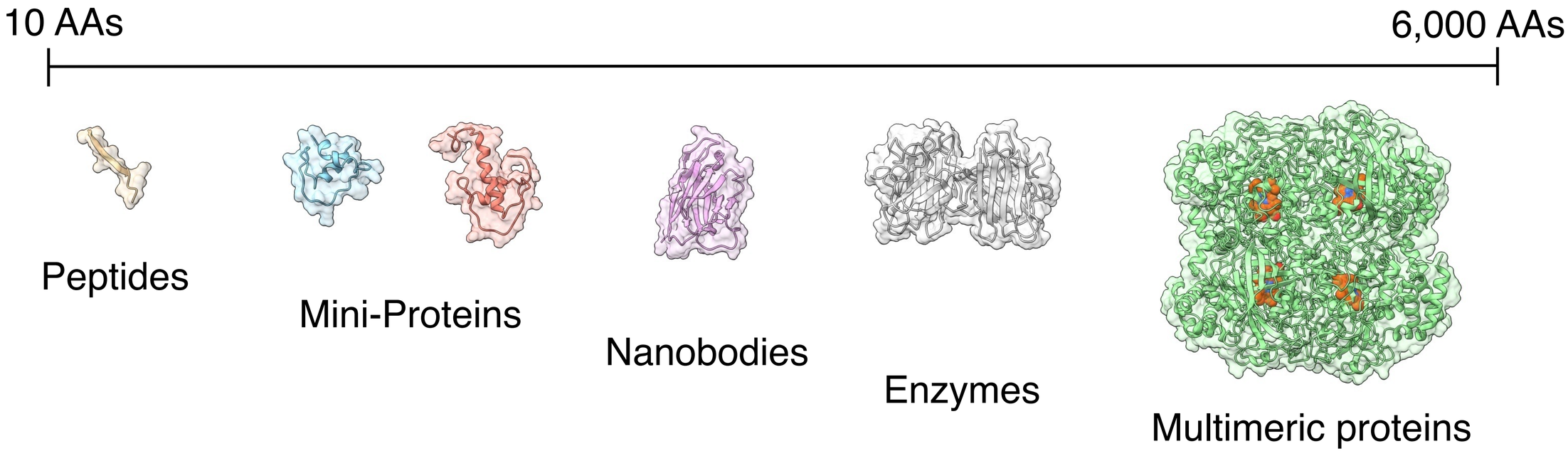
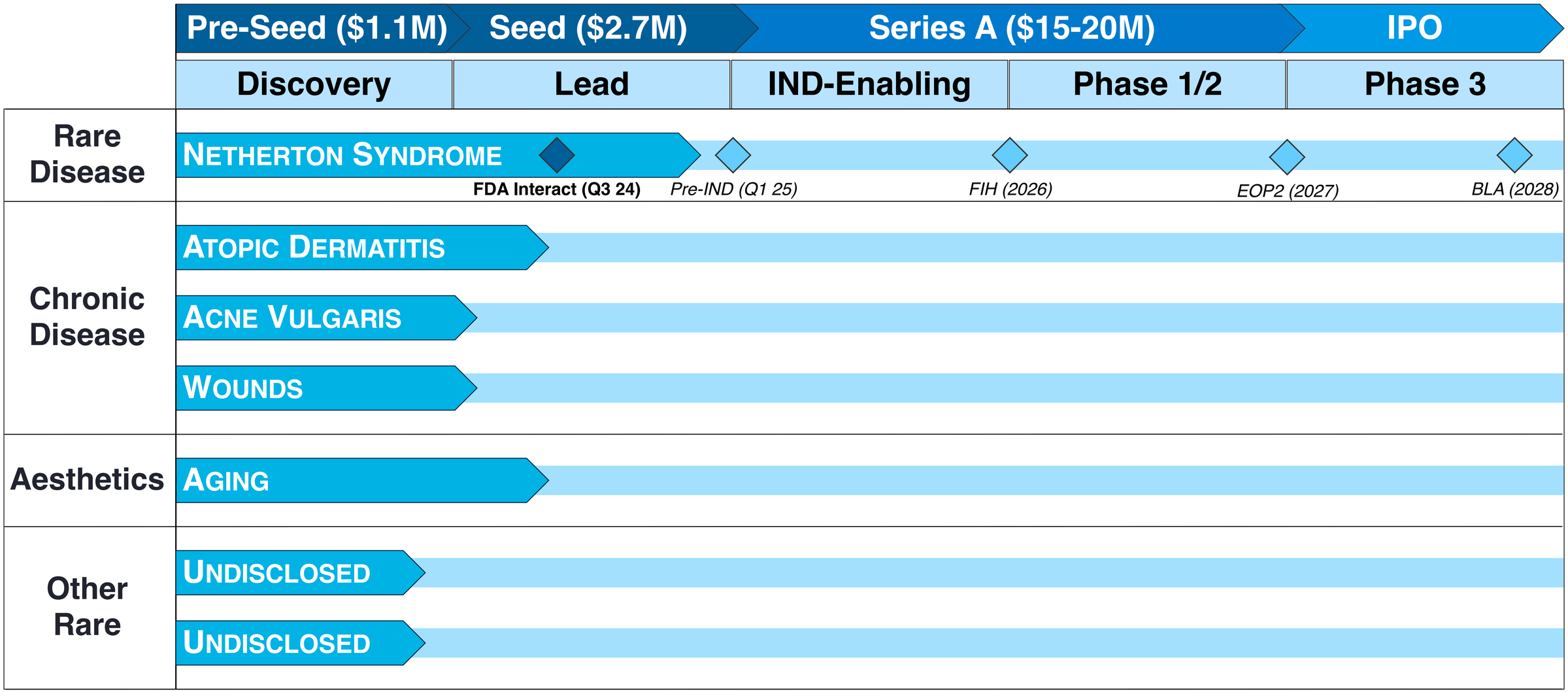
Broad applicability to deliver peptide/protein therapeutics



