AnaptysBio

Anti-IL-33 (ANB020) Program

Phase 2a Atopic Dermatitis Clinical Trial
Interim Data Update

October 10th 2017

NASDAQ: ANAB

Safe Harbor Statement

This presentation and the accompanying oral presentation contain “forward-looking” statements that are based on our management’s beliefs and assumptions and on information currently available to management. Forward-looking statements include all statements other than statements of historical fact contained in this presentation, including information concerning the timing and success of our ongoing and planned clinical trials and the anticipated timing for the release of data therefrom, our ability to obtain regulatory approval, our ability to achieve anticipated milestones, the potential therapeutic benefits of ANB020 in atopic dermatitis or any other indication and the potential therapeutic benefits of any of our other product candidates.

Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that may cause our actual activities or results to differ materially from those expressed or implied in any forward-looking statement, including, but not limited to, those related to the success, cost and timing of our product candidate development activities and planned clinical trials; our plans to develop and commercialize antibodies, including our lead product candidates ANB020, ANB019 and our checkpoint agonist antibodies; the timing and ability of our collaborators to develop and commercialize our partnered product candidates; the potential benefits and advantages of our product candidates and approaches versus those of our competitors; our ability to execute on our strategy; our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates; the timing of and our ability to obtain and maintain regulatory approvals for our product candidates; the rate and degree of market acceptance and clinical utility of any approved product candidates; the size and growth potential of the markets for any approved product candidates, and our ability to serve those markets; our commercialization, marketing and manufacturing capabilities and strategy; our ability to obtain and maintain intellectual property protection for our product candidates; regulatory developments in the United States, Australia, United Kingdom and other foreign countries; the success of competing therapies that are or may become available; our ability to attract and retain key scientific or management personnel; our use of the net proceeds from our recent initial public offering; our ability to identify additional product candidates with significant commercial potential consistent with our commercial objectives; and our estimates regarding expenses, future revenue, capital requirements and needs for additional financing. Moreover, we operate in a very competitive and rapidly changing environment, and new risks may emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Further information on these and other factors that could affect these forward-looking statements are described in reports we file from time-to-time with the U.S. Securities and Exchange Commission.

You should not rely upon forward-looking statements as predictions of future events. Although our management believes that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. We undertake no obligation to publicly update any forward-looking statements, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

AnaptysBio: *Clinical-Stage Antibody Development Company*

Focused on Novel Antibody Medicines for Severe Inflammatory Diseases

Wholly-Owned Anti-Inflammatory Pipeline

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~2.5 years

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Validating Product Partnerships Generated ~$75MM Through June 30th 2017

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Anticipated Clinical Milestones

