2021 Year in Review Call and Corporate Update

NASDAQ: CLDX
February 2021

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Agenda

Participants	Agenda

Anthony S. Marucci
Co-founder & Chief Executive Officer

Tibor Keler, Ph.D.
Co-founder & Chief Scientific Officer

Diane C. Young, M.D.
Chief Medical Officer

Margo Heath-Chiozzi, M.D.
Senior Vice President, Regulatory Affairs

Diego Alvarado, Ph.D.
Executive Director, Research

Sarah Cavanaugh
Senior Vice President, Corporate Affairs & Administration

- **Completed Phase 2 Readiness Activities**
  - Phase 1 Subcutaneous CDX-0159 Study Results
  - 6 Month Chronic Toxicology Study Results
- **CDX-0159 Development Plan**
- **CDX-0159 Clinical Development Expansion**
  - Eosinophilic esophagitis (EoE)
- **Pipeline Milestones**
- **Q&A**

Strong Clinical Pipeline with Multiple Inflection Points

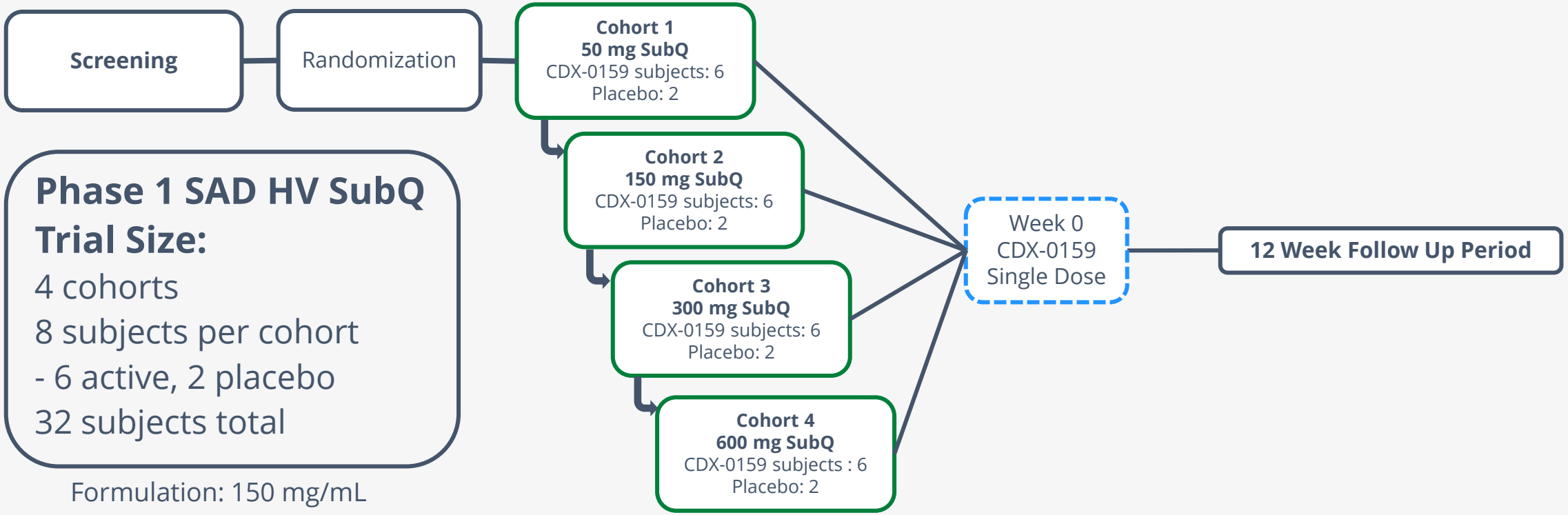
PROGRAM	PRECLINICAL	PHASE 1	PHASE 2/3
Inflammation			
CDX-0159 *KIT Antagonist mAb*	Chronic inducible urticaria (CIndU) to enter Ph2 2Q 2022 ColdU, SD & CholU		
	Chronic spontaneous urticaria (CSU) to enter Ph2 2Q 2022		
	Prurigo nodularis (PN)		
	Eosinophilic esophagitis (EoE) to enter Ph2 YE 2022		
Oncology			
CDX-1140 - *CD40*	SCCHN & NSCLC w/pembro		
Bispecific Platform - Next Generation Inflammatory & Oncology			
CDX-527 - *PD-L1 & CD27*	Ovarian cancer		
Preclinical - *ILT4 & PD-(L)1*	Solid tumors		
Preclinical - *SCF/KIT*	Inflammatory/ autoimmune		

Completed Phase 2 Readiness Activities

Phase 1 Single Ascending Doses of Subcutaneous CDX-0159 Trial

Healthy Volunteers

Phase 1 Single Ascending Doses of Subcutaneous CDX-0159 Trial Design Healthy Volunteers