RVB Cells can be engineered to deliver a breadth of signaling, enzymatic, and cellular targets, including cytokines, proteases, and immune cells

Developing a pipeline in high unmet need skin diseases



RVB-003: disease modifying therapy for Netherton Syndrome

Netherton Syndrome

- Caused by a loss-of-function mutation in the *SPINK5* gene, encoding the **LEKTI protease inhibitor**
- LEKTI deficiency results in excess protease activity, leading to **skin barrier disruption** and **inflammatory immune response**

Epidemiology	• **Rare pediatric** and **orphan** condition • Estimated prevalence of **~3.5 K** patients in the **U.S.**, **~11 K** in the **EU**
Unmet Need	• Currently **no approved therapies** with treatment limited to moisturizers • High **burden** of disease • **Fatal in ~20% of children**
RVB-003 Overview	• RVB-003 targets the **primary driver of disease** by inhibiting the protease KLK5 • **Rare pediatric voucher** granted, orphan designation filed, FDA Interact complete

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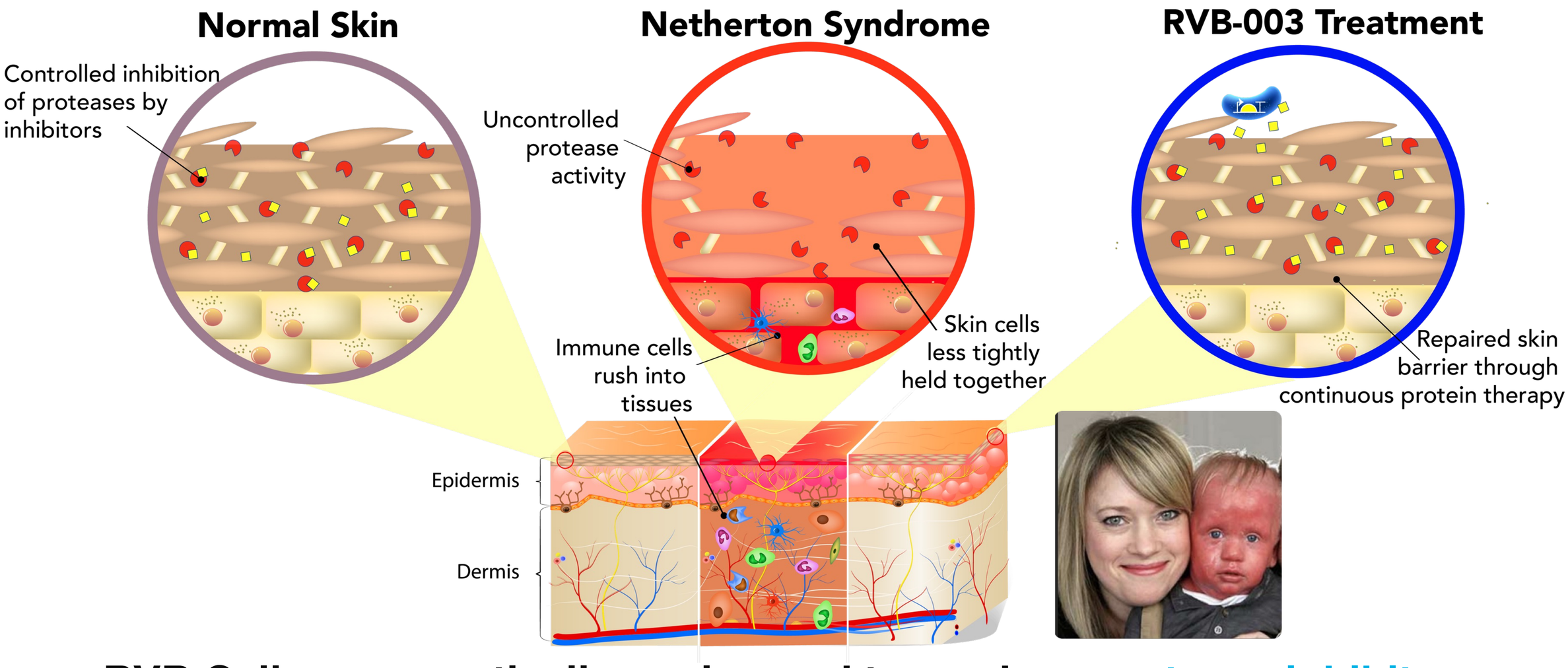
RVB-003 inhibits the KLK5 protease to restore the skin barrier

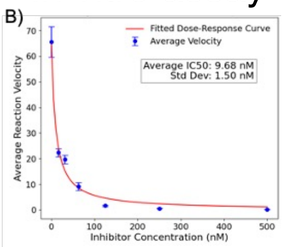


RVB Cells are genetically engineered to produce protease inhibitors to treat the cause of Netherton Syndrome

