Forward-Looking Statements

This presentation and oral statements made by representatives of the Company may contain projections or other forward-looking statements regarding future events or the future financial performance of the Company. Actual events or results may differ materially from those in the projections or other forward-looking statements. The forward-looking statements made in this presentation are based on information known to us today, and we undertake no obligation to update them. We also refer you to our periodic filings with the Securities and Exchange Commission (“SEC”), including our most recent 10-K, 10-Qs and 8-K filings, as these documents also identify certain risk factors that could cause actual results to differ materially from those contained in this presentation, any projections and other forward-looking statements. The information in this document has been prepared solely for informational purposes and does not constitute an offer to sell or the solicitation of an offer to purchase any securities from us. Any such offer will be made solely by means of a prospectus contained in the registration statement filed by us with the SEC or pursuant to an exemption from registration under applicable SEC rules and regulations.
Overview

Developing Novel Therapeutics for Immunologic and Inflammatory Diseases

**Bertilimumab**
- Anti-eotaxin-1 mAb blocks a key inflammation driver
- Positive phase 2 results in bullous pemphigoid (BP)
- Ongoing phase 2 study in ulcerative colitis (UC)
- Excellent safety profile in over 120 subjects
- Plan to launch pivotal BP trial in late 2019-early 2020
- Will seek a partner in 2019

**NanoCyclo**
- Topical formulation of cyclosporine for atopic dermatitis and psoriasis
- Proprietary nano-encapsulation technology enhances skin penetration
- In late-stage preclinical development
- Awaiting additional *in vitro* proof-of-concept data

Legacy programs including Amiket (peripheral neuropathy) and Ceplene (oncology), to be divested or discontinued
# Robust Pipeline Addresses Significant Unmet Needs

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<thead>
<tr>
<th>Program</th>
<th>Indication</th>
<th>Preclinical</th>
<th>Phase 1</th>
<th>Phase 2</th>
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<td>Other Inflammatory Conditions</td>
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Eotaxin-1 Implicated in Many Inflammatory Diseases

**Gastroenterology**
- Ulcerative Colitis
- Crohn’s Disease
- Primary Sclerosing Cholangitis (PSC)
- Eosinophilic Esophagitis

**Respiratory**
- Asthma
- Nasal Polyps

**Dermatology**
- Bullous Pemphigoid
- Atopic Dermatitis
- Cutaneous Drug Eruptions

**Oncology**
- Glioblastoma, Prostate and Ovarian Cancer
- Cutaneous T-Cell Lymphoma (CTCL)

**Other**
- Eosinophilic Otitis Media
- Idiopathic Retroperitoneal Fibrosis
- Age-Related Cognitive Decline, Repetitive Head Injury

**Eotaxin-1** attracts eosinophils to sites of inflammation

Eosinophil-related cytokines are a clinically and commercially validated target (IL-5 in asthma, IL-4 and IL-13 in atopic dermatitis)
Bertilimumab Blocks Eotaxin-1

- Human antibody with picomolar affinity and high specificity for human eotaxin-1
- Prevents eotaxin-1-induced chemotaxis and shape change of eosinophils
- Pharmacokinetic profile consistent with biweekly dosing
- Clean safety profile in more than 120 treated subjects
  - >70 received IV
  - 46 received ocular
  - 8 received intranasal
  - Well-tolerated by all routes of administration
  - Only one drug-related SAE, an infusion reaction that was self-limited

![Bertilimumab Concentration vs. Time](chart1.png)

![Bertilimumab Concentration vs. Dose](chart2.png)
Bullous Pemphigoid

Autoimmune Blistering Disease

- 30,000 patients in the US and EU\(^1\)
- Most common in people >60\(^1\)
- Increased mortality and significant impact on quality of life

1. http://www.orpha.net/csonor/cgi-bin/Disease
Bullous Pemphigoid Represents Significant Unmet Need

- Driven by autoantibodies to BP180 (type XVII collagen) and BP230 (dystonin)
- IgE and eosinophils play a unique role
- Eotaxin-1 elevated in serum and blisters in BP but not other blistering diseases
- Eotaxin-1 levels correlate with disease severity

Patients with moderate-to-extensive disease typically treated with high doses of prednisone tapered over 9-12 months