Population: Healthy adults

Design: Randomized, double-blind, placebo-controlled, single ascending dose

Primary Endpoint: Safety and Tolerability

Secondary Endpoints: PK, PD (circulating tryptase and SCF), Immunogenicity

Phase 1 Single Ascending Doses of Subcutaneous CDX-0159 Trial

Positive data support planned Phase 2 programs with SubQ

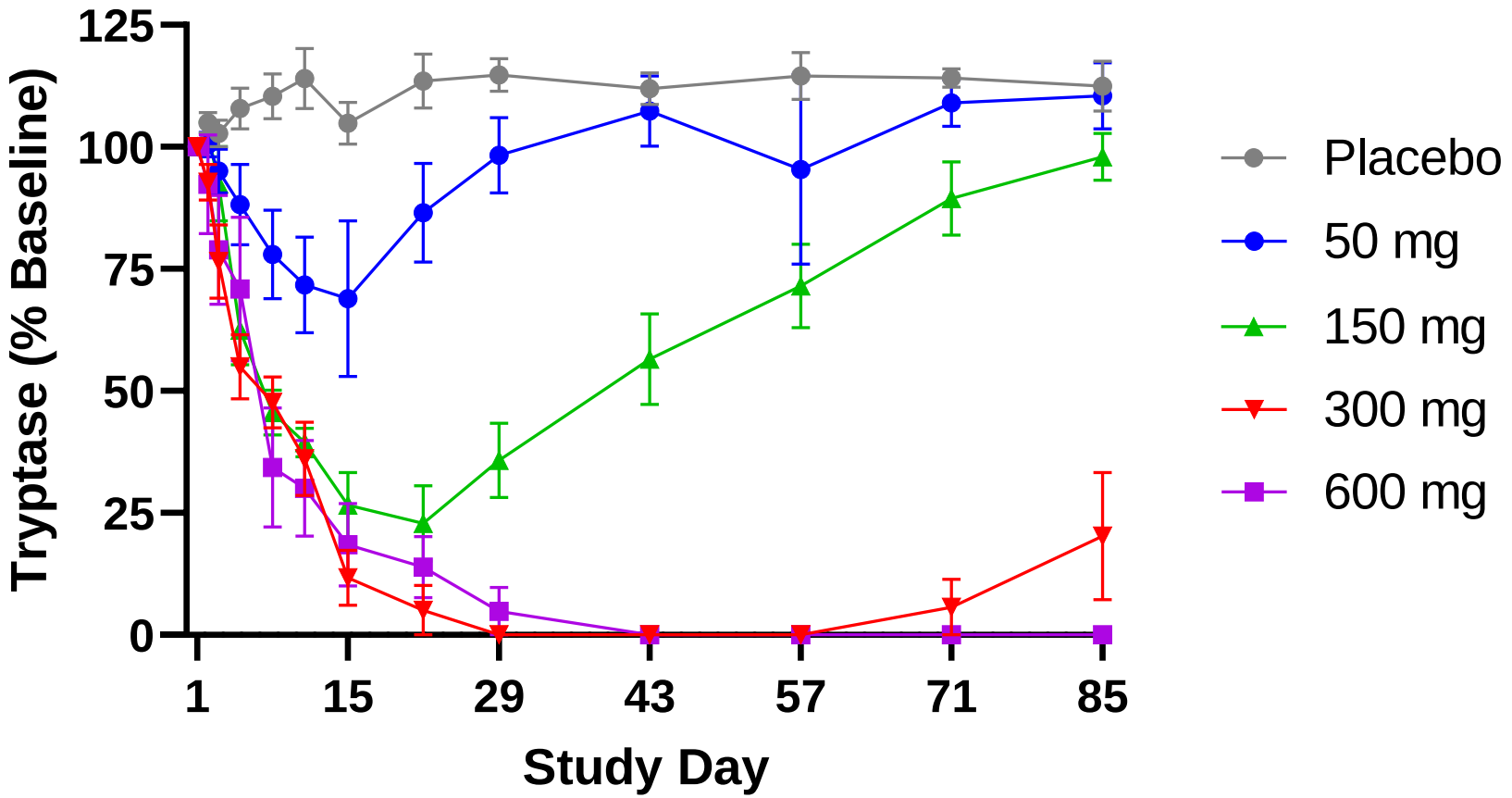
Subcutaneous (SubQ) formulation demonstrated well tolerated safety profile at patient convenient dosing volumes

- **SubQ delivery of CDX-0159 resulted in dose dependent, rapid and sustained decreases in serum tryptase**
  - Profound tryptase suppression indicative of systemic mast cell ablation
  - The kinetics of tryptase decrease similar to IV dosing
- **Well tolerated at all dose levels with no injections site reactions**
  - Consistent with previous IV studies, mild and asymptomatic decreases in heme parameters were seen in a subset of subjects; as previously observed in both patient and healthy volunteer studies
- **SubQ expected to offer patients convenient dosing; planned studies to target dosing volumes of 2 mls or less**
  - Multiple dose levels identified that possess favorable pharmacokinetic properties
- **Data will be used advance SubQ dosing of CDX-0159 in future studies, including Phase 2 CSU and CIndU studies**

CDX-0159 SubQ Resulted in Dose-Dependent Tryptase Suppression

- Dose-dependent, rapid and sustained decreases in serum tryptase
- Profound tryptase suppression indicative of systemic MC ablation

