Company Overview
Our Focus

TOPICAL BIOTECH INNOVATION in MEDICAL DERMATOLOGY and AESTHETICS
Biotech Approach To Topical Therapy

Currently, there are biotech-inspired systemic therapies for small populations

INNOVATION GAP for large populations
- mild to moderate inflammatory skin diseases
- acne
- aesthetic concerns

Pipeline Within A Pipeline With Blockbuster Potential

Topical by Design™ platform

Photoparticle therapy platform

Experienced Management Team & Board

Previous leadership roles

Track record with top brands
- 17 FDA Approvals
- 6 FDA Advisory Committees

Innovation GAP for large populations

- mild to moderate inflammatory skin diseases
- acne
- aesthetic concerns
Proven Team in Medical Dermatology and Aesthetics

Frederick C. Beddingfield, III, MD, PhD
President & CEO

Diane Stroehmann, MS, RAC
Chief of Staff and Head of Regulatory Affairs & Quality

Todd Harris, PhD
President of Sienna Labs and Head of Corporate Development

Tim Andrews, Esq.
General Counsel

Ric Peterson
Chief Financial Officer

Jere Fellmann, PhD
Head of Development Operations

Silvio Traversa BSc, PhD
Chief Scientific Officer

Susan Lundeen
Vice President, Human Resources

Paul F. Lizzul MD, PhD
Chief Medical Officer

Ryan Irvine, PhD
Head of Medical Affairs

Majed Kheir, MBA
Vice President, Operations

Simon Russell, MA PhD
Head of Strategic Marketing and International Corporate Development

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Majed Kheir, MBA
Vice President, Operations

Simon Russell, MA PhD
Head of Strategic Marketing and International Corporate Development
Board and Special Advisor

Keith Leonard, MS, MBA
Exec. Chairman, Sienna Biopharmaceuticals
Former CEO, Kythera

Robert Nelsen, MBA
Co-Founder, Managing Director, ARCH Venture Partners

Kristina Burow, MBA
Managing Director, ARCH Venture Partners

Bob More, MBA
Chairman, One Revolution

Dennis Fenton, PhD
Former EVP, Operations and Compliance, Amgen

Todd Harris, PhD
Founder and President Sienna Labs, Head of Corporate Development, Sienna Biopharmaceuticals

Frederick C. Beddingfield III MD, PhD
Co-Founder, President and CEO Sienna Biopharmaceuticals

Dr. David Pyott
Special Advisor to the CEO and Board
Former CEO, Allergan
## Our Diversified Topical Biotech Pipeline

<table>
<thead>
<tr>
<th>Technology Platform</th>
<th>Program</th>
<th>Research</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Topical by Design™</strong></td>
<td><strong>SNA-120</strong>: TrkA(^1) inhibitor (pruritus and psoriasis)</td>
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<td><strong>SNA-125</strong>: TrkA/JAK(^{1,2}) inhibitor (atopic dermatitis, psoriasis, pruritus)</td>
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<td>Other research programs</td>
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<td><strong>Platform</strong></td>
<td><strong>Program</strong></td>
<td><strong>Research</strong></td>
<td><strong>Preclinical</strong></td>
<td><strong>Proof-of-Concept</strong></td>
<td><strong>Pivotal</strong></td>
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<td><strong>Topical Photoparticle Therapy(^3)</strong></td>
<td><strong>SNA-001</strong>: Photoparticle therapy (acne vulgaris)</td>
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<td><strong>SNA-001</strong>: Photoparticle therapy (unwanted light-pigmented hair reduction)</td>
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1. TrkA, tropomyosin receptor kinase A; 2. JAK3, Janus Kinase 3; 3. 510(k) regulatory pathway
SNA-120 and SNA-125 Were Generated Through Sienna’s Topical by Design™ Platform Technology

- Optimizes small molecules for topical administration
  - Conjugation of small molecules to specific selected polymer chains

- High local concentration

- Low systemic exposure

- Ability to modify pharmacology and create multiple new chemical entities
Targets of Sienna’s Lead Topical by Design™ Assets Have Been Validated in Areas of High Unmet Need