- Effective but major safety and tolerability issues
- 30-45% relapse during tapering
- Second-line immunosuppressants like azathioprine, methotrexate and Rituxan have additional safety issues

Significant unmet medical need for steroid-sparing adjunctive or alternative therapy
Prednisone Has Significant Side Effects

- Immunosuppression and increased risk of infection
- Diabetes
- Osteoporosis
- Weight gain / Buffalo hump
- Weakness
- Thin, fragile skin

- Bulging eyes
- Headache
- Dizziness
- Acne
- Moon face
- Extreme tiredness

- HPA axis suppression
- Extreme changes in mood
- Changes in personality
- Insomnia

- Peptic ulcers
- Nausea
- Vomiting
Positive Phase 2a Study in Bullous Pemphigoid

Results presented at 2018 AAD and 2018 Pre-IID Pemphigus and Pemphigoid Symposium

Single-arm, open-label PoC trial in moderate-to-extensive BP

- 9 treated
- 7 newly diagnosed, 2 taper-resistant
- Every 2 weeks, 84 day follow-up

Primary Endpoint:
- Safety

Other Assessments:
- Pharmacokinetics and pharmacodynamics

Efficacy Endpoints:
- BP Disease Area Index (BPDAI)
- Pruritic Visual Analogue Scale (VAS)
- % Responders
- Quality of Life (QOL)
Rapid and Sustained Improvement in BP Signs and Symptoms

81% Reduction in BPDAI total activity index (p=0.015)
Clinically meaningful benefit in Pruritus VAS
Bertilimumab Provided a Large Steroid-Sparing Effect

Mean starting dose was just 0.33 mg/kg, inadequate for disease control.
Subjects received 1,700-2,900 mg less prednisone than standard of care.
Positive Phase 2 Supports Plans to Commence Pivotal Study in 2019

Rapid improvement in disease activity despite receiving low doses of prednisone with rapid taper

- 81% Reduction in BPDAI Activity Score (p=0.015)
  - 86% demonstrated >50% improvement
  - 57% demonstrated >90% improvement

- Mean initial prednisone dose of 28 mg tapered to 12 mg by day 84 (p=0.005)
  - Standard regimens would have begun at 55-70 mg and tapered to 20-40 mg by day 84
  - Subjects received 1,700-2,900 mg less prednisone compared to 2 standard regimens
  - 58% had a prednisone dose of 10 mg/day or less by day 84

- Safe and well tolerated
  - Only 11 AEs in 6 subjects (all mild; 8 unrelated or not likely related to bertilimumab)
  - The only serious AE was clearly not drug-related (angiography in a subject with peripheral vascular disease)
Ulcerative Colitis

Chronic, Inflammatory Bowel Disease

Moderate-to-severe disease managed with TNF-blockers or other immunosuppressants

• Many patients do not have adequate disease control or experience toxicities

Eotaxin-1 strongly implicated as a target in IBD

• Tissue eotaxin-1 levels correlated with Mayo Clinic DAI, mucosal injury and histologic severity
• Greater eotaxin-1 levels in areas of active vs. inactive disease

~ 700,000 patients in the US

Eotaxin-1 blockade effective in animal models of inflammatory bowel disease

1: https://www.crohnsandcolitis.com/ulcerative-colitis
Bertilimumab Proof of Concept Trial in Ulcerative Colitis

Randomized, double-blind, placebo-controlled trial

42 Subjects
2:1 randomization

Patients selected based on Mayo UC Score and tissue eotaxin-1 levels

Every 2 weeks 90 day follow-up

Primary Endpoint:
- Clinical response (UC Mayo Clinic Index) at Day 56

Enrolling at 5 sites in Israel and 4 in Russia

Additional Efficacy Endpoints:
- Mucosal injury
- Fecal calprotectin (validated inflammatory marker)
- Tissue eotaxin-1 and eosinophil levels
- Clinical remission

Expect to complete enrollment in Q3 2018

3 IV doses
Bertilimumab Development Plans

• Pivotal bullous pemphigoid phase 2/3 trial to launch late 2019 or early 2020
  - Orphan indication with no approved therapies; standard of care (prednisone) has serious toxicities
  - Fast Track designation granted by FDA
  - Targeting FDA meeting in Q4/18 and EMA meeting in Q1/19 for manufacturing, nonclinical and clinical feedback