SubQ CDX-0159 Dose Dependent Serum Tryptase Suppression

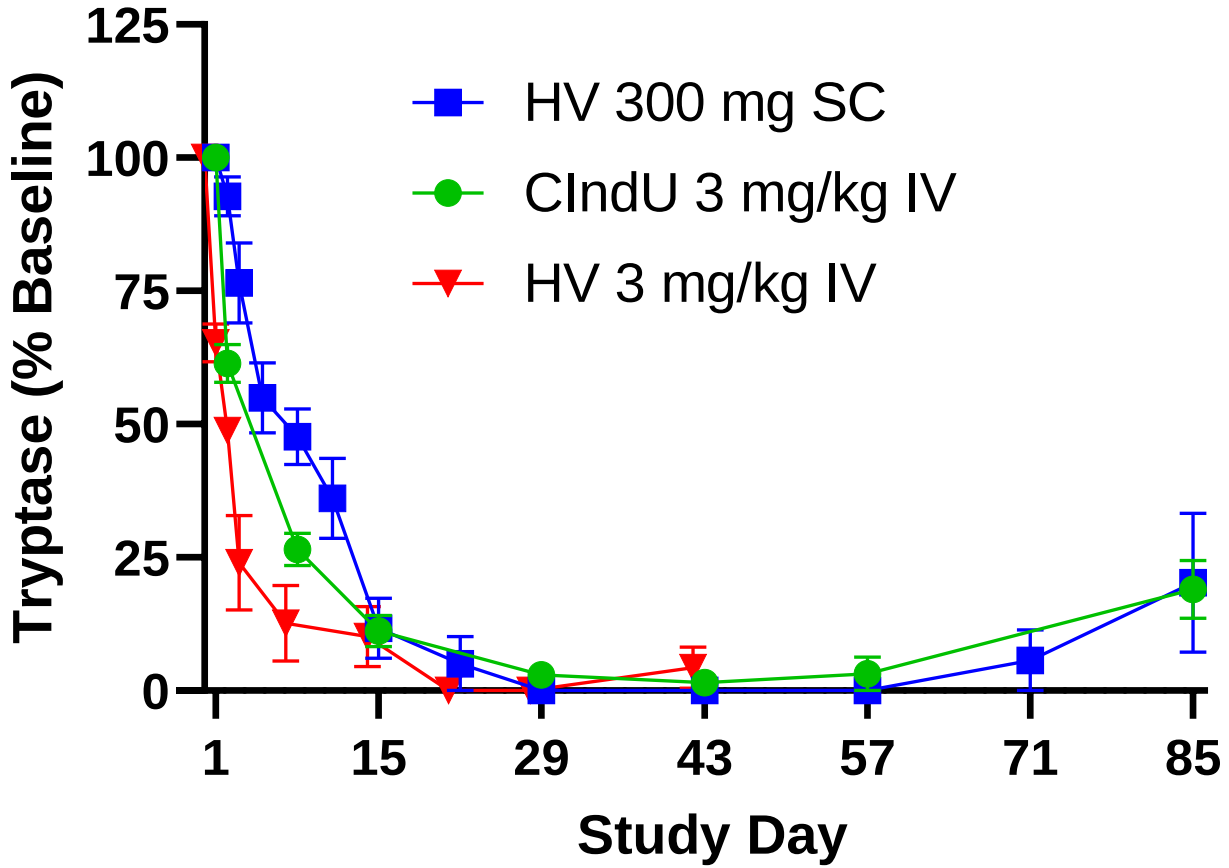


Values below LLoQ (1 ng/mL) normalized to 0

Serum Tryptase Kinetics in SubQ Formulation Comparable to IV

- SubQ tryptase reduction kinetics are comparable to IV formulation used in previous clinical studies to date
- SubQ tryptase decreases were rapid and not significantly delayed relative to IV administration

