Forward-looking Statements

Statements in this presentation that are not descriptions of historical facts are forward-looking statements relating to future events, and as such all forward-looking statements are made pursuant to the Securities Litigation Reform Act of 1995. Statements may contain certain forward-looking statements pertaining to future anticipated or projected plans, performance and developments, as well as other statements relating to future operations and results. Any statements in this presentation that are not statements of historical fact may be considered to be forward-looking statements. Words such as "may," "will," "expect," "believe," "anticipate," "estimate," "intends," "goal," "objective," "seek," "attempt," or variations of these or similar words, identify forward-looking statements.

These forward-looking statements by their nature are estimates of future results only and involve substantial risks and uncertainties, including but not limited to risks associated with the uncertainty of future financial results, additional financing requirements, development of new products, successful completion of the Company’s proposed restructuring, the impact of competitive products or pricing, technological changes, the effect of economic conditions and other uncertainties detailed from time to time in our reports filed with the Securities and Exchange Commission.

There can be no assurance that our actual results will not differ materially from expectations and other factors more fully described in our public filings with the U.S. Securities and Exchange Commission, which can be reviewed at www.sec.gov.
AntriaBio is a patient-centric biopharmaceutical growth company specializing in the development of innovative drug therapies for patients with diabetes and metabolic diseases.
Overview

• Disruptive proprietary microsphere technology being used to significantly improve the dosing regimen for different therapies

• Seasoned and professional management team

• Lead product candidate, **AB101**, is a weekly injectable basal insulin in >$10 billion market dominated by two drugs with daily dosing
  
  – Preclinical proof of concept in **three species** presented at American Diabetes Association Scientific Sessions in 2015 and 2016
  
  – IND to be filed with FDA in June 2017

  – Phase 1 first-in-human clinical study will assess safety & tolerability, pharmacokinetics and pharmacodynamics of sequential single doses of AB101 in patients with type 1 diabetes

  – Interim data readout expected prior to end of year 2017
### Product Pipeline

<table>
<thead>
<tr>
<th>Compound</th>
<th>Discovery</th>
<th>Preclinical</th>
<th>Phase I</th>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AB101</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Injectable once-weekly basal insulin for type 1 and type 2 diabetes</td>
<td></td>
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<tr>
<td><strong>AB301</strong></td>
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</tr>
<tr>
<td>Injectable once-weekly GLP-1 agonist/basal insulin combination for type 2 diabetes</td>
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</tr>
</tbody>
</table>

In addition to the above, AntriaBio's extended release platform can be used to potentially develop a range of differentiated long-acting injectable therapies.
Superior Microsphere Technology

- AntriaBio products formulated using proprietary PLGA microsphere technology, which enables extended release
- Amylin/Astrazeneca’s Bydureon (exenatide), currently marketed GLP-1 agonist for type 2 diabetes, also formulated using PLGA microspheres
- Light microscopy and particle size comparisons of AB101 vs. Bydureon highlight AntriaBio’s superior microsphere technology used to create uniform and homogenous AB101 microspheres
- Uniform and homogenous microspheres allow for controlled, sustained delivery of basal insulin with a single weekly dose
Sanofi-Hanmi Licensing Deal

November 2015
• Sanofi licensed development and commercialization rights for Hanmi’s three long-acting diabetes products:
  – efpeglenatide (weekly/monthly GLP-1 agonist)
  – LAPS Insulin 115 (weekly basal insulin)
  – LAPS Insulin Combo (GLP-1 agonist + basal insulin)
• Hanmi received upfront payment of €400 million and €3.5 billion in milestones

December 2016
• Sanofi handed back development rights for LAPS Insulin 115
• Hanmi to return €196 million to Sanofi whose milestone payments reduced by €798 million
• Hanmi now responsible for part of development expenses for efpeglenatide and will receive reduced milestone payments for the drug

Diabetes

- Metabolic disease characterized by high blood sugar, resulting from:
  - Inability of the pancreas to produce insulin (Type 1)
  - Resistance to insulin (Type 2)

- Chronic uncontrolled diabetes can lead to complications such as heart disease, stroke, kidney failure, blindness and amputation

