XTL Biopharmaceuticals
(NASDAQ: XTLB) (TASE: XTLB.TA)

www.xtlbio.com
Forward Looking Statements

The following slides contain forward-looking statements, about XTL’s expectations, beliefs or intentions regarding, among other things, its product development efforts, business, financial condition, results of operations, strategies or prospects. Forward-looking statements can be identified by the use of forward-looking words such as "believe," "expect," "intend," "plan," "may," "should" or "anticipate" or their negatives or other variations of these words or other comparable words or by the fact that these statements do not relate strictly to historical or current matters. Forward-looking statements relate to anticipated or expected events, activities, trends or results as of the date they are made. Because forward looking statements relate to matters that have not yet occurred, these statements are inherently subject to risks and uncertainties that could cause XTL’s actual results to differ materially from any future results expressed or implied by the forward-looking statements. Many factors could cause XTL’s actual activities or results to differ materially from the activities and results anticipated in such forward-looking statements, including, but not limited to, the factors summarized in XTL's filings with the SEC and in its periodic filings with the TASE. In addition, XTL operates in an industry sector where securities values are highly volatile and may be influenced by economic and other factors beyond its control. XTL does not undertake any obligation to publicly update these forward-looking statements, whether as a result of new information, future events or otherwise. Please see the risk factors associated with an investment in our ADSs or ordinary shares, which are included in our Annual Report on Form 20-F as filed with the U.S. Securities and Exchange Commission on March 31, 2016.
Overview

- XTLbio is a clinical-stage biotech company
- Our lead drug represents a new drug class for treatment of SLE (lupus)
  - hCDR1 is a novel compound with a unique mechanism of action
- SLE is a significant unmet medical need; has shown high interest from Big Pharma
  - GSK acquired HGS in 2012 primarily for its SLE drug Benlysta for $3 billion
  - No current effective solution on the market and weak competitive pipeline
- hCDR1 (Edratide) has clinical data on >400 patients
  - Favorable safety profile and well tolerated by patients
  - “Demonstrated efficacy in one and possibly more clinically meaningful endpoints”
    (Lupus Science & Medicine Journal – August 2015)
- Aim to replicate the results achieved in a previous Phase 2b trial
  - FDA supports efficacy endpoint based on the BILAG index
- Improved the trial design based on previous Phase 2 study; FDA “buy in”
Corporate Snapshot

- Headquarters: Raanana, Israel
- ADRs trading on NASDAQ (XTLB) and Ordinary Shares on TASE (XTL)
- Cash ≈ $3.1 million (as of March 31, 2016)
- In Q2 2015 raised $4 million led by Sabby and existing shareholders.
- HC Wainwright research analyst initiated coverage with a Buy recommendation and a price target of $6 per ADR (update issued in March 2016 confirming target)
- Research coverage initiated by Arrowhead and AlphaDeal
- Capitalization:
  - 274,205,799 Shares Outstanding*
  - Warrants to purchase 961,111 ADRs* @ $2.25 (expire March 2020)
- Member: Corporate Advisory Council of the Lupus Foundation of America

* Each ADS represents 20 Ordinary Shares
Management Team

- **Josh Levine, CEO**
  CEO, Proteologics; Senior Director, Teva Pharmaceuticals (Innovative Ventures); Partner, Platinum Neurone Ventures; Corporate Finance Head, Patterson Travis; Attorney, WF&G

- **David Kestenbaum, CPA & MBA, CFO**
  CFO, ZenithSolar; Finance Director, Colbar Lifescience (division of J&J (NYSE:JNJ)); CFO, ZAG Industries (division of Stanleyworks (NYSE:SWK)); CFO, Lever Israel (division of Unilever (NYSE:UN)); Sr. Associate, PwC, New York

- **Dr. Daphna Paran, Medical Director**
  Senior lecturer: Tel Aviv University; Head of Day Care unit/Deputy Head of the Department of Rheumatology; Tel Aviv Medical Center (Ichilov Hospital); Trained at Rayne Institute, St. Thomas Hospital, London; Published/co-authored >60 articles on rheumatology and lupus