Comparison of Serum SubQ (300 mg) and Serum IV (3 mg/kg) Tryptase Kinetics

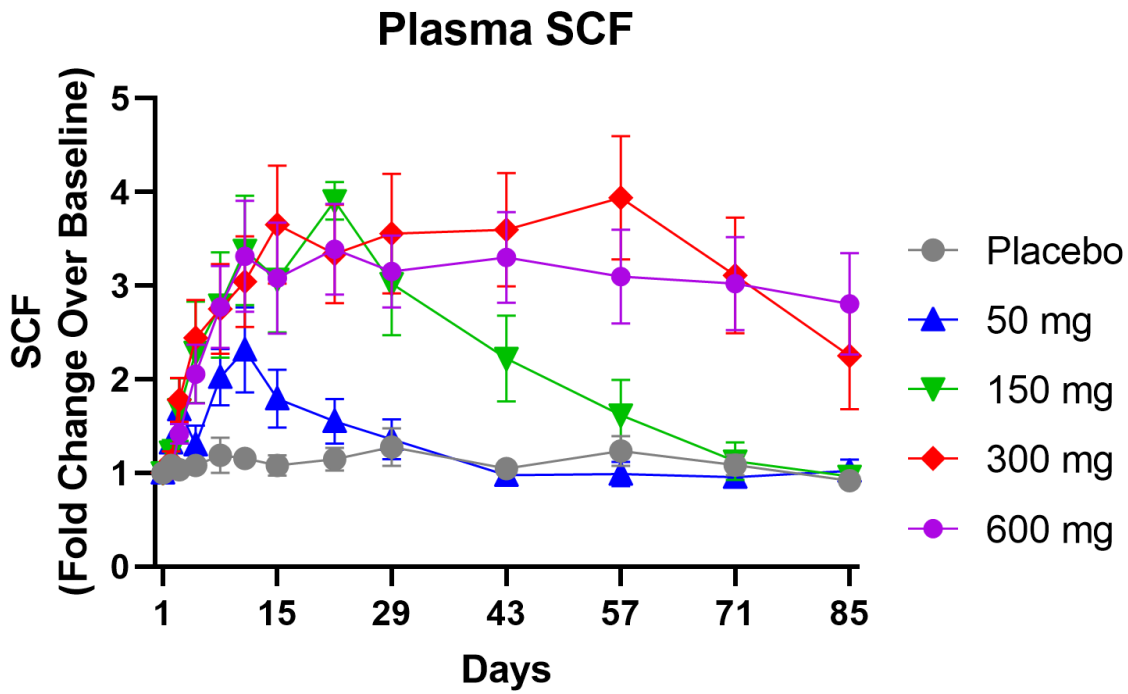


Values below LLoQ (1 ng/mL) normalized to 0
Serum data used for HV 3 mg/kg analysis

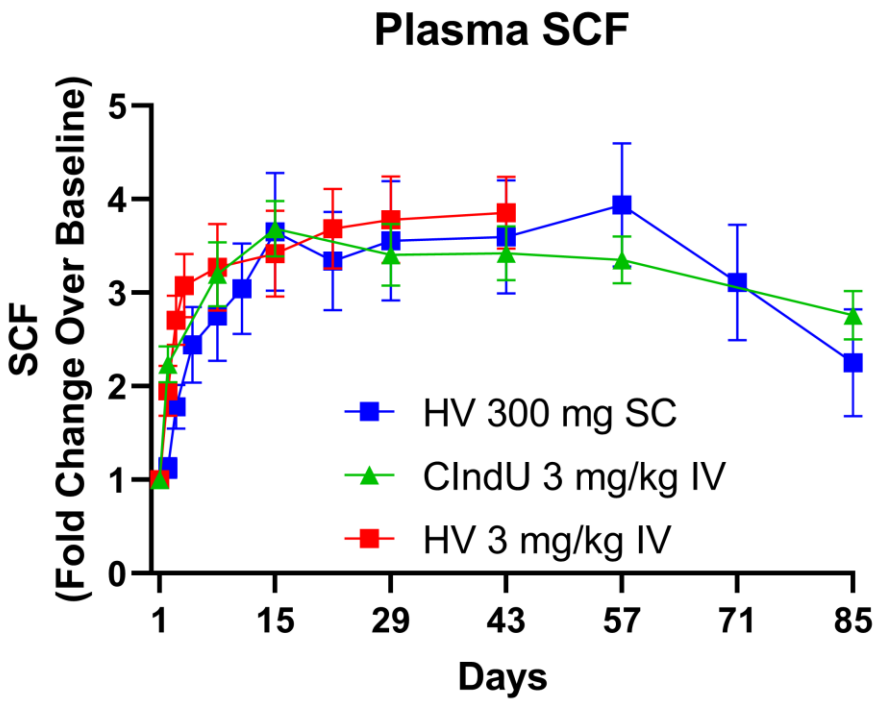
CDX-0159 SubQ Resulted in Dose Dependent Increase in SCF

- SCF levels increase rapidly and mirror tryptase dose response
  - Plateau of effect implies systemic stem cell factor blockade
- SubQ kinetics of SCF increase are comparable to the IV formulation

SubQ CDX-0159 Dose Dependent Increase in SCF



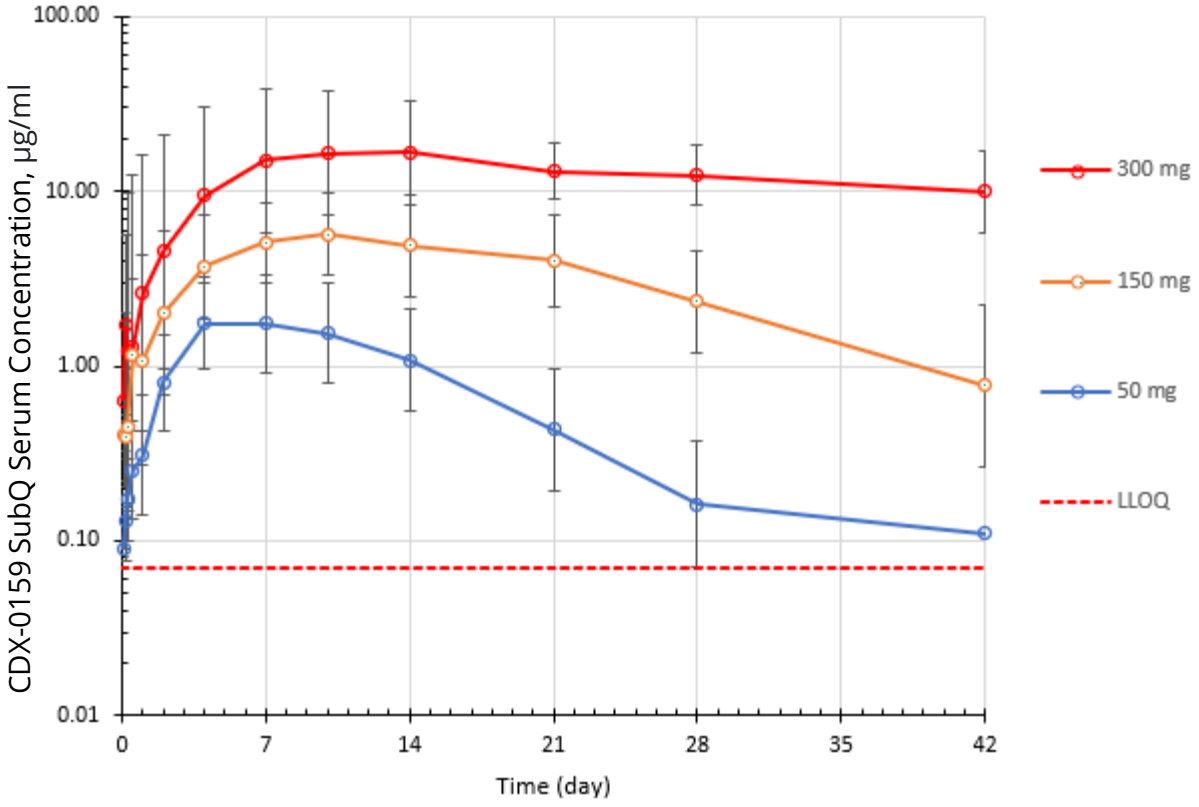
Comparison of Plasma SCF Kinetics SubQ (300mg) and IV (3mg/kg)