RVB-003 development status: *ex vivo* and *in vivo* efficacy

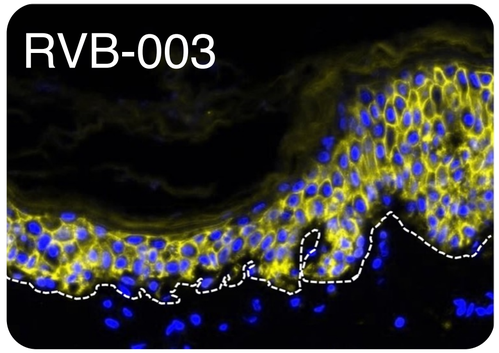
In Vitro Proof of Concept

Engineer RVB-003 → Fermentation → Purify PRO-003 → *In vitro* assay



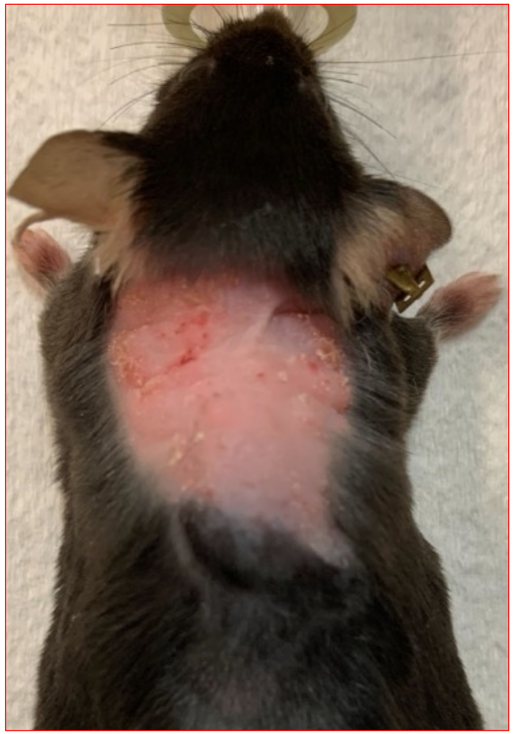
RVB-003 produces and secrete **PRO-003 therapy**, which inhibits KLK5

Ex Vivo Proof of Concept

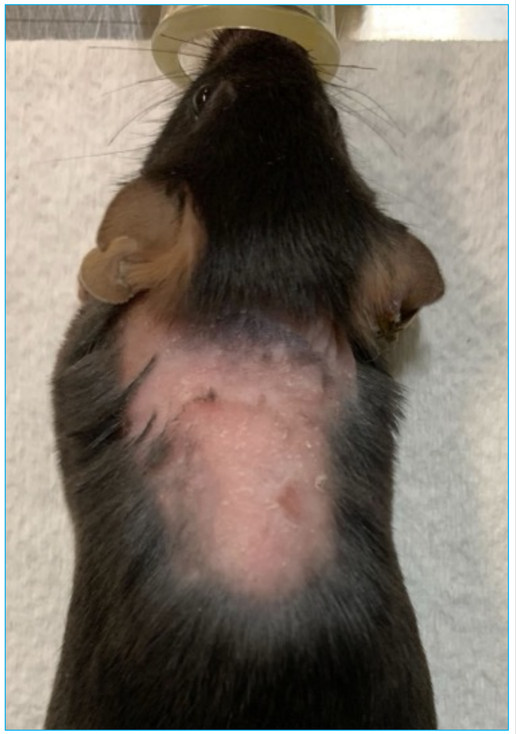


RVB-003 produces PRO-003 therapy (yellow) which **permeates** throughout human atopic epidermis and **reduces inflammation**

In Vivo Efficacy



Standard of Care



RVB-003

Skin barrier **rebuilt** within 4 days

RVB-101 in AD: building upon our NS program

Atopic Dermatitis (AD)

- Heterogeneous disease characterized by immune dysfunction and skin barrier damage.
- Hyperactive protease activity disrupts skin barrier function, contributing to AD and itch.
- Emerging therapies target protease activity to restore barrier integrity and reduce symptoms.

Epidemiology	• AD is a highly prevalent skin condition impacting over **7% of adults** and **15% children** in the U.S. • U.S. prevalence estimated to be **>26 M**
Unmet Need	• **~60% of patients** treated with Dupixent **fail** to achieve a near-complete response • Topical JAK inhibitors pose **black box safety concerns**
RVB-101 Overview	• Building upon validation in NS, our AD program **disease-underlying targets** • Targets available **under CDA**

Bio Resvita

ResVita Bio Leadership

Founders

DR. AMIN ZARGAR
CEO & Co-Founder
- UC Berkeley Scientist
- NIH Awardee
- Bakar Innovation Fellow

DR. JAY KEASLING
Co-Founder
- Discover Magazine "Scientist of the Year"
- Nat. Academy of Eng.

Advisory Board

Drug Development

Steve Lo
CEO, Vaxart

Greg Went
CEO, Dextera

Inflammatory Skin

Lisa Beck
Derm, Rochester

Eric Simpson
Derm, OHSU

Rare Disease

Keith Choate
Derm, Yale

Vinzenz Oji
Derm, U of Munster

Kira Süßmuth
Derm, U of Berlin