• Ulcerative colitis top-line results expected late Q1
  - Phase 2b would follow if pilot results are supportive

• Asthma will be the next indication into the clinic; additional indications could follow

• Manufacturing
  - Developed a new CHO cell line and new process that is more efficient and scalable
  - WuXi Biologics to complete process development and scale to 2,000L

• Intellectual Property/Market Exclusivity
  - Current IP portfolio includes patents expiring in 2021-2022, eligible for Patent Term Restoration (up to 5 years)
  - Eligible for 12 years of biologics exclusivity in the US and 10 years in the EU
  - Granted Orphan Drug Designation for bullous pemphigoid in the US and EU

• Will seek a partner for bertilimumab in 2019
NanoCyclo – Nano-Encapsulated Topical Cyclosporine

• Alternatives to topical steroids for inflammatory skin diseases remain in demand
• Topical Calcineurin Inhibitors (TCIs) address this gap
  - Protopic® and Elidel® WW sales peaked at over $500M (now generic)
  - Black-box warning for ill-defined cancer risk impaired US marketing
• Cyclosporine never developed as a topical because of poor skin penetration
  - High molecular weight (1,203 kD) and highly lipophilic
  - Many methods were unsuccessful in improving skin permeation
    - Electroporation
    - Microemulsion
    - Amphiphilic gels
    - Iontophoresis
    - Liposomes
    - Micellar nanocarriers
NanoCyclo – Nano-Encapsulated Topical Cyclosporine

- PLGA-based nanocapsules enhance dermal delivery
- Our proprietary nanoencapsulation technology enhances skin delivery of cyclosporine
- Cyclosporine dissolved in lipid core that is encapsulated by a biodegradable polymer

- Lyophilized nanocapsules incorporated into a cream or other suitable topical formulation
- Skin permeation studies show enhanced penetration into epidermis and dermis
- Animal models show efficacy


TEM micrograph of 10% CsA-loaded nanocapsules.

Cryo-SEM micrograph of 2% lyophilized nanocapsules in an anhydrous silicone base.
NanoCyclo Development Plan

• Currently optimizing formulation to bring forward into clinical studies
• Will conduct proof-of-concept “target engagement” study Q3-Q4/18
• Program on hold pending additional financing
• Development plan:
  - Complete target engagement study
  - Validate GMP manufacturing facility built by our partner BioNanoSim in Jerusalem
  - Clinic-enabling toxicity study
  - Human proof of concept study could launch in 2019
    - Psoriasis plaque test (microplaque assay) or atopic dermatitis
• Considering additional projects
  - Combinations with other topically active agents
  - Nano-AmiKet
## Expected Near-Term Milestones

<table>
<thead>
<tr>
<th>Q1 2018</th>
<th>Q2 2018</th>
<th>Q3 2018</th>
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<td>✓ Presented interim BP data as late-breaker at AAD</td>
<td>✓ Report additional BP results at IPPF</td>
<td>✓ Orphan (US and EU) and Fast Track approvals</td>
<td>✓ Report preclinical asthma data</td>
<td>• Scale-up and first GMP production of new process drug</td>
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<td>✓ Achieved target BP enrollment</td>
<td>✓ Select CMO for new manufacturing process</td>
<td>• Report PK and PD data from BP study</td>
<td>• Small-scale pilot runs of new process</td>
<td>• Unblind UC study</td>
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<td>✓ Initiate tech transfer</td>
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<td>• Complete enrollment in UC study</td>
<td>• Complete target engagement study</td>
<td>• Possible launch of pivotal phase 2/3 in BP</td>
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Investment Highlights

• Lead program, bertilimumab, has positive results in phase 2 BP study
  - Orphan status in US and EU; Fast Track in US
  - Expect to enter BP pivotal registrational study in late 2019-early 2020
  - Results from UC phase 2 UC study expected early 2019
    - Potential for additional high value indications, including asthma and atopic dermatitis
• Will seek partnership for bertilimumab in 2019
• NanoCyclo could enter the clinic in 2019 pending preclinical results and financing
Thank You!