- Treatment options:
  - Diet & exercise (Type 2)
  - Oral medications (Type 2)
  - Insulin replacement therapy: (Type 1 & Type 2)
In the United States:
29.3 million adults have diabetes (#3 globally)
$320 billion in diabetes-related health expenditures (#1 globally)
Insulin: Role & Function

• Insulin: hormone keeping blood sugar in normal range by moving glucose into liver, fat and muscle

• **Bolus**: insulin released by pancreas when food is consumed

• **Basal**: background insulin continually released by pancreas to control blood sugar levels between meals and overnight

Insulin replacement therapy attempts to mimic healthy pancreatic function with long-acting injections (basal insulin) and short-acting injections with meals (bolus insulin)
# Current Insulin Market ~$21B

- Basal insulin market nearly flat year over year
- Loss in older basal insulin market driven by gain in next-generation market

<table>
<thead>
<tr>
<th>Type</th>
<th>Duration</th>
<th>Brand/Generic Name</th>
<th>Share of Sub-Market</th>
<th>Share of Total Market</th>
<th>2016 Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basal Insulin</strong></td>
<td>Up to 24 hours</td>
<td>• Lantus (insulin glargine 100 Units/ml)</td>
<td>60.57%</td>
<td>~49%</td>
<td>$6.11B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Levmir (insulin detemir)</td>
<td>25.14%</td>
<td></td>
<td>$2.54B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Toujeo (insulin glargine 300 Units/ml)</td>
<td>6.88%</td>
<td></td>
<td>$694M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tresiba (insulin degludec)</td>
<td>6.56%</td>
<td></td>
<td>$662M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Xultophy (insulin degludec + liraglutide)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Ryzodeg (insulin degludec + insulin aspart)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Basaglar (insulin glargine)</td>
<td>0.85%</td>
<td></td>
<td>$86M</td>
</tr>
<tr>
<td><strong>Human Insulin</strong></td>
<td>12 – 16 hours</td>
<td>• Humulin</td>
<td>45.34%</td>
<td>~14%</td>
<td>$3.01B</td>
</tr>
<tr>
<td></td>
<td>5 – 8 hours</td>
<td>• Novo Nordisk Human Insulin</td>
<td>54.66%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rapid-acting Insulin</strong></td>
<td>3 – 5 hours</td>
<td>• NovoLog (insulin aspart)</td>
<td>58.81%</td>
<td>~37%</td>
<td>$7.69B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Apidra (insulin glulisine)</td>
<td>5.11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Humalog (insulin lispro)</td>
<td>36.03%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Afrezza (insulin human) Inhalation Powder</td>
<td>0.06%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Mayo Clinic, Joslin Diabetes Center, Close Concerns, Novo Nordisk Q4 2016 Financial Results, Eli Lilly Q4 2016 Financial Workbook; Sanofi Q4 and Full Year 2016 Results, Piper Jaffray MannKind 2017 Outlook
Benefits of Long-Acting Insulin

- Barriers to adequate insulin utilization may include:
  - Insulin/needle-averse patients
  - Safety concerns, including hypoglycemia
  - Weight gain

- The benefits of long-acting insulin are well-recognized, including:
  - Less fasting blood glucose variability
  - Lower risk of hypoglycemia
  - Less weight gain

- Recent studies suggest beneficial effects of early insulin initiation
  - Early insulin initiation in older adults with T2D who do not have adequate glycemic control associated with:
    - Significantly greater reduction in HbA1c,
    - 30% greater likelihood of achieving HbA1c less than 8.0%
    - No significant differences in total costs or hypoglycemia events

