LANDOS BIOPHARMA

COMPANY PRESENTATION | SEPTEMBER 2021



Statements in this presentation about future expectations, plans and prospects for Landos Biopharma, Inc. (the "Company"), including statements about the Company's strategy, clinical development of the company's therapeutic candidates, the Company's anticipated milestones and future expectations and plans and prospects for the Company and other statements containing the words "subject to", "believe", "anticipate", "plan", "expect", "intend", "estimate", "project", "may", "will", "should", "would", "could", "can", the negatives thereof, variations thereon and similar expressions, or by stated discussions of strategy constitute forward-looking statements. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the uncertainties inherent in the initiation and enrollment of future clinical trials, expectations of expanding ongoing clinical trials, availability and timing of data from ongoing clinical trials, expectations for regulatory approvals, other matters that could affect the availability or commercial potential of the Company's product candidates and other similar risks. In addition, the forward-looking statements included in this presentation represent the Company's views only as of the date hereof. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, while the Company may elect to update these forward-looking elements at some point in the future, the Company specifically disclaims any obligation to do so, except as may be required by law. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date hereof.





Pioneering Drug Development Platform

- Proprietary LANCE[®] advanced A.I. platform applied to the discovery and development of new therapeutic targets (LANCL2, NLRX1 and PLXDC2) at the interface of immunity and metabolism
- LANCE helped advance 17 product candidates
- Immunometabolic targets: multimodal pathways at the intersection of immunity and metabolism

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Strong IP and Financial Position

- Composition of matter and method of use IP with long patent life 2035/2041 (>50 issued patents and over 50 pending applications)
- Raised \$188M to date, with runway through the end of 2023
- Executed \$218M China/Asia territory deal

High-Impact Clinical Stage Assets

- Omilancor, Phase 3-ready lead product candidate, is an orally active, once-daily, gut-restricted, first-in-class therapeutic for UC, CD and EoE
- NX-13 is an orally active, once-daily, gut-restricted, first-inclass therapeutic candidate in a Phase 1b study for UC
- LABP-104 is an oral, systemically distributed candidate for lupus and rheumatoid arthritis entering Phase 1 study for SLE

Innovative Emerging Inflammation & Immunology Pipeline

- 17 programs currently under development across 14 autoimmune disease indications
- Franchise of first-in-class oral therapeutics targeting
 immunometabolic function
- Opportunity to license and partner some programs while advancing our core programs to commercialization



Landos Leadership Team



Dr. Josep Bassaganya-Riera

Chairman of the Board. President. and CEO

Biotech entrepreneur and innovator with 25 years of scientific innovation in immunology, drug development, business development and fundraising experience.



Dr. Raquel Hontecillas

Chief Scientific Officer

20 years of translational experience in immunology, drug development, and the biotech industry focusing on infectious, autoimmune, and metabolic diseases.



Jyoti Chauhan, MS, RAC

Executive VP of Operations & Regulatory Affairs

Expertise encompassing strategic regulatory liaising with focus on policy analysis and filings, product development lifecycle & clinical trials management.



Dr. Andrew Leber VP of Discovery & Product Development

Expertise spans immunology and A.I.-based drug development for autoimmune disease with specific focus on CD, UC and lupus.



Marek Ciszewski, JD

VP of Financial Strategy & Investor Relations

25 years of biopharma and financial industry expertise, encompassing developing and managing capital structures for biotech companies.





Dr. Nuria Tubau-Juni Director of Inflammation & Immunology

Expertise in I&I related to infectious and autoimmune diseases. She leads new target identification, mechanistic and translational studies.

Dr. Simon Lichtiger

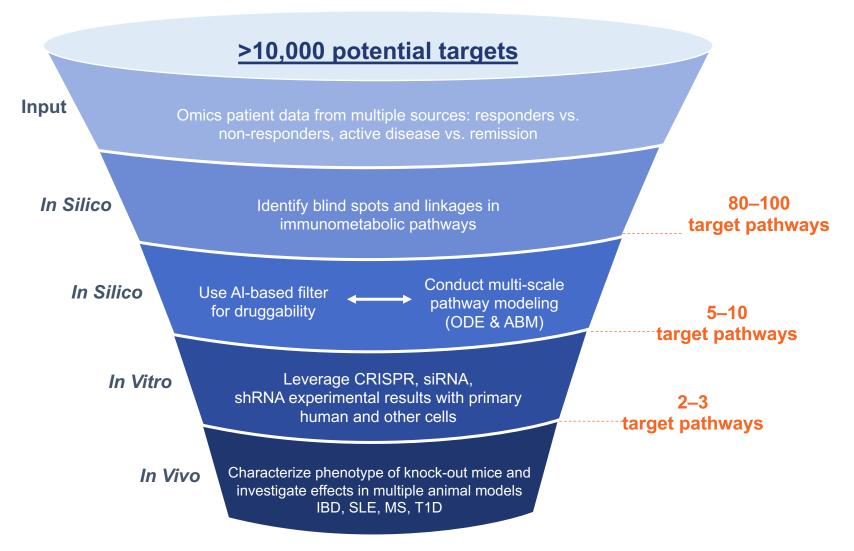
VP of Clinical Development & Medical Affairs

Clinical gastroenterologist and internal medicine expert with over 40 years of experience in CD and UC Phase 2 & 3 clinical trials.



LANCE[®] Advanced A.I. Precision Medicine Platform

<u>Identifies novel therapeutic targets and biomarkers</u> with significant potential to exert immunoregulatory control of patients with autoimmune diseases, and <u>prioritizes product candidates</u> based on PK and the types of immune responses they elicit





Pipeline: Inflammation & Immunology Candidates with Novel Mechanisms

Pathway	Program*	Indication	Discovery	Preclinical	Phase I	Phase II	Phase III	Collaborators
		Ulcerative Colitis *						
		Crohn's Disease *						
	Omilancor	Eosinophilic Esophagitis						
		Psoriasis						
LANCL2		Atopic dermatitis						
		Lupus						
	LABP-104	Rheumatoid Arthritis						
	LABP-111	NASH						
		Type 1 Diabetes						
	NX-13	Ulcerative Colitis *						
		Crohn's Disease *						
	LABP-66	Multiple Sclerosis						
NLRX1		Alzheimer's Disease						
		Asthma						
	LABP-73	COPD						
	LABP-69	Diabetic Nephropathy						
PLXDC2		Rheumatoid Arthritis						e

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* Development and potential commercialization rights in China licensed to LianBio.





Territory Deal Terms	•	Received \$18 million upfront from LianBio Additionally, eligible to receive up to \$200 million for development and commercialization milestones, as well as tiered low double-digit royalties
Additional Info	•	LianBio will aid the recruitment efforts for future global Phase 3 trials of omilancor and NX-13 in Greater China and other select Asian markets



P3 UC patient

<u>3Q'21</u>	<u>4Q'21</u>	<u>1Q'22</u>	<u>2Q'22</u>	<u>2H'22</u>
 UEGW abstract acceptance 	• NX-13 IBS IND • LABP-104 RA IND	 Omilancor Psoriasis IND 	• LABP-69 RA IND	• LABP-73 Asthma IND
2Q'21 Results	 LABP-104 RAIND LABP-104 Lupus IND 	Omilancor Atopic Dermatitis IND	• LABP-66 MS IND	LABP-69 Diabetic nonbronathy
Lead Academic R&D Collaborations	• LABP-104 P1 1 st	 NX-13 P1b UC topline data 	• LABP-66 AD IND	nephropathy IND
 LANCE[®] Platform Update 	human dosed3Q'21 Results	• 4Q'21 & FY'21 Results	 Omilancor P2 CD topline data 	• 2Q'22 Results
	Omilancor ODD EoE		• LABP-104 P1 topline data	
	 Enroll 1st omilancor 			

• 1Q'22 Results



Omilancor Overview



Indications

- Ulcerative Colitis (UC), Crohn's disease (CD) and Eosinophilic Esophagitis (EoE)
- A topical form is also in development for psoriasis and atopic dermatitis



- Novel MoA
- Activates LANCL2 pathway, a membrane receptor that has been shown to modulate immunological mechanisms



Orally active and gutrestricted, allowing target engagement within the GI tract without systemic distribution

Recent & Upcoming Milestones

- Successful outcome of an End-of-Phase 2 meeting in mild-to-moderate active UC with the U.S. FDA
- Initiated Phase 2 trial in moderate-to-severe CD in May 2021, results expected 1H 2022
- Expects to initiate a Phase 1b trial in EoE in 1H 2022

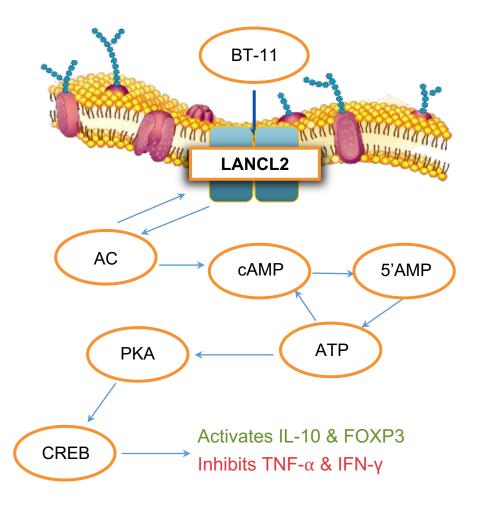


Omilancor Multimodal MoA:

- Decreases the production of inflammatory mediators tied to IBD (TNFα, IFNγ, MCP1, IL-6, and IL-8)
- Increases anti-inflammatory molecules in Tregs that protect from autoimmunity (IL-10, FOXP3)

Omilancor generates suppressive regulatory CD4+ T cells (Tregs) that restore and maintain immune tolerance in the GI tract:

- Decreases proliferation and differentiation of effector CD4+ T cells (Th1 and Th17)
- Supports the reduction of IL-8 and chemokine-dependent neutrophil influx





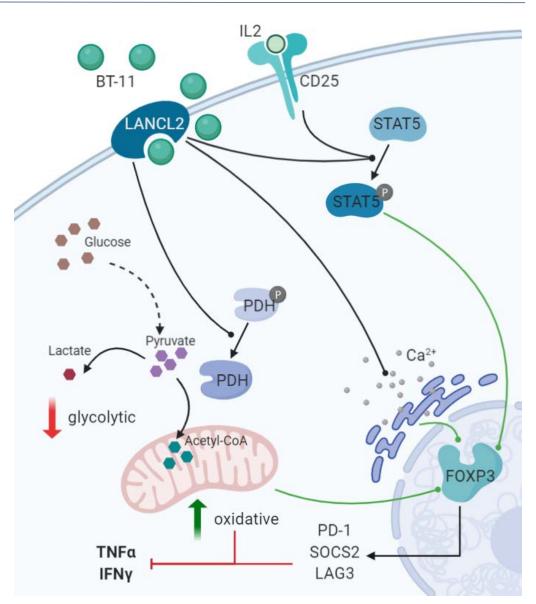
Lanthionine Synthetase C-Like 2 (LANCL2):

 Multipronged mechanism of action targeting known immunological targets downstream tied to autoimmune diseases, including IBD

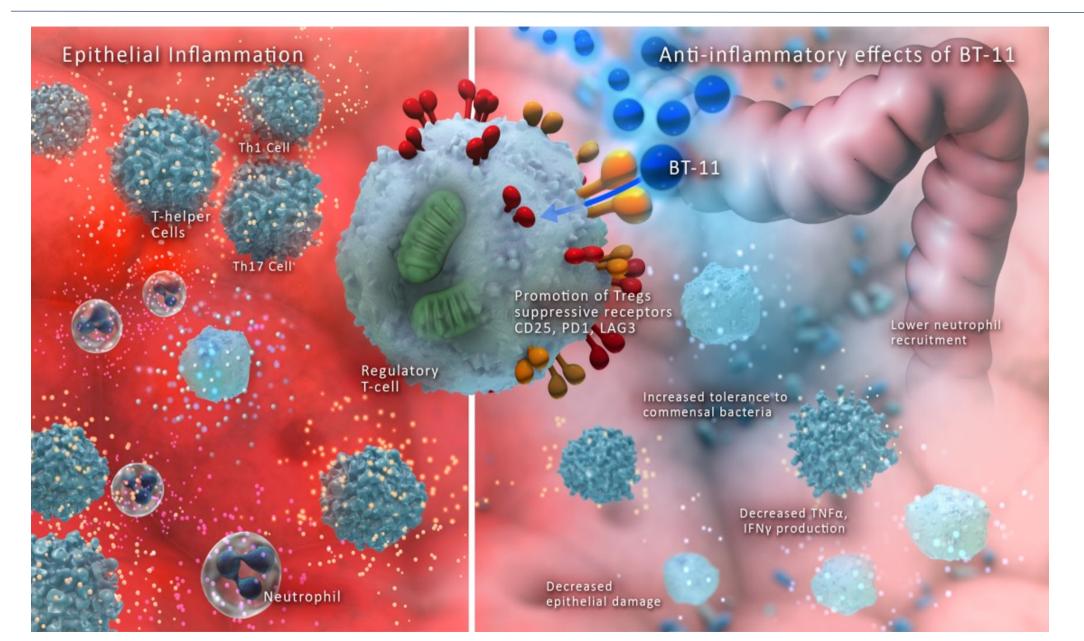
Anti-Inflammatory Effects of omilancor:

- Enhances CD25/STAT5 signaling to support the stable differentiation of regulatory CD4+ T cells with greater antiinflammatory functionality
- Increases PDH activity, resulting in increased oxidative metabolism supporting FOXP3 stability
- Downregulates glycolytic pathways associated with TNFα production and effector CD4+ T cells, including production of lactate and over-expression of ENO1
- Increases suppressive effects of Tregs due to enhanced immune checkpoint surface markers (LAG3 and PD-1)

Leber, A., et al. Inflammatory Bowel Diseases. 2018 24:1978-1991. Carbo, A., et al. J Med Chem. 2016 Nov 23;59(22):10113-10126. Leber, A., et al. J Immunol, 2019.



Omilancor Selectively Activates Novel Target LANCL2 in the Gut





- ✓ 17-20% clinical remission rate and 9% placebo-adjusted rate with biologic-like activity
- ✓ Well-tolerated with a clean safety profile
- ✓ Statistically significant immunological and biomarker results
- ✓ Conveniently administered via oral once-a-day dosing
- ✓ Gut-Restricted

* The trial was a proof-of-concept study not powered for statistical significance



	Placebo (n = 66)	Omilancor 440 mg (n = 66)	Omilancor 880 mg (n = 66)
Clinical remission	22.7%	30.3%	31.8%
P value	-	0.340	0.235

Induced placebo-adjusted clinical remission rates of up to 31.8% at week 12

Primary endpoint definition	Clinical remission at Week 12 as defined by stool frequency of 0 or 1, rectal bleeding of 0 and Mayo endoscopic subscore of 0 or 1
Analysis population	All randomized subjects
Analysis method	Stratified Cochran-Mantel-Haenszel Method
Planned stratifications	Previous biologic usage Baseline Mayo score greater than median value (7) Subjects with SF ≥ 2, RB ≥ 1, MES ≥ 2



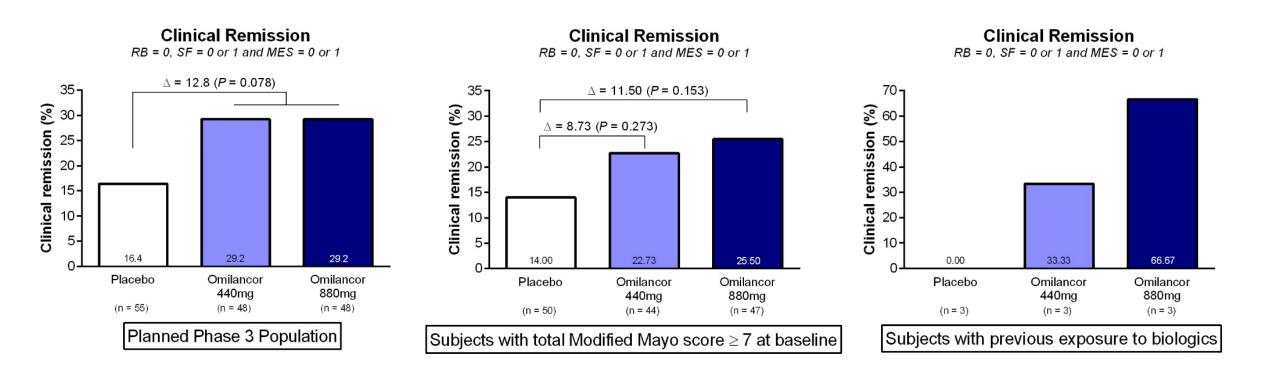
	Trial Name	Remission Rate	Placebo Adjusted Rate	Endpoint	Safety
Omilancor	BT-11-201	31.8 (all subjects) 66.7 (biologic exposed)	9.1 (all subjects) 66.7 (biologic exposed)	3-component remission	No identified trends in AE profiles

	Trial Name	Remission Rate	Placebo Adjusted Rate	Endpoint	Safety
Filgotinib	Selection	26.1 (biologic naïve) 11.5 (experienced)	10.8 (biologic naïve) 7.3 (experienced)	3-component remission	Class warnings for thrombosis, Herpes zoster and serious infection. Leukopenia
Ozanimod	True North	18.4	12.4	3-component remission	CV risk, macular edema, LFT elevations
Vedolizumab (ENTYVIO)	Gemini 1	16.9	11.5	Total Mayo score ≤ 2	Slightly increased risk of infection. Severe hepatitis in small numbers of patients
Adalimumab (HUMIRA)	Ultra 1	18.5	9.3	Total Mayo score ≤ 2	Increased risk for cancers and infections.
Tofacitinib (XELJANZ)	Octave 1	18.5	10.3	Total Mayo score ≤ 2	Class warnings for thrombosis, Herpes zoster and serious infection. Leukopenia

Filgotinib (Gilead press release May 2020); Ozanimod (Sandborn