- ANB020 Atopic Dermatitis Phase 2a: Top-line data disclosed today
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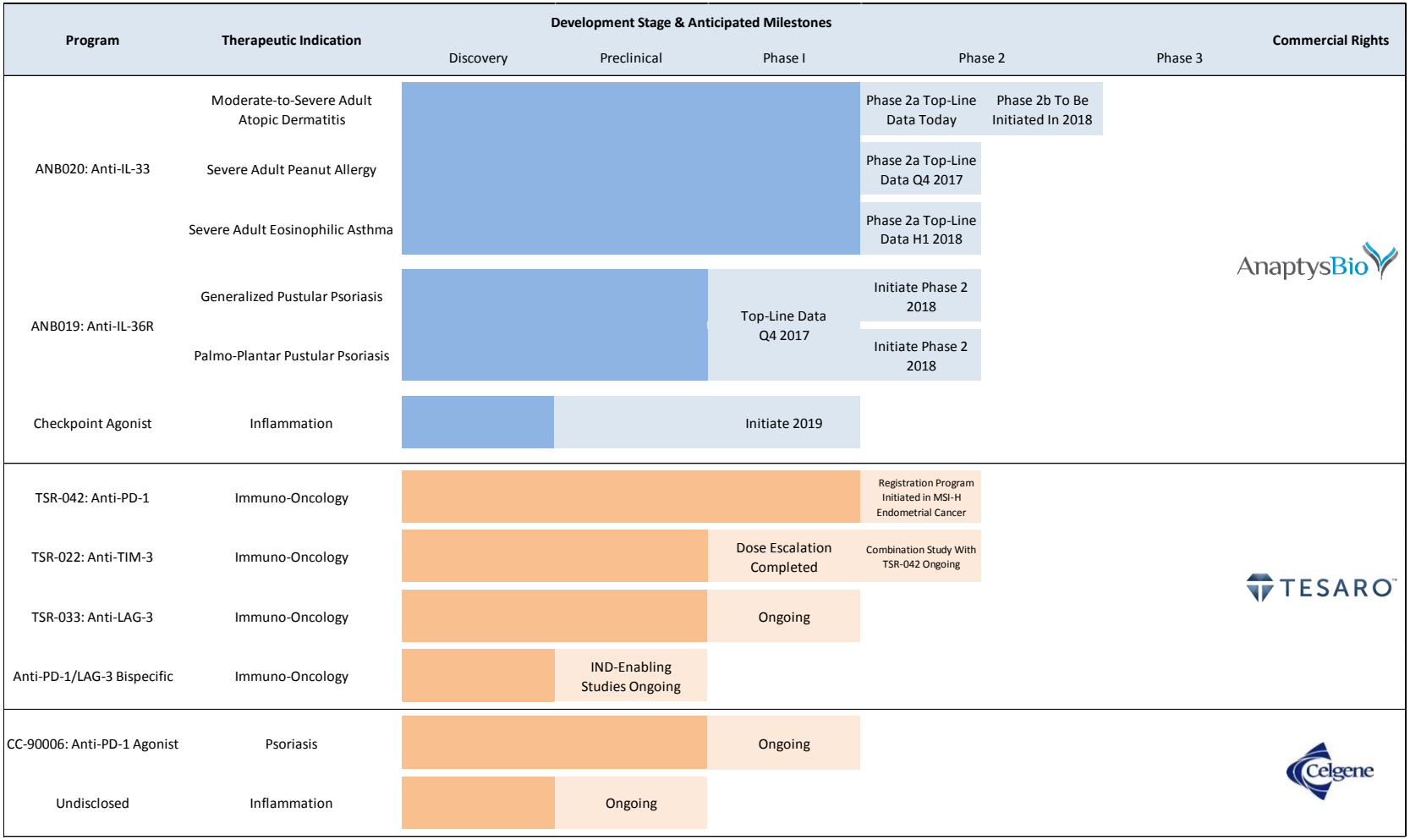
- ANB019 Healthy Volunteer Phase 1: Top-line data Q4 2017
- ANB020 Eosinophilic Asthma Phase 2a: Top-line data H1 2018

Wholly-Owned and Partnered Product Pipeline

6 AnaptysBio-Generated Antibodies Advanced to Clinic Since Q1 2016

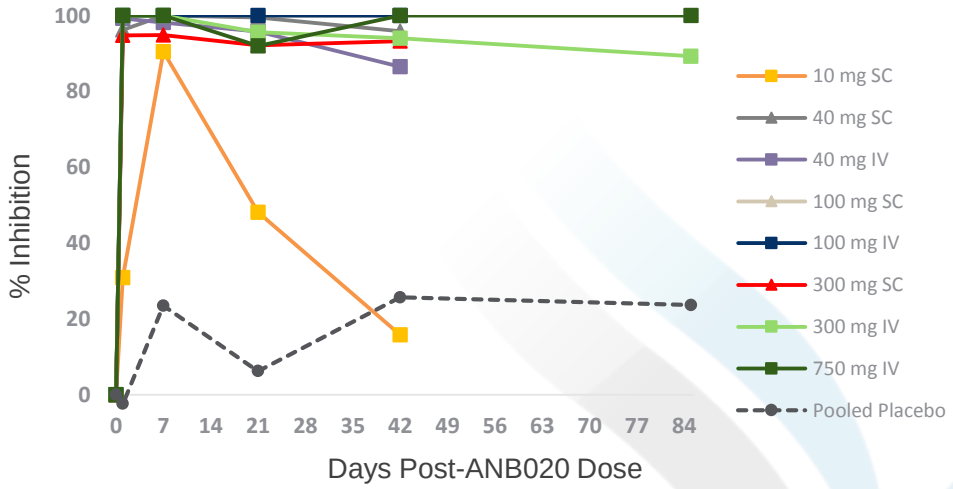


All programs generated internally using AnaptysBio's proprietary antibody generation platform technology