- **Monique Ben Am, MSc, Clinical Development Lead**
  VP Clinical Development, BioCancell; Director, Teva Pharmaceuticals Ltd.; VP Clinical, Topspin; Associate Director, Novartis (development of Gleevec™)
Clinical Advisory Board

- **Dr. Daniel Wallace, Cedars-Sinai Medical Center;** Largest lupus practice of its kind in the US
  - Served as Chairman of the Lupus Foundation of America (LFA), received LFA Award, Lupus Research Institute Achievement Award and others
  
  "I am privileged to join the team at XTL to help advance what I believe to be one of the most promising Lupus drug candidates in recent history. The data shown in earlier trials is encouraging and could potentially be a disruptive solution to a largely unmet medical need."

- **Professor David Isenberg, University College London Hospitals**
  - Chair of the British Isles Assessment Group (BILAG), President of the British Society for Rheumatology (2004–2006) and Chair of its Biologics Register Committee (2006–2011)
  - Received 2010 Evelyn Hess Prize from the LFA and Rodger Demers Prize (Canada) in 2012.

  "I am happy to serve as a consultant for XTL’s Phase II trial testing for hcDR1 using the BILAG index because it has shown encouraging results when used during the previously conducted PRELUDE trial."

- **Dr. Murray Urowitz, University of Toronto; Lupus Clinic at Toronto Western Hospital**
  - Established University of Toronto Lupus Clinic and Lupus Databank Research Program.
  - Founding member/president of numerous lupus associations and recipient of numerous awards for his contributions to lupus research.

  "The continued development of XTL’s hCDR1 has the medical community eagerly waiting to learn the efficacy of the drug in its planned Phase II trial."

- **Dr. Lee Simon, Former Division Director, US FDA**
  - Former US FDA Division Director of Analgesic, Anti-inflammatory and Ophthalmologic Drug Products and practicing Rheumatologist for 36 years.

  Awarded 2003 ACR Distinguished Service Award and Scientific Leadership Award of the Lupus Research Institute.
Systemic Lupus Erythematosus (SLE) is a chronic, debilitating inflammatory autoimmune disease, resulting in rheumatologic, dermatological and end-organ manifestations.

### Central & Peripheral Nervous System
- Seizures, Psychosis, Headaches, Cognitive Dysfunction, Neuropathies, Depression, Low Grade Fever

### Heart, Lungs
- Pericarditis, Myocarditis, Endocarditis, Pleuritis, Pneumonitis

### Kidneys
- Edema, Hypertension, Proteinuria, Cell casts, Renal Failure

### Reproductive System
- Pregnancy Complications, Miscarriages, Menstrual Cycle Irregularities

### Blood
- Anemia, Thrombocytopenia, Leukopenia, Thrombosis, Circulating Autoantibodies and Immune Complexes

### Eyes and Mucous Membranes
- Ulcers in the Eyes, Nose, Mouth or Vagina, Sjogren's Syndrome

### Gastrointestinal
- Nausea, Vomiting, Diarrhea, Weight Changes

### Musculoskeletal
- Extreme Fatigue, Arthralgia, Myalgia, Arthritis, Myositis

### Skin
- Butterfly Rash, Cutaneous Lesions, Photosensitivity, Alopecia, Vasculitis, Raynaud's Phenomenon
Lupus: Market Overview

- **Prevalence**
  - 1.5 million patients in U.S. (5 million worldwide) varying across ethnicities/geographies\(^1\)
  - > 1 million patients in China\(^2\)
  - Vast majority at onset are women / majority between ages of 15 and 45

- **Prognosis**
  - Dermatologic & musculoskeletal manifestations are the most common but major organ involvement such as renal, central nervous system and serosal occur frequently
  - End organs become involved as disease progresses
  - Most common causes of death
    - Renal failure, Cardiovascular disease, CNS disorders, Inter-current infections
  - 10-year survival rate for ~90% of patients

- Market expected to grow dramatically

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\(^1\) Lupus Foundation of America
\(^2\) Mok CC, Lupus: 767-71, 2001
Lupus: Competitive Landscape

- Current treatments: corticosteroids, cytotoxic immune-suppressants
  - Problems with current treatments: severe side effects (hypertension, osteoporosis, bone marrow suppression, increased cancer risk, etc.)