 Targets of Sienna’s Lead Topical by Design™ Assets Have Been Validated in Areas of High Unmet Need

PRURITUS | PSORIASIS | ATOPIC DERMATITIS | OTHER INFLAMMATORY DISEASES

- **Topical by Design™** – low systemic exposure (LSE™) validated in SNA-120 Phase 2b study
- **TrkA** – efficacy in pruritus and psoriasis validated in SNA-120 Phase 2b study
- **JAK3** – efficacy in Atopic Dermatitis, Psoriasis, Pruritus, and Alopecia validated by Tofacitinib¹ clinical studies

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¹ Pfizer Labs. Xeljanz (tofacitinib) tablets. Full Prescribing Information. New York, NY: Pfizer Labs; November 2012
Currently No Long-Term Treatment Exists for Pruritus Due to Psoriasis

- 85% of psoriasis patients have pruritus, and the majority classify it as the most important and bothersome symptom
- No approved topical antipruritic therapies and current treatments lack long-term effect
- Steroids are limited in effectiveness due to safety issues related to duration of use
- 80 to 90% of psoriasis patients have mild to moderate disease and are not eligible for biologic treatments
- New biologic treatments do not resolve the itch in all patients

SNA-120: First-in-Class TrkA Inhibitor for Pruritus and Psoriasis

• Phase 2b asset:
  – Primary indication is pruritus associated with psoriasis
    • Statistically significant and clinically meaningful results on pruritus
    – Positive impact on psoriasis (mPASI)
  • Optimized through Topical by Design™ technology
• Phase 3 enabling studies underway
• Potential to address other itch (eg, pruritus of the elderly, prurigo nodularis, post-herpetic neuralgia/pruritus)
SNA-120 Decreases TRPV1 Signaling by Blocking TrkA
(Key element of neurogenic inflammation and pruritus)

SNA-120: Clinically and Statistically Significant Impact on Pruritus

Change From Baseline in Pruritus VAS (mm) -40 -30 -20 -10 0 10 20 30 40 50 0 2 4 6 8 10 12 Week

<table>
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<tr>
<th>SNA-120 vs Vehicle (Week 8) p-value</th>
<th>SNA-120 0.05%</th>
<th>SNA-120 0.1%</th>
<th>SNA-120 0.5%</th>
</tr>
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<tbody>
<tr>
<td>SNA-120 vs Vehicle (Week 8) p-value</td>
<td>&lt;0.01</td>
<td>0.052</td>
<td>0.01</td>
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Error Bars represent standard errors of the mean; (n=108/160)

Roblin et al. Acta Derm Venereol. 2015;95:542-548; using data from 0.05% w/w dose for illustrative purposes
SNA-120: Clinically and Statistically Significant Impact on Psoriasis

Change From Baseline In mPASI

Error Bars represent standard errors of the mean; (n=108/160)

Roblin et al. Acta Derm Venereol. 2015;95:542-548; using data from 0.05% w/w dose for illustrative purposes
SNA-120: A Potential Breakthrough for Pruritus Due to Psoriasis

**PRODUCT VISION**

1. First-in-class, topical treatment of pruritus
2. Powerful efficacy and differentiated safety
3. Specialist dermatology product

**KEY ELEMENTS OF TARGET PRODUCT PROFILE**

- Effective relief in patients with pruritus (despite treatment with therapies, eg, TCS, VDA)
- Excellent safety profile permitting chronic use in patients
- Positive impact on quality of life (eg, sleep disturbance, nocturnal scratching)
- Improvement of other symptoms of psoriasis comparable with vitamin D analogues
- Patient-friendly ointment (once/twice daily)