Favorable SubQ Preliminary Pharmacokinetic Properties

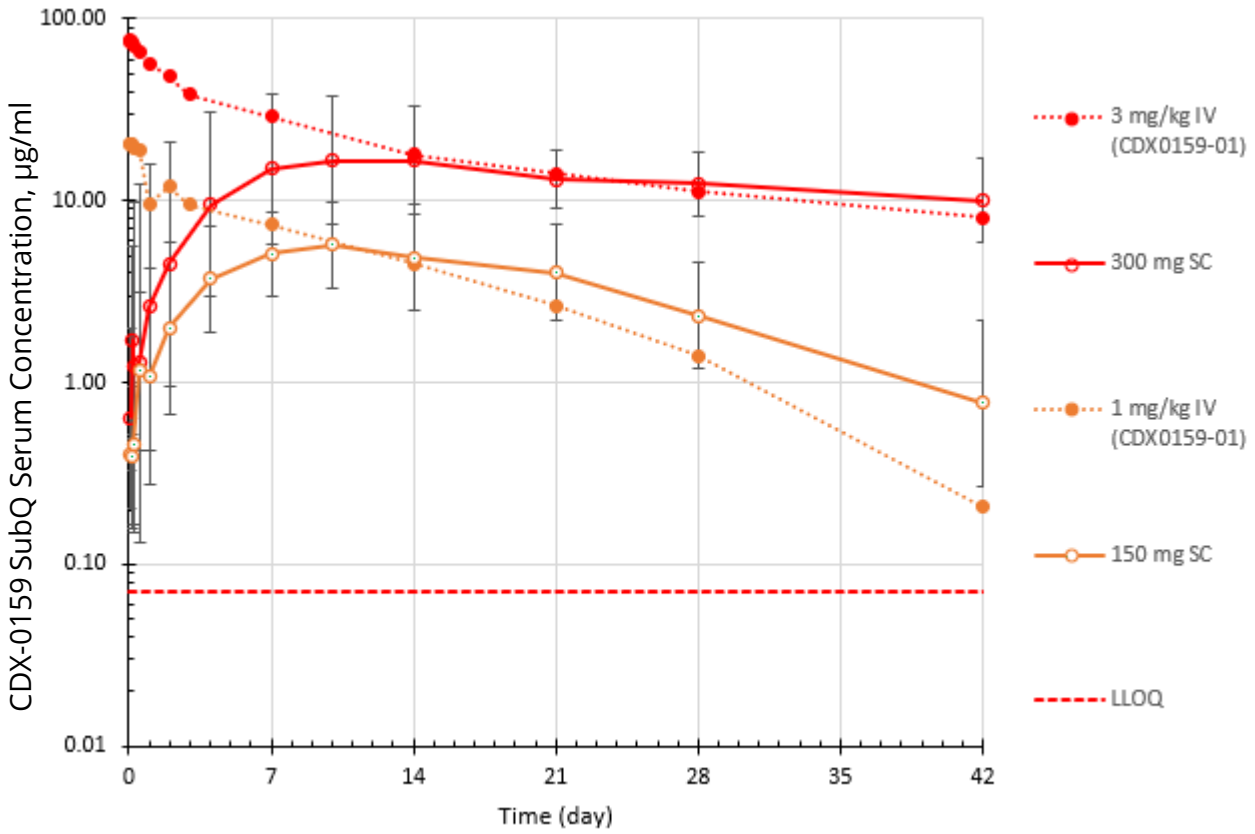
- Preliminary data demonstrate sufficient exposures to lead to tryptase suppression levels in line with previous IV studies

Pharmacokinetics
50, 150 and 300mg CDX0159 SubQ Cohorts*



*Pharmacokinetic data through day 42 only completed for these cohorts

Pharmacokinetics
150 and 300mg SubQ Doses vs 1 and 3mg/kg IV*



**Pharmacokinetic data for IV are means from HV Phase 1 IV Study

CDX-0159 SubQ Demonstrates a Favorable Safety Profile

- SubQ formulation was well tolerated at all dose levels
- No injection site reactions
- Most treatment adverse events were grade 1 and **resolved quickly during the study without treatment**
- Only 3 treatment adverse events were grade 2 (dermatitis contact, stomatitis and urticaria)