- Benlysta (HGS/GSK): approved by FDA 3/2011
  - Only lupus drug approved in the last 50+ years; 2015 sales of $325m; not SOC

- Current pipeline: primarily B-cell inhibitors – like Benlysta
  - Recent Phase III failures: UCB/Lilly
hCDR1: Unique Mechanism of Action (MOA)

hCDR1 is a peptide that down-regulates the SLE-related autoimmune process; potential to be “first in class” and “best in class” drug

- Specific upstream immunomodulation through the generation of regulatory T cells
- Developed by Prof. Edna Mozes of the Weizmann Institute of Science (Israel)
- >40 peer reviewed journal articles; >200 animal experiments
- IP: Minimum of data exclusivity (~7 years US/10 years EU) with plans to extend

MOA of hCDR1: Different than existing late stage pipeline
Beneficial effects of hCDR1 in lupus-afflicted mice

Compilation of different murine models

**dsDNA specific antibodies**

- Vehicle
- Control peptide
- hCDR1

*P < 0.05

**Proteinuria**

<table>
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<tr>
<th>Weeks of treatment</th>
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<td>9</td>
<td>8</td>
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<td>10</td>
<td>9</td>
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</table>

**IgG Deposits (kidney)**

- Vehicle
- hCDR1
- Control

**C3 Deposits (kidney)**

**Survival**

- Vehicle
- hCDR1
Clinical Trial History of hCDR1

- Three clinical trials completed (by Teva): Phase Ia, Ib trials and a Phase II trial
  - Studies included over 400 patients
  - Demonstrated to be well tolerated by patients and to have a favorable safety profile
- Phase II (PRELUDE) trial
  - Did not meet primary endpoint (SLEDAI)
  - Did not enforce steroid withdrawal algorithm
  - Encouraging results in secondary clinical endpoint, the BILAG index (see below)
    - 0.5 mg weekly dose showed a substantial effect
- Opportunity for hCDR1
  - Teva returned hCDR1 to Yeda in 2009
  - In 2010, FDA published guidelines that BILAG is the preferred primary endpoint

hCDR1 has been tested in over 400 patients, has a favorable safety profile and has shown encouraging results on BILAG – the primary endpoint approved by FDA for our next trial.
PRELUDE - Secondary Endpoint (Pre-defined/ITT Cohort)

BILAG Responder Analysis at LOV Compared to Baseline (Placebo vs. Edratide 0.5 mg)

Substantial effect (p=0.03) even though steroid withdrawal not enforced (see below)
BILAG Complete Responder Analysis (Placebo vs. Edratide 0.5 mg)

**Subjects with BL Steroids < 20 mg daily dosage**
- (n=137; p=0.007)

**Subjects with no Steroids at Baseline**
- (n=29; p=0.05)

Clear trend toward even more substantial effect with reduced steroid use
PRELUDE – Trends in other Secondary Endpoints

**Medicinal Flare Analysis** (Post Hoc/ITT Cohort)
p = 0.04

- **Predefined:** an increase of \( \geq 5 \) mg daily steroids compared to baseline
- **Post Hoc:** increase of \( \geq 5 \) mg daily steroids vs. lowest previous dose

**SLE Responder Index** (Post Hoc/ITT Cohort)
p = 0.058

- SRI in PRELUDE trial was composite measure of disease activity based on two validated indices: SELENA-SLEDAI and BILAG

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* Predefined: an increase of \( \geq 5 \) mg daily steroids compared to baseline
** Post Hoc: increase of \( \geq 5 \) mg daily steroids vs. lowest previous dose
Safety Profile