1. TCS – Topical Corticosteroids, 2. VDA – Vitamin D Analogues
SNA-120: Opportunities for Expansion

**PRURITUS DUE TO PSORIASIS**
Specialist Dermatologist

**Difficult-to-treat patients**

**PRURITUS OF OTHER DERMATOSES**
Specialist Dermatologist

**Pediatrics, elderly, prurigo nodularis**

**EARLIER USE IN PRURITUS OF OTHER DERMATOSES**
**EXPANSION OF CUSTOMER BASE**
Primary Care / OTC

**First-line, maintenance use**
Geriatricians, gynecology leading to primary care
Atopic Dermatitis: Key Market Attributes

• One of most common skin diseases, 1-3% of adults, 10-20% of children
• Large unmet need across the AD population
  – Need for steroid-sparing drugs with improved benefit/risk profile
  – Impact of symptoms on QoL is an important determinant of disease severity
  – New biologics will address severe populations (dupilumab¹)
• Pediatrics population has a need for steroid alternative
  – Steroid concerns are especially heightened in this population
• Primary care identification with dermatologist referral
  – Dermatologists consider safety needs paramount
  – Topical treatments are logical and familiar

¹. Sanofi and Regeneron Pharmaceuticals. DUPIXENT (dupilumab) injection 300mg. Full Prescribing information. March 2017
SNA-125: First-in-Class Topical TrkA/JAK3 Inhibitor for Atopic Dermatitis, Psoriasis, and Pruritus

• Large Commercial Opportunity
  – A nonsteroidal topical drug for atopic dermatitis (itch), psoriasis, or alopecia, eg, Eucrisa (crisaborole)
• JAK3 is a validated target, ie, Pfizer (tofacitinib)
  – JAK inhibitors have systemic toxicity; the topical low systemic exposure formulation approach should limit this risk
  – JAK3 inhibition should have an impact on Atopic Dermatitis and Psoriasis (in addition to pruritus) based on mechanism of action
• More potent IC₅₀ (~10x) compared to SNA-120 (TrkA)
• IND ready asset in 2017
• Human POC studies in atopic dermatitis and psoriasis are planned

SNA-001 – Topical Photoparticle Therapy for Acne and Unwanted Light-Pigmented Hair

• Silver particles absorb laser light causing selective photothermolysis
  – Sebaceous gland (acne)
  – Light-pigmented hair

• Ready-to-use topical suspension

• Particles are designed to work with current installed base of lasers in practices

• Multiple additional indications possible

Photoparticle Therapy with SNA-001
Photoparticle Therapy with SNA-001 Causes Selective Photothermolysis of the Sebaceous Gland and Hair Follicle
SNA-001 Topical Photoparticle Therapy for Localized, Non-Systemic Treatment of Acne

• Thermally damages sebaceous gland for **prolonged reduction of acne** lesions
• Consists of **three short in-office treatments** spaced one week apart
• Improves **patient compliance** and provides **non-systemic**, localized acne treatment
• **Pivotal double-blinded, randomized**, within-subject-controlled study ongoing
Reduction of acne lesions in silver photoparticle therapy feasibility study

• Evaluator blinded, controlled study (N = 10)
• Randomized, split-back design
  – Laser alone or Laser + SNA-001
  – 810 nm diode
  – 4 treatments, one week apart
• Both groups improved from BL to 12 wks
• SNA-001 ‘high power’ subgroup (N = 6) significantly improved from BL to 12 wks
• Acceptable safety profile

1. Data on file, Sienna Biopharmaceuticals, Inc. Interim analysis results.
2. Received at least 1 treatment with 25-30 J/cm² fluence, 30 ms pulse width, 1 pass

Change in inflammatory lesion counts (N = 6)

* p<0.01, Laser + SNA-001, baseline to 12 wks post Tx
** Laser + SNA-001 vs. Laser alone at 12 wks post Tx, not significant
SNA-001: A Potentially Disruptive Procedural Solution for Acne

**PRODUCT VISION**

1. First-in-class, topical treatment of acne
2. Powerful efficacy and differentiated safety
3. Procedural solution with durable results