ANB020: First-in-Class Anti-IL-33 Antibody

Broadly Applicable to Atopic Diseases

- IL-33 is an upstream driver of atopic disease
  - Applicable to atopic dermatitis, food allergies and asthma
  - Pro-inflammatory cytokine released upon allergen contact with epithelium
  - Activates downstream release of IL-4, IL-5 and IL-13
  - Human genetics validate key role of IL-33 in atopic dermatitis and asthma
- ANB020 is a potentially first-in-class anti-IL-33 cytokine antibody
  - Phase I healthy volunteer trial completed without dose-limiting toxicities
  - Up to 3 month pharmacodynamic effect after a single dose of ANB020 at certain doses



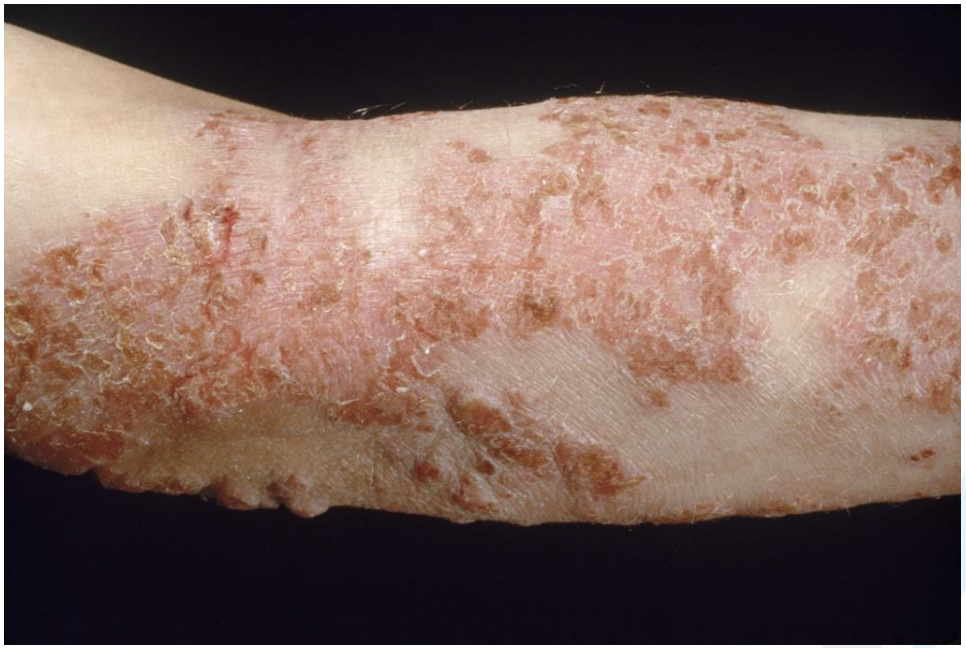
ANB020 Healthy Volunteer Phase 1 Pharmacodynamic *Ex Vivo* Assay: Functional Activity Observed Up to 3 Months At Certain Dose Levels*

* As presented at the 2017 American Academy of Dermatology (AAD) Annual Meeting and the 2017 American Academy of Allergy, Asthma and Immunology (AAAAI) Annual Meeting, March 3rd and 4th 2017, respectively