All Treatment[1] Related Adverse Events

Preferred Term	50mg (n=6)	150mg (n=6)	300mg (n=6)	600mg (n=6)	All 0159 (n=24)	Placebo (n=8)
Any event	1 (17%)		1 (17%)	3 (50%)	5 (21%)	1 (13%)
Headache			1 (17%)		1 (4%)	
Dermatitis contact	1 (17%)				1 (4%)	
Hair color changes				1 (17%)	1 (4%)	
Oropharyngeal pain				1 (17%)	1 (4%)	
Pruritus				1 (17%)	1 (4%)	
Stomatitis				1 (17%)	1 (4%)	
Urticaria				1 (17%)	1 (4%)	
Chapped lips					0 (0%)	1 (13%)

[1]Events considered at least possibly related to treatment by treating investigator

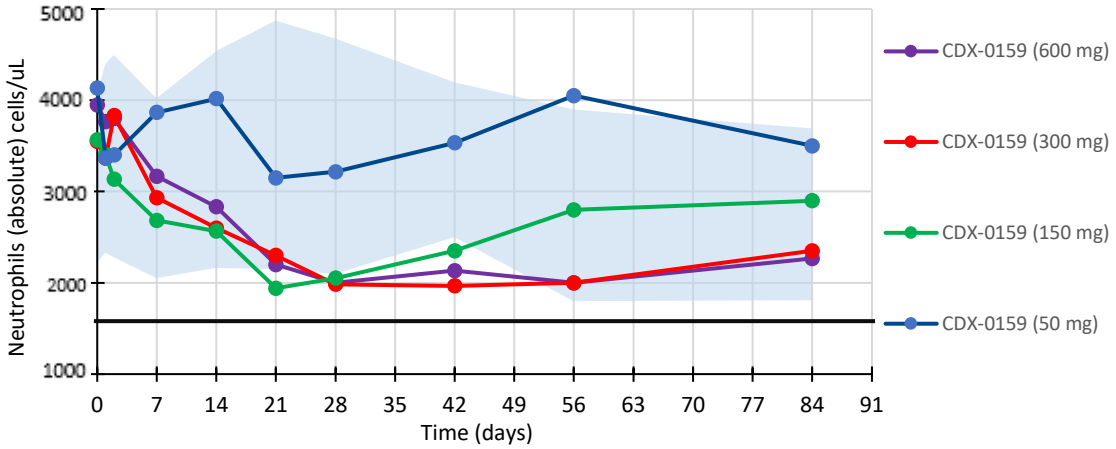
Hematology Results Consistent with Prior Studies

- Findings consistent with earlier IV studies; mild and asymptomatic decreases in heme parameters

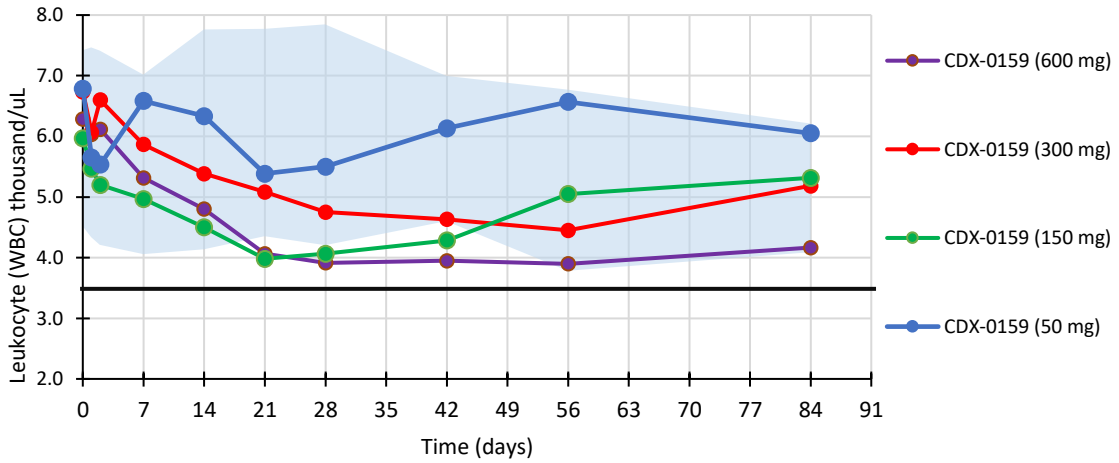
CDX-0159 SubQ vs IV Healthy Volunteer Hematology (cohort means and placebo 95% confidence interval)

SubQ HV CDX-0159 (84 days)