**KEY ELEMENTS OF TARGET PRODUCT PROFILE**

- Durable reduction in inflammatory acne (>3-month effect)
- Excellent safety profile permitting use in all ages (systemic drug-sparing therapy)
- Solves the need for patient compliance (e.g., daily topical applications)
- Treats the underlying cause of acne versus symptoms
- Short procedure (<30 minutes) in 3 office visits over 2 weeks
SNA-001 Topical Photoparticle Therapy for Reduction of Unwanted, Light-Pigmented Hair

- Thermally damages hair follicle for permanent reduction of unwanted, light-pigmented hair
  - white, gray, blonde, light brown and/or light red
- Six in-office treatments spaced 6-8 weeks apart
  - treatment similar to current hair removal paradigm
- Light-pigmented hair lacks adequate melanin to be efficiently targeted by traditional lasers
- Pivotal double-blinded, randomized, within-subject-controlled study ongoing
**Reduction of light pigmented hair in silver photo-particle therapy feasibility study**

- Evaluator blinded, controlled study ($N = 10$)
  - Randomized, in-subject design (L vs. R axilla)
  - Laser + Vehicle or Laser + SNA-001
  - 810 nm diode
  - 3 treatments, 2 weeks apart

- Significant reduction in BL hair counts 12 wks after last treatment with SNA-001

- Acceptable safety profile

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### Percent change in hair counts

|                  | Vehicle ($N = 10$) | SNA-001 ($N = 10$) | [SNA-001] - Vehicle
|------------------|--------------------|--------------------|------------------|
| **Percent change**| -10%               | -29% ($P<0.05^*$)  | -19% ($P<0.05^{**}$)
| **NS**           |                    |                    |                  

*SNA-001, baseline to 12 wks post Tx
**SNA-001 - Vehicle at 12 wks post Tx

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1. Data on file, Sienna Biopharmaceuticals, Inc. Interim analysis results
SNA-001: An Opportunity to Expand the Market for Laser Hair Removal

**PRODUCT VISION**

1. First and only laser hair removal solution for light-pigmented hair
2. Safe, with minimal patient discomfort
3. Works with existing install base

**KEY ELEMENTS OF TARGET PRODUCT PROFILE**

- Fills an unmet need for treating light-pigmented hair
- Enables physicians to treat previously untreated patients
- Fits well into existing practice procedures
- Well tolerated like current laser hair removal procedures
- Appropriate for all skin types
Opportunities for Expansion With SNA-001 Into Additional Medical and Aesthetic Applications

- Acne sufferers seeking effective procedural treatment
- Rosacea sufferers seeking procedural treatment
- Light-haired consumers seeking laser hair removal treatment
- Dark-haired and dark skinned consumers seeking more efficient or better treatment of all types of hair removal
- Patients suffering from Sebaceous gland hyperplasia
- Keratosis pilaris
- Aesthetic patients desiring skin rejuvenation

Medical and aesthetic patients visiting a healthcare provider with a medical laser

Time

$
Portfolio Commercial Opportunity

Topical By Design™ Platform

- SNA-120
  - Pruritus and Psoriasis
    - Est. $1B+ global opportunity

- SNA-125
  - Atopic Dermatitis
    - Psoriasis
    - Pruritus
    - Est. $3.5B Global Opportunity

Silver Photoparticle Therapy Platform

MARKET CREATION

- Acne Vulgaris
  - Est. $3B+ prescription market

MARKET EXPANSION

- Light-Pigmented Hair Reduction
  - Est. $500M+ cash pay market

Our Global Commercialization Strategy

• Establish **commercial leadership** in medical dermatology and aesthetics
• Sienna has **global rights** to all assets in the pipeline
• Plan to **build US commercial** infrastructure
• **Leverage partnerships** to optimize commercialization
• Balance a diversified, multi-asset portfolio and commercial investment for **long-term value creation**
The Sienna Opportunity

CLEAR STRATEGY
for addressing an innovation gap in topical biotech in medical dermatology and aesthetics

EXCEPTIONAL TEAM
with a track record of success across leading global brands

MULTI-ASSET PIPELINE
of innovative, balanced and diversified product candidates in medical dermatology and aesthetics with large market potential