Atopic Dermatitis: Debilitating Inflammatory Disease

Focus on Moderate-to-Severe Adult Patients

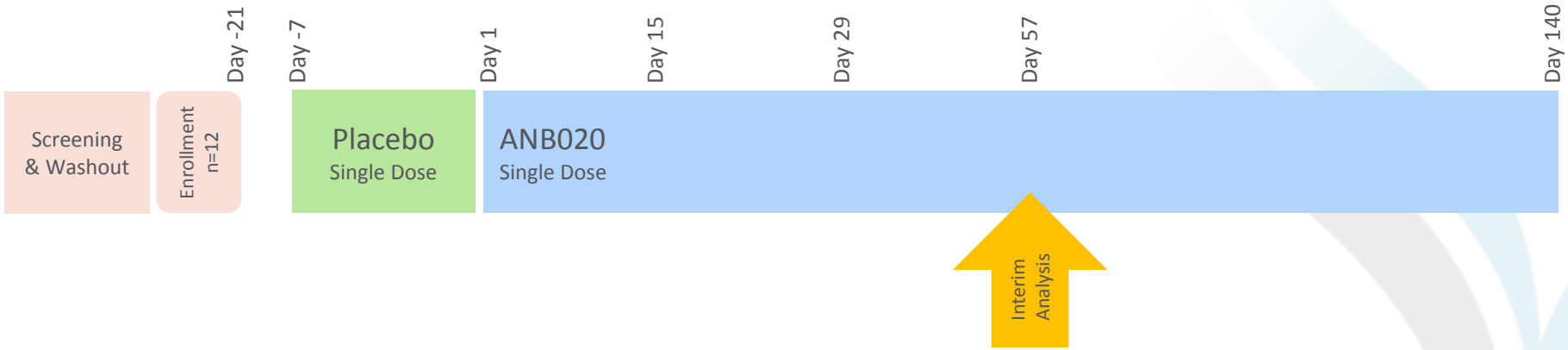
- Moderate-to-severe atopic dermatitis is a debilitating atopic disease
  - Significantly impacts patient quality-of-life
  - Recurrent inflamed skin lesions covering large areas of the patient's body
  - Severe itching (or pruritus) is a key hallmark
- Significant unmet medical need
  - ~1.4 million US adults diagnosed with atopic dermatitis
  - Focus on ~280,000 US adults with moderate-to-severe atopic dermatitis



ANB020 Atopic Dermatitis Phase 2a Clinical Trial

Study Design

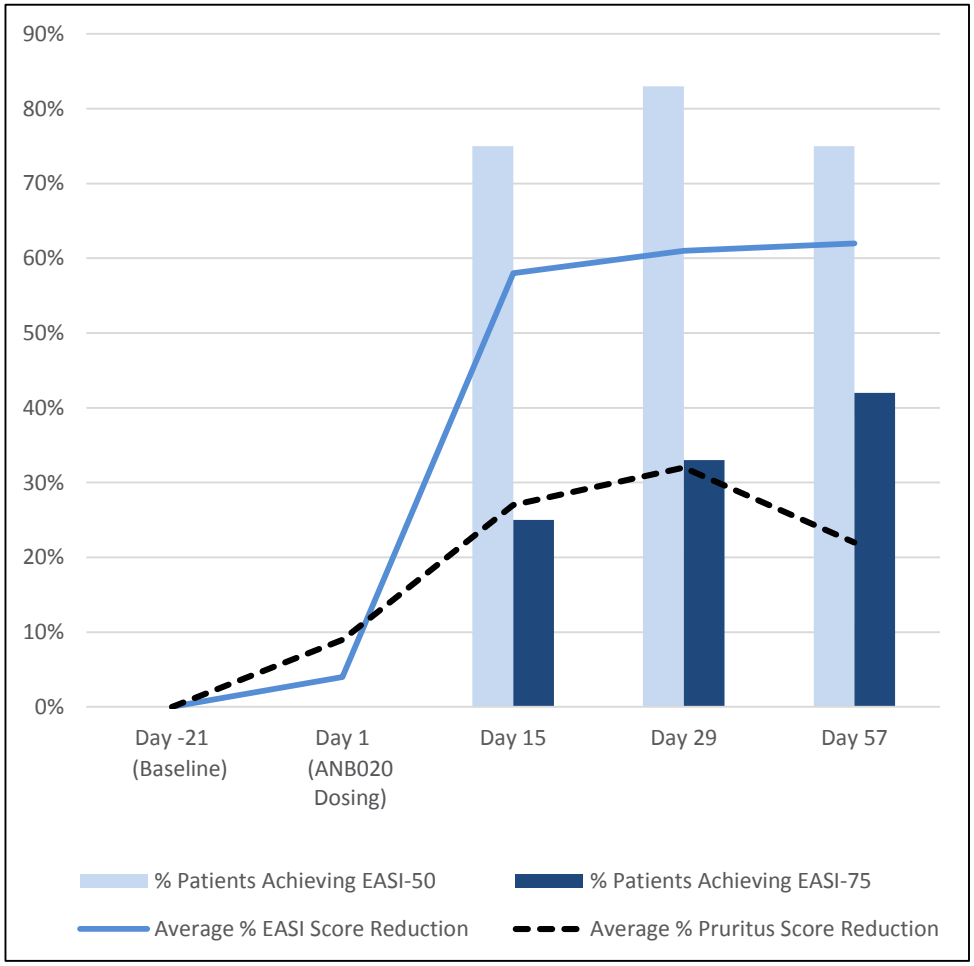
Key Efficacy Objective: Demonstrate 50% EASI score improvement (EASI-50) in at least 50% of patients at 4 weeks after a single dose of ANB020



- ✓ Enrolled 12 adult moderate-to-severe atopic dermatitis patients
- ✓ All patients inadequately controlled by topical corticosteroids, of whom 7 of 12 were previously treated with systemic therapy
- ✓ Each patient administered with single dose of IV placebo (Day -7) followed by single dose of 300 mg IV ANB020 (Day 1)
- ✓ Eczema Associated Severity Index (EASI) and 5-D pruritus clinical scores determined at time points indicated above
- ✓ Aspirate skin lesion for exploratory biomarker analysis at 5 days post-placebo and 5 days post-ANB020 administration

Single Dose of ANB020 Demonstrates Proof of Concept

EASI Score Improvement Observed Early and Sustained Until Day 57



Timepoint	Average % EASI Score Reduction*	% Patients Achieving EASI-50*	% Patients Achieving EASI-75*	Average % Reduction of 5-D Pruritus Score*
Day -21 (Baseline)	0%	0	0	0%
Day 1 (ANB020 Dosing)	4%	0	0	10%
Day 15	58%	9 of 12 (75%)	3 of 12 (25%)	28%
Day 29	61%	10 of 12 (83%)	4 of 12 (33%)	32%
Day 57	62%	9 of 12 (75%)	5 of 12 (42%)	21%

* Relative to baseline upon enrollment at Day -21

Exploratory Biomarker Analysis

ANB020 Reduces Granulocyte Infiltration Into Skin Lesions

- Localized skin lesions created by subcutaneous administration of house dust mite in each patient were aspirated post-placebo and post-ANB020 administration to assess exploratory mechanistic biomarkers
- Granulocyte infiltration was reduced post-ANB020 in comparison with post-placebo
- Cytokine levels were below detection limit and therefore inconclusive

Reduction of Infiltrating Granulocytes Post-ANB020 Compared to Post-Placebo	
Average of All Patients (n=12)	30%
Average of Patients That Achieved EASI-50 At Day 29 (n=10)	60%

Phase 2a Interim Data Analysis

Supports Advancement of ANB020 In Adult Moderate-to-Severe Atopic Dermatitis

Interim Analysis Summary

- Proof-of-concept achieved for ANB020 in treatment of moderate-to-severe adult atopic dermatitis
- Single dose of ANB020 resulted in rapid clinical response within 15 days followed by a persistent effect through 57 days following administration
- Exploratory biomarker analysis demonstrated reduced granulocyte infiltration into skin lesions after ANB020 administration
- ANB020 was generally well-tolerated; no severe adverse events reported to date

Next Steps

- Complete Phase 2a study data and present results at a future medical conference
- Initiate Phase 2b randomized, double-blinded, placebo-controlled, multi-dose trial to evaluate different dosing frequencies of ANB020 in 200-300 adult moderate-to-severe atopic dermatitis patients during H1 2018; data anticipated in 2019

Multiple Anticipated Milestones Through 2018

Program	Milestone	Timing
ANB020 (anti-IL-33)	Atopic Dermatitis Phase 2a Top-Line Data	Announced today
	Peanut Allergy Top-Line Phase 2a Data	Q4 2017
	Eosinophilic Asthma Top-Line Phase 2a Data	H1 2018
ANB019 (anti-IL-36R)	Healthy Volunteer Top-Line Phase I Data	Q4 2017
	GPP Phase 2 Initiation	2018
	PPP Phase 2 Initiation	2018

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