## Emerging Weekly Basal Insulin Market

<table>
<thead>
<tr>
<th>Compound</th>
<th>Formulation</th>
<th>Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Novo Nordisk LAI287 (NN1436)</strong></td>
<td>Insulin analog with unspecified side chain</td>
<td><strong>Phase 1 Ongoing</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Investigating side effects after completing two Phase 1 studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• MAD Phase 1 study ongoing</td>
</tr>
<tr>
<td><strong>Hanmi Pharmaceutical LAPS-Insulin 115 (HM12470)</strong></td>
<td>Insulin analog covalently linked to non-glycosylated human Fc fragment via non-peptidyl polymer</td>
<td><strong>Phase 1 Ongoing</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• No clinical data presented</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sanofi returned development rights in January 2017. Hanmi returning €196 million &amp; milestone payments reduced by €798 million.</td>
</tr>
<tr>
<td><strong>PhaseBio Insumera (PE0139)</strong></td>
<td>Insulin fused to large elastin-like polypeptide</td>
<td><strong>Phase 2a Initiated</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Phase 1 PK profile suggests substantial acute insulin release</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• PD glucose lowering data not presented</td>
</tr>
<tr>
<td><strong>Eli Lilly LY3192767</strong></td>
<td>Single chain Fc fusion</td>
<td><strong>Preclinical</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Weekly time-action profile demonstrated in diabetic rats</td>
</tr>
</tbody>
</table>
Our Solution: AB101

• **The Goal**: Develop a human recombinant insulin formulation that can be administered in a single, small volume injection to cover approximately one week of basal insulin requirements

• **The Challenge**: Insulin is a notoriously difficult molecule to formulate

• **The Solution**: A uniform biodegradable microsphere with PEGylated human recombinant insulin, which enables solubility and PLGA, which extends the release of insulin
AB101 Formulation Step 1: PEGylation

- Using site-specific amine PEGylation, attach a low molecular weight PEG to the N terminus of human insulin’s B peptide chain so that insulin dissolves uniformly in oil or water-based solutions.
AB101 Formulation Step 2: Dissolution

- PEGylated insulin is co-dissolved with a polymer (poly-lactic co-glycolic acid, or PLGA), in a solvent [oil phase]

- PLGA is critical for determining the rate at which PEGylated insulin is released into the body by hydrolysis
AB101 Formulation Step 3: Emulsion

- Generate an oil-in-water emulsion by passing both the oil and water phases through a packed glass bead bed emulsifier to form uniform microspheres comprised of PEG-insulin and PLGA

Reconstitution:
Prior to being administered, the formulation is reconstituted in an aqueous phase that is isotonic, contains excipients present in FDA-approved products, and optimized for ease of delivery with small gauge needles.
Both PEG & PLGA are Approved by FDA for Use in Drug Therapies

**FDA-approved pharmaceuticals with PEG:**

<table>
<thead>
<tr>
<th>Commercial Name</th>
<th>Company</th>
<th>Year of Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plegridy®</td>
<td>Biogen</td>
<td>2014</td>
</tr>
<tr>
<td>Movantik®</td>
<td>AstraZeneca</td>
<td>2014</td>
</tr>
<tr>
<td>Omontys®</td>
<td>Affymax/Takeda</td>
<td>2012</td>
</tr>
<tr>
<td>Krystexxa®</td>
<td>Savient</td>
<td>2010</td>
</tr>
<tr>
<td>Cimzia®</td>
<td>Nektar/UCB Pharma</td>
<td>2008</td>
</tr>
<tr>
<td>Mircera®</td>
<td>Roche</td>
<td>2007</td>
</tr>
<tr>
<td>Macugen®</td>
<td>Pfizer</td>
<td>2004</td>
</tr>
<tr>
<td>Neulasta®</td>
<td>Amgen</td>
<td>2002</td>
</tr>
<tr>
<td>Somavert®</td>
<td>Pfizer</td>
<td>2002</td>
</tr>
<tr>
<td>PEGASYS®</td>
<td>Hoffman-La Roche</td>
<td>2001</td>
</tr>
<tr>
<td>Doxil®</td>
<td>Ortho Biotech/ Schering-Plough</td>
<td>2001</td>
</tr>
<tr>
<td>PegIntron®</td>
<td>Schering-Plough/ Enzon</td>
<td>2000</td>
</tr>
<tr>
<td>Oncaspar®</td>
<td>Enzon</td>
<td>1994</td>
</tr>
<tr>
<td>Adagen®</td>
<td>Enzon</td>
<td>1990</td>
</tr>
</tbody>
</table>