Sub Q Neutrophils

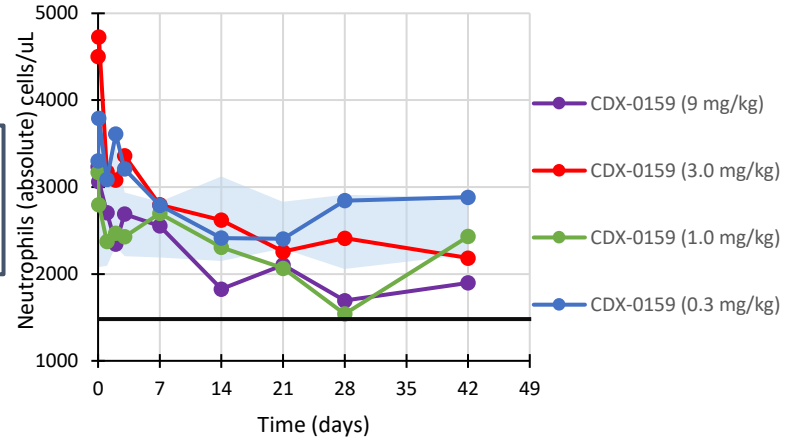


SubQ Leukocytes

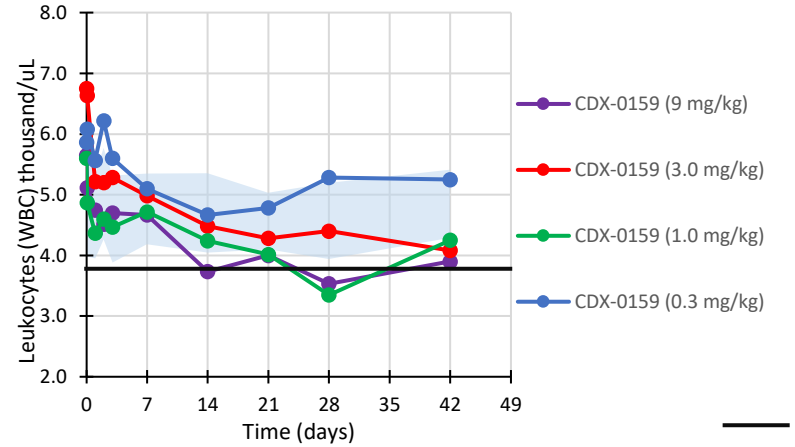


IV HV CDX-0159 (42 Days)

IV Neutrophils



IV Leukocytes



LLN (lower limit of normal)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therapeutics
Completed Phase 2 Readiness Activities
6 Month Chronic Toxicology Study

Completed In-life Dosing Portion of 6 Month Chronic Toxicology Study

Results strongly support initiation of Phase 2 urticaria studies and future indications

Celldex has completed in life dosing of 6 month chronic toxicology study to support long term dosing:

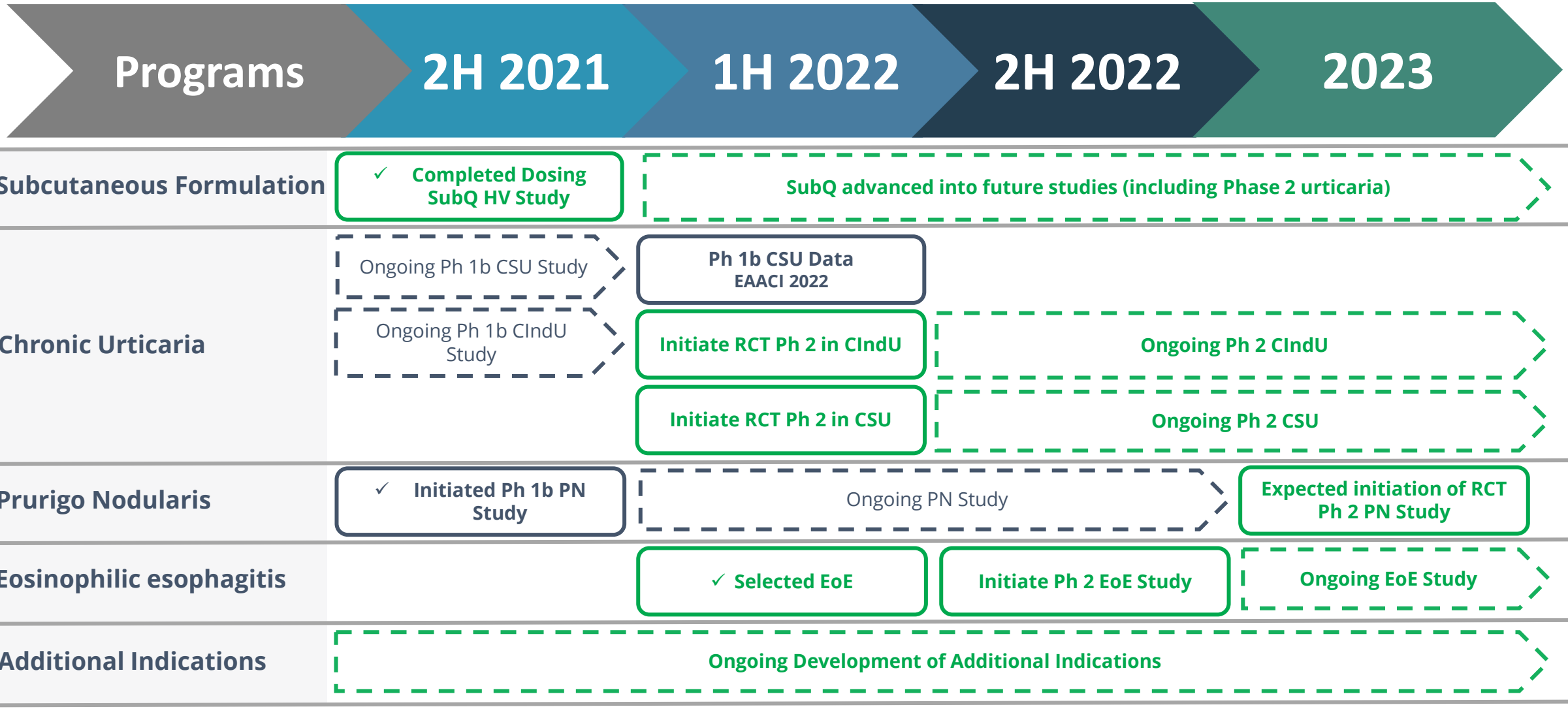
- ✓ As expected and consistent with other KIT-targeting agents, impact on spermatogenesis was observed which is anticipated to be fully reversible upon clearance of the antibody
- ✓ No other clinically adverse findings were reported in the study
- ✓ Extended dosing (13 and 26 weeks) did not further impact hematology; data were consistent with prior results and within normal range
- ✓ Data support expectation that chronic dosing will prolong, but not enhance effects of KIT suppression
- ✓ As planned, a subset of the study will continue to be followed beyond clearance of the CDX-0159 antibody to study completion; Celldex plans to update data in late 4Q22

- **Phase 2 studies in CSU and CIndU expected to initiate 2Q22**

Celldex therapeutics

2022 Development Plans

CDX-0159 Planned Development Timeline



HV – Healthy Volunteer; RCT – randomized controlled trial


Celldex
therapeutics
CDX-0159 Clinical Development Expansion:
Eosinophilic Esophagitis (EoE)

CDX-0159 Expands into Eosinophilic Esophagitis (EoE)

Fourth Indication and Additional Disease Setting with Mast Cell Involvement

EoE is the most common type of eosinophilic gastrointestinal disease, a chronic inflammatory disease of the esophagus characterized by the infiltration of eosinophils

- Chronic inflammation can result in trouble swallowing, chest pain, vomiting and impaction of food in the esophagus – a medical emergency
- Currently, there are limited treatment options for EoE
  - Individuals often participate in an elimination diet to identify potential food allergens that may contribute to EoE, avoid difficult to swallow foods and undergo esophageal dilation
  - While not approved for EoE, proton pump inhibitors and the swallowing of topical corticosteroids are also used to address the disease
- Industry sources estimate there are approximately 160,000 patients in the United States with EoE who have undergone treatment within the last 12 months and, of these, approximately 48,000 would be biologic-eligible
- Several studies have suggested that mast cells may be an important driver in the disease
- Given the lack of effective therapies for EoE and CDX-0159's potential as a mast cell depleting agent, we believe EoE is an important indication for future study
- **Phase 2 study expected to initiate 2H22**

Strong Evidence for Mast Cell Involvement in EoE

Potential for CDX-0159 in EoE driven by robust established and emerging scientific evidence

- Mast cells are significantly increased in biopsies of the esophagus in patients with EoE, including the esophageal epithelium
- There is also strong evidence of mast cell activation and degranulation, which is known to promote inflammation, immune infiltration and fibrosis associated with the disease
- Mast cells are associated with EoE-specific molecular signatures
- Mast cell reduction observed with steroids or anti-IL5 treatment has been correlated with symptom improvement and in treatment refractory EoE a lack of mast cell reduction has been observed in some studies
- Well-described reciprocal regulation of mast cells with eosinophils (inflammation/tissue remodeling) and sensory neurons (pain)

Celldex therapeutics

2022 Milestones

CDX-0159 Profile Offers Unique Potential

CDX-0159 profile suggests a potential treatment option which could represent a significant advancement over current standard of care in the treatment of diseases with mast cell involvement

- ✓ **Convenient administration route for patients:** subcutaneous formulation manufacturing activities completed
- ✓ **Favorable safety profile:** generally well tolerated, any KIT targeting related impacts expected to be reversible
- ✓ **Profound responses:** after single dose, 95% complete response rate in CIndU[1]
- ✓ **Rapid:** complete responses were experienced by 7/10 ColdU patients at week 1 and 7/8 SD patients at week 4[2]
- ✓ **Durable after single dose:** median duration of response 77+ days in ColdU and 57+ days in SD[3]
- ✓ **Novel mechanism:** depletion of mast cells indicates potential to impact other diseases with mast cell involvement

[1,2,3]Previously reported Phase 1b Single Dose of CDX-0159 in Chronic Inducible Urticaria - EAACI Annual Congress July 2021

Driving Value Through Expected 2022 Milestones

Programs and Anticipated Milestones

Inflammation

CDX-0159

- July 2022 - Ph 1b CSU Data (0.5, 1.5 and 3 mg/kg dosing cohorts expected to be presented at EAACI 2022)
- 2Q 2022 - Initiate Ph 2 CIndU Study
- 2Q 2022 - Initiate Ph 2 CSU Study
- 4Q 2022 - Initiate Ph 2 EoE Study

Oncology

CDX-1140

- 2022 - Continued SCCHN & NSCLC w/pembro study execution

Bispecific Platform - Next Generation Inflammation & Oncology

CDX-527

- 2022 – Continued ovarian cancer study execution

Financial Overview (as of 12/31/2021)

Well-capitalized through cash

$408.3M	$0.0	46.7M
Cash	Debt	Shares Outstanding

Cash runway through 2025

Targeted Antibody Therapeutics to Address Devastating Diseases

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