- No Serious Adverse Events (SAEs) in either of the two Phase 1 studies
- Phase 2 (PRELUDE): 2 deaths, not related to hCDR1
  - 42 yr old woman, 0.5 mg Edratide, septic shock
  - 60 yr old woman, placebo, severe sepsis secondary to intestinal perforation
- Overall SAEs:

<table>
<thead>
<tr>
<th>Study Arms</th>
<th>0.5 mg hCDR1</th>
<th>1 mg hCDR1</th>
<th>2.5 mg hCDR1</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAEs per arm</td>
<td>6 (7.1%)</td>
<td>10 (11.5%)</td>
<td>8 (9.8%)</td>
<td>9 (10.3%)</td>
</tr>
<tr>
<td>Pooled hCDR1 vs. Placebo</td>
<td>9.5%</td>
<td></td>
<td></td>
<td>10.3%</td>
</tr>
</tbody>
</table>

- Most common SAEs for hCDR1 and placebo were infection-related

No difference between active treatment arms and placebo
Safety and efficacy of hCDR1 (Edratide) in patients with active systemic lupus erythematosus: results of phase II study

Murray B Urowitz,¹ David A Isenberg,² Daniel J Wallace³

KEY MESSAGES

- Edratide demonstrated efficacy in one and possibly more clinically meaningful endpoints.
- Dose ranging studies demonstrated the 0.5 mg subcutaneous weekly was the most effective dose.
- There were no safety signals in this 26 week study.

New Trial: Improve Probability of Success

Proposed trial design is based on: (1) FDA written guidance; (2) Benlysta trials; and (3) clinical data from PRELUDE - especially the 0.5 mg results in the BILAG endpoint

### PRELUDE Trial vs. Proposed Trial

<table>
<thead>
<tr>
<th>Primary endpoint</th>
<th>PRELUDE Trial</th>
<th>Proposed Trial</th>
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<tbody>
<tr>
<td>SLEDAI only</td>
<td>BILAG Substantial Responders</td>
<td></td>
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<table>
<thead>
<tr>
<th>Dose</th>
<th>0.5, 1, 2.5 mg</th>
<th>0.5 mg and lower</th>
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<tbody>
<tr>
<td>Steroid Use</td>
<td>&lt; 40 mg daily dose at baseline</td>
<td>Lower daily dose at baseline</td>
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<td></td>
<td>Steroid sparing not enforced</td>
<td>Defined steroid reduction regimen</td>
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</table>

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<thead>
<tr>
<th>Trial duration</th>
<th>26 weeks</th>
<th>26 weeks</th>
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<tbody>
<tr>
<td>Execution</td>
<td>Site discrepancies in disease matrices</td>
<td>Training and monitoring</td>
</tr>
<tr>
<td></td>
<td>Suboptimal sample &amp; data handling</td>
<td>Specialized CRO</td>
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**FDA Guidance (received in written response dated January 19, 2016)**

- Phase 2 study with a primary efficacy endpoint to be based on the BILAG index
- Reduced steroid usage and elevated anti ds-DNA levels in patient population (and other inclusion/exclusion criteria)
- Reasonable number of patients required to prove safety for marketing approval
## hCDR1 Development Milestones

<table>
<thead>
<tr>
<th>Milestone</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<tbody>
<tr>
<td>Publish PRELUDE Study Results ✓</td>
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<tr>
<td>CMC – Drug Substance ✓</td>
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<tr>
<td>Pre-IND Meeting ✓</td>
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<tr>
<td>CMC – Drug Product ✓</td>
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<tr>
<td>IND</td>
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<tr>
<td>Trial Enrollment</td>
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<tr>
<td>Clinical Data</td>
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**Glossary of Terms**

- **PRELUDE** – name of Phase 2b trial performed by Teva on hCDR1
- **IND** – Investigative New Drug – FDA approval required to proceed to clinical trial
- **CMC** – Chemistry, Manufacturing and Control – production of drug product for trial

✓ activity complete
Thank You