**FDA-approved pharmaceuticals with PLGA:**

<table>
<thead>
<tr>
<th>Commercial Name</th>
<th>Company</th>
<th>Year of Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bydureon®</td>
<td>Amylin</td>
<td>2012</td>
</tr>
<tr>
<td>TRELSTAR Depot®</td>
<td>Watson</td>
<td>2010</td>
</tr>
<tr>
<td>Somatuline® Depot</td>
<td>Ipsen</td>
<td>2007</td>
</tr>
<tr>
<td>Vivitrol®</td>
<td>Alkermes</td>
<td>2006</td>
</tr>
<tr>
<td>Risperdal® Consta</td>
<td>Janssen/ Alkermes</td>
<td>2003</td>
</tr>
<tr>
<td>Trelstar LA®</td>
<td>Watson</td>
<td>2001</td>
</tr>
<tr>
<td>Arestin®</td>
<td>OraPharma</td>
<td>2001</td>
</tr>
<tr>
<td>Sandostatin® LAR Depot</td>
<td>Novartis</td>
<td>1998</td>
</tr>
<tr>
<td>Zoladex® Implant</td>
<td>AstraZeneca</td>
<td>1997</td>
</tr>
<tr>
<td>Lupron Depot®</td>
<td>Abbott</td>
<td>1989</td>
</tr>
</tbody>
</table>
AB101: in Vitro Pharmacology

The following preclinical results were presented at the American Diabetes Association Scientific Sessions

• **in Vitro Characterization of PEGylated Insulin** (drug substance):
  - Displayed an affinity for the IGF-1 receptor that is similar to native insulin, which would suggest a low risk of mitogenicity
  - Displayed an affinity for the insulin receptor that is similar to native insulin once bound, which predicts insulin activity in humans
  - Inhibited hepatic glucose production to the same magnitude and with the same potency as native insulin
AB101: in Vivo Pharmacology

The following preclinical results were presented at the American Diabetes Association Scientific Sessions

- **in Vivo** Pharmacokinetics and Pharmacodynamics of AB101 in three animal species:
  - Slow onset, sustained insulin increases and corresponding glucose reductions over the course of a week in *rats*, *dogs* and *diabetic mini-pigs*
  - No acute insulin release or glucose reduction
  - Supports weekly dosing as a basal insulin formulation
  - Efficacious doses in animals can be readily translated to human clinically relevant doses that can be administered via acceptable volumes and needle gauge
AB101 First-in-Human Study Design

- **Title**: A First in Human, Single Ascending Dose Study to Assess the Safety and Tolerability, Pharmacokinetics and Pharmacodynamics of AB101 in Subjects with Type 1 Diabetes Mellitus, Including a Comparison to Lantus®

- **Population**: Type 1 Diabetes Mellitus patients (M/F, ages 18 – 65)
  - Usual entry criteria for Phase1 insulin pharmacology study
  - Conducted in up to 40 subjects in up to 5 sequential dose cohorts of 8 subjects/cohort

- **Key Objectives**: Demonstrate a safe, sustained and relatively peak-less profile that enables weekly dosing
  - Safety and Tolerability
  - Pharmacokinetics
  - Pharmacodynamics
  - Time-Action Profile (PK-PD)
AB301

- Potential **once-weekly** injectable combination of a PEGylated GLP-1 agonist + AB101
- Combination therapy has potential to complement glycemic control while attenuating weight gain and hypoglycemic risk
- Preclinical studies are ongoing
- The world’s leading diabetes care companies are validating the need for a GLP-1 agonist and basal insulin combination therapy, but their products are dosed **daily** rather than weekly

<table>
<thead>
<tr>
<th>Company</th>
<th>Compound</th>
<th>Dosing</th>
<th>Stage</th>
</tr>
</thead>
</table>
| Novo Nordisk| Xultophy insulin degludec + liraglutide | Daily  | • Launched (US)  
|             |                       |        | • Launched (EU)          |
| Sanofi      | Soliqua insulin glargine + lixisenatide | Daily  | • Launched (US)  
|             |                       |        | • Approved (EU)          |
Key Intellectual Property

