AnaptysBio

Anti-IL-33 (ANB020) Program

Phase 2a Peanut Allergy Clinical Trial

Interim Data Update

March 26th 2018

NASDAQ: ANAB

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AnaptysBio: Clinical-Stage Antibody Development Company

Focused on Novel Antibody Medicines for Severe Inflammatory Diseases

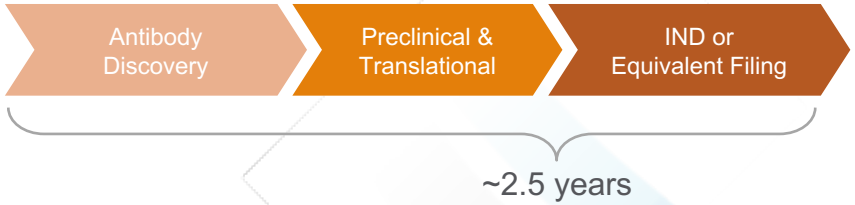
Wholly-Owned Anti-Inflammatory Pipeline

ANB020 (Anti-IL-33)
Atopic Dermatitis, Peanut Allergy & Eosinophilic Asthma

ANB019 (Anti-IL-36R)
Generalized Pustular Psoriasis & Palmo-Plantar Pustular Psoriasis

Checkpoint Agonist
Autoimmune Disease

Rapid Antibody Generation Platform Technology



Antibody Medicines For Severe Diseases

Validating Product Partnerships Generated ~$75MM*

- ✓ TESARO
- ✓ Celgene

Key Clinical Milestones

- ANB020 Atopic Dermatitis Phase 2a: Top-line data announced October 2017
- ANB019 Healthy Volunteer Phase 1: Top-line data announced Nov 2017
- ANB020 Peanut Allergy Phase 2a: Top-line data announced today
- ANB020 Eosinophilic Asthma Phase 2a: Top-line data anticipated Q3 2018

* As of December 31st 2017

Wholly-Owned and Partnered Product Pipeline

6 AnaptysBio-Generated Antibodies Advanced to Clinic Since Q1 2016

Program	Therapeutic Indication	Development Stage & Anticipated Milestones					Commercial Rights
		Discovery	Preclinical	Phase 1	Phase 2	Phase 3	
ANB020: Anti-IL-33	Moderate-to-Severe Adult Atopic Dermatitis				Phase 2a Data Presented at AAD February 2018	Phase 2b To Be Initiated In H1 2018	AnaptysBio
	Moderate-to-Severe Baseline Adult Peanut Allergy				Phase 2a Top-line Data Announced Today		
	Severe Adult Eosinophilic Asthma				Phase 2a Top-line Data Q3 2018		
ANB019: Anti-IL-36R	Generalized Pustular Psoriasis			Top-line Data Announced November 2017	Initiate Phase 2 2018		
	Palmo-Plantar Pustular Psoriasis				Initiate Phase 2 2018		
Checkpoint Agonist	Inflammation			IND 2019			
TSR-042: Anti-PD-1	Immuno-Oncology				Registration Program Initiated		TESARO
TSR-022: Anti-TIM-3	Immuno-Oncology			Dose Escalation Completed	TSR-042 Combination Ongoing		
TSR-033: Anti-LAG-3	Immuno-Oncology			Ongoing			
TSR-075: Anti-PD-1/LAG-3 Bispecific	Immuno-Oncology		IND-Enabling Studies Ongoing				
CC-90006: Anti-PD-1 Agonist	Psoriasis			Ongoing			Celgene
Undisclosed	Inflammation		Ongoing				

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

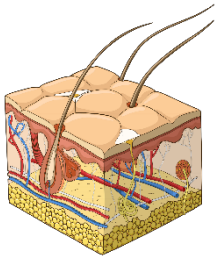
AnaptysBio

Wholly-Owned Pipeline: Anti-IL-33 (ANB020)

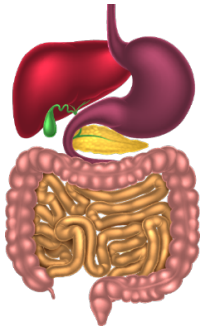
Moderate-to-Severe Adult Atopic Dermatitis
Moderate-to-Severe Baseline Adult Peanut Allergy
Severe Adult Eosinophilic Asthma

Atopic Diseases: Large Unmet Medical Need

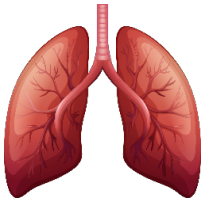
IL-33-driven Disease Mechanism Affects Multiple Organ Systems



Skin



Digestive Tract



Lung

Inflammatory Response to Allergen

Atopic Dermatitis

- 1.4 million adult atopic dermatitis patients in the US
- Estimate ~280,000 adults with moderate-to-severe atopic dermatitis

Peanut Allergy

- 1.7 million adult patients diagnosed in the US
- Estimate ~400,000 adults at risk of anaphylactic reaction

Eosinophilic Asthma

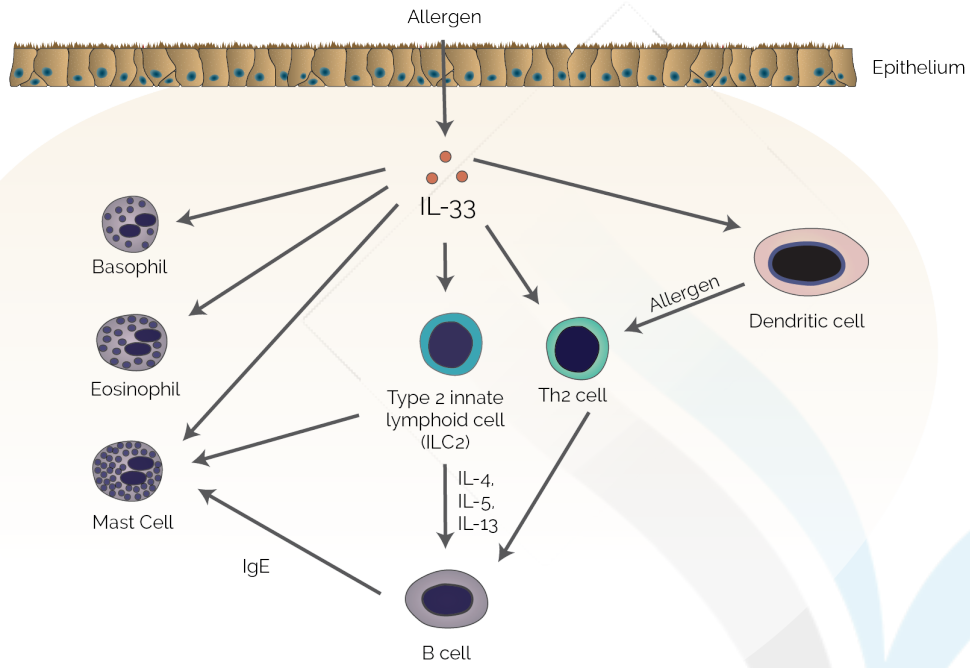
- 19 million adult patients diagnosed with asthma in the US
- Estimate ~1.1M adults with severe asthma insufficiently controlled through standard-of-care

Atopic diseases occur through a common inflammatory response to an allergen, leading to concomitant incidence of multiple atopic diseases amongst some patients

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

Broadly Applicable to Atopic Diseases

- IL-33 is an upstream driver of atopic disease
  - Human genetics validate key role of IL-33 in atopic dermatitis and asthma
  - Pro-inflammatory cytokine released upon allergen contact with epithelium
  - Activates downstream release of IL-4, IL-5 and IL-13
  - Modulates IgE-mediated mast cell and basophil degranulation
- 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
  - Proof-of-concept demonstrated in moderate-to-severe atopic dermatitis



IL-33 acts as a gatekeeper of allergic response with demonstrated activity in the initiation (activation of ILC2 cells)[1], propagation (activation of allergen-specific T and B cells)[2] and amplification (degranulation of mast cells and basophils)[3].

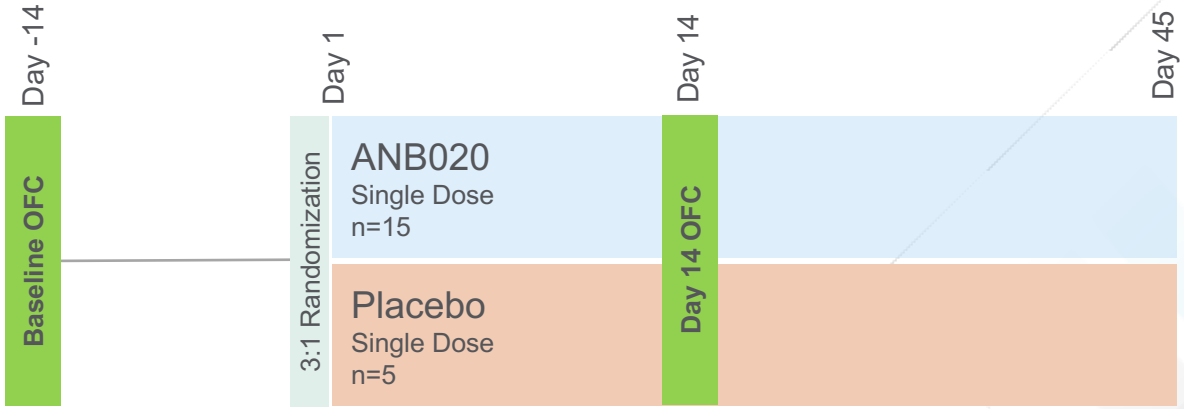
1. Cayrol et al. *Curr Opin Immunol* (2014) 31:31
2. Peine et al. Trends Immunol (2016) 37(5):321
3. Saluja *et al. Clin Transl Allergy (2015) 5:33*

ANB020 Phase 2a Trials

Indication	Trial Design	Clinical Endpoint	Data Readout
Moderate-to-Severe Adult Atopic Dermatitis	12 patients, all dosed with placebo followed by single dose of ANB020	Eczema Area & Severity Index (EASI)	Top-line data announced October 2017 Detailed data presented at AAD February 2018
Moderate-to-Severe Baseline Adult Peanut Allergy	20 patients, randomized 3:1 to single dose of ANB020 or placebo	Oral Food Challenge (OFC)	Top-line data announced today
Severe Adult Eosinophilic Asthma	24 patients, randomized 1:1 to single dose of ANB020 or placebo	Forced Expiratory Volume in 1 Second (FEV1)	Anticipate top-line data in Q3 2018

ANB020 Peanut Allergy Phase 2a Clinical Trial

Assess Peanut Tolerance Improvement At Day 14 Following A Single Dose Of ANB020 vs Placebo



- Enrolled 20 adult peanut allergy patients with a history of anaphylaxis
- Blinded, placebo-controlled oral food challenge (OFC) evaluated peanut tolerance at Baseline OFC and Day 14 OFC in accordance with PRACTALL guidelines
  - Each OFC limited to a maximum tested cumulative peanut dose of 500mg
- Patients administered a single 300mg intravenous dose of ANB020 or placebo on a 3:1 randomized basis on Day 1
- Symptom severity at Baseline OFC and symptom improvement at Day 14 OFC adjudicated by blinded independent assessor

Enrolled Patient Characteristics

Interim Analysis Focused on Moderate-to-Severe Baseline Patients

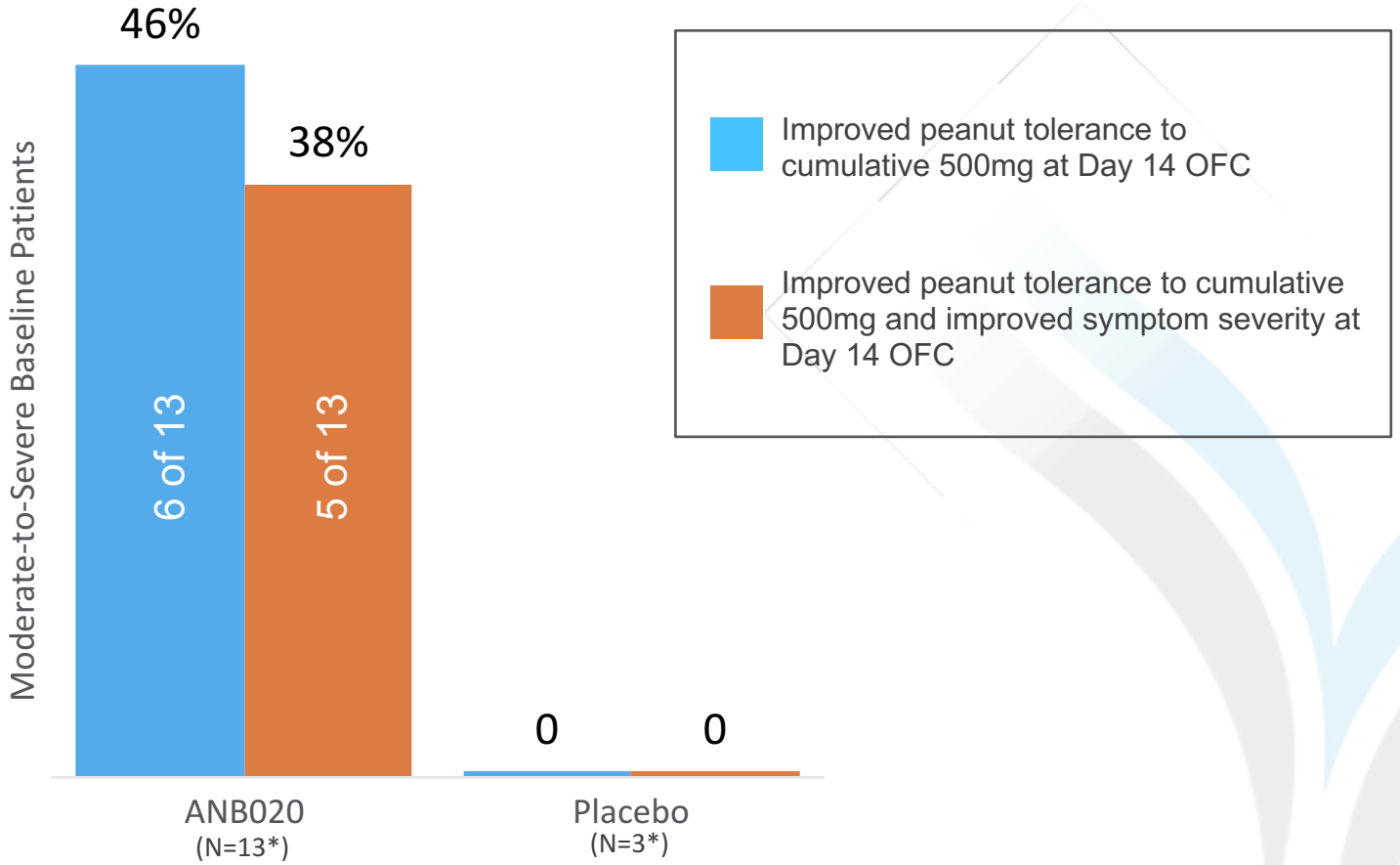
Characteristic	All Patients	Moderate-to-Severe Baseline Patients*
N	20	16
Average Age	30	31
Average Cumulative Peanut Tolerance at Baseline OFC	229mg	236mg
Randomization	15 ANB020 5 Placebo	13 ANB020 3 Placebo

We believe peanut allergy patients with moderate-to-severe baseline symptoms represent an unmet medical need

* Excludes two ANB020 and two placebo dosed patients that exhibited mild symptoms at baseline

Top-Line Proof-of-Concept Data

46% ANB020 Dosed vs 0% Placebo Dosed Patients With Moderate-to-Severe Baseline Symptoms Improved Peanut Tolerance to Maximum Tested Cumulative Dose of 500mg

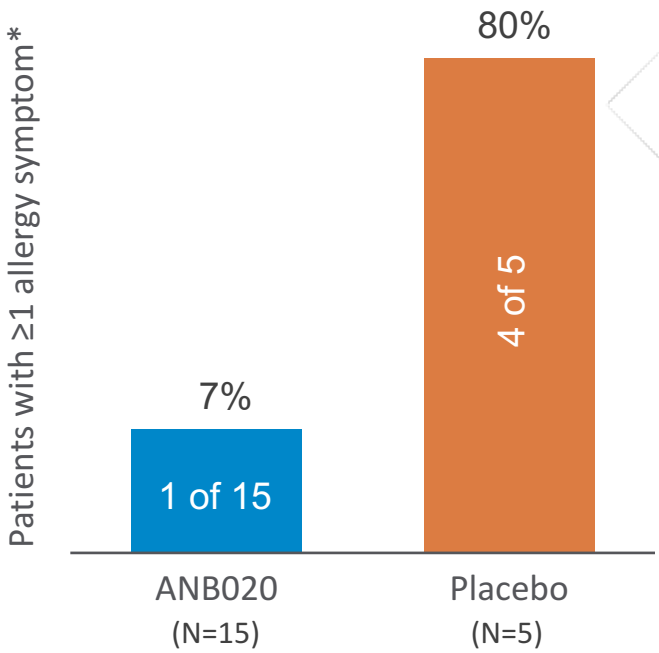


* Excludes two ANB020 and two placebo dosed patients that exhibited mild symptoms at baseline, of which one ANB020 dosed and two placebo dosed patients improved peanut tolerance to 500mg cumulative at Day 14

Lower Incidence of Concomitant Allergy Symptoms in ANB020 Dosed Patients

4 of 5 (80%) Placebo vs 1 of 15 (7%) ANB020 Dosed Patients Presented With Allergic Symptoms

Peanut allergy is associated with other allergic conditions, such as atopic dermatitis and asthma, which can lead to concomitant allergy symptoms, such as rhinitis, pruritus, urticaria, asthma flares and other nut allergies



* Incidence of allergy symptoms observed as part of adverse event reporting for the trial; excludes symptoms observed during baseline and Day 14 OFC

Favorable ANB020 Safety Profile In Peanut Allergy Patients

No Serious Adverse Events Or Dropouts Reported

- Most frequently reported adverse events to date were:
  - Headache in 4 of 15 patients dosed with ANB020, 3 mild cases and 1 moderate case
  - Mild and moderate cases of allergy-related events occurring in 4 of 5 placebo dosed patients
- No serious adverse events have been reported to date
- All 20 patients remain enrolled and no dropouts to date

Peanut Allergy Phase 2a Trial Interim Analysis

Summary and Next Steps

- Proof-of-concept data illustrates response in adult peanut allergy patients with moderate-to-severe baseline symptoms after a single dose of ANB020
  - Day 14 readout supports potential for rapid patient benefit
  - Potential to further improve peanut tolerance with multiple doses
- Concomitant allergy symptoms observed in 80% of placebo dosed but only 7% of ANB020 dosed patients
  - Overlapping allergic diagnoses, such as atopic dermatitis and asthma, often result in concomitant pruritus, rhinitis, asthma flares and other nut allergies
  - Suggests ANB020 may address multiple concomitant allergic conditions on an allergen-independent basis
- ANB020 was well-tolerated and no patients have dropped out
- Plan to present detailed data from this trial at a future medical conference
- Interim analysis from this Phase 2a trial supports advancement of ANB020 development in moderate-to-severe baseline adult peanut allergy
  - Plan to initiate a multi-dose Phase 2b trial

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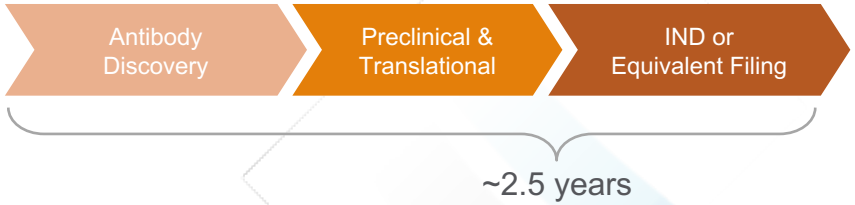

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