- **Existing issued patent, which expires in April 2024:**
  - Site-specific modification of selected proteins
    - PEG attached to insulin at residue PheB1
  - Methods to formulate a mixture of a PEGylated protein with a biodegradable polymer
    - PEG-insulin with PLGA

- **Recently allowed patent, which expires in July 2034:**
  - Novel manufacturing processes for superior flowability of microspheres and injectability of the suspension

- **Pending patent applications that will expire in 2034 - 2035 when issued:**
  - Novel compositions and systems used to create formulations for sustained release therapies that are used by themselves or in combination with other molecules
  - Improved methods for amine pegylation

- We plan to file additional patent applications that are directed towards both technology enhancements and additional product pipeline candidates
Senior Management Team

- **Nevan Elam, J.D.,** Chairman and Chief Executive Officer
  - Former Head of Nektar Therapeutics’ Pulmonary Business Unit, which was acquired by Novartis in 2008
  - Spun out Nektar’s asthma and COPD assets to form Pearl Therapeutics, which was acquired by AstraZeneca in 2013 for $1 billion
  - Board Member of Savara Pharmaceuticals and Aerogen Limited

- **Hoyoung Huh, M.D., Ph.D.,** Board Member, SAB Chairman, Business Development
  - Former CEO of BiPar Sciences, which was acquired by Sanofi-Aventis in 2009 for $500 million
  - Former Chairman of Epizyme (NASDAQ:EPZM)
  - Chairman of Geron Corporation (NASDAQ: GERN) & CytomX Therapeutics

- **Sankaram Mantripragada, Ph.D.,** Chief Scientific Officer
  - Former VP and Director of R&D at SkyePharma (now Pacira Pharmaceuticals)
  - Author/inventor of 70+ publications and patents, including Exparel, Pacira’s lead compound
  - PhD in Molecular Biophysics and postdoctoral research at the Max Planck Institute for Biophysical Chemistry in Germany

- **Brian Roberts, M.D.,** VP of Clinical Development
  - Directed clinical development programs in diabetes, dyslipidemia, gout and renal anemia at Metabolex and Fibrogen (NASDAQ: FGEN)
  - Author/inventor of 20+ publications and patents in Endocrinology and Metabolism
  - Adjunct Assistant Professor in the Division of Endocrinology at Stanford University

- **Michael Deperro,** VP of Operations
  - Directed operations supporting the clinical and commercial development of several complex compounds at pharmaceutical companies as well as contract manufacturing and development organizations
  - Led manufacturing operations at Alkermes for three long-acting injectable products – Risperdal® Consta®, Vivitrol® and Bydureon®
  - Mechanical Engineering degree from the University of Notre Dame
Scientific Advisory Board

- **Hoyoung Huh, M.D., Ph.D. (Chair)**, former CEO of BiPar Sciences, Inc., former COO of Nektar Therapeutics, successful pharmaceutical entrepreneur

- **Andrew R. Hoffman, M.D.**, Professor of Medicine in the Division of Endocrinology, Gerontology and Metabolism at Stanford University and Chief of Endocrinology at the VA Palo Alto Health Care System

- **Philip Home, M.A., D. Phil., D.M., F.R.C.P.**, Professor of Diabetes Medicine at Newcastle University, former Vice-Chair of NICE and clinical lead to International Diabetes Federation (IDF)

- **C. Ronald Kahn, M.D.**, Head of Integrative Physiology and Metabolism of Joslin Diabetes Center, Professor of Medicine at Harvard Medical School

- **Fredrick B. Kraemer, M.D.**, Chief of the Division of Endocrinology, Gerontology and Metabolism at Stanford University

- **Jerrold Olefsky, M.D.**, Professor of Medicine in the Division of Endocrinology & Metabolism at the University of California, San Diego
Summary

• Disruptive technology platform with potential to gain large share of multi-billion dollar drug franchises

• Once-weekly basal insulin represents convenient, effective and safe treatment option

• Encouraging preclinical data for lead product candidate, which is expected to show high predictability of PK-PD and toxicity data in humans

• Human proof of concept study for lead product candidate expected to start in Summer 2017

• Seasoned and professional management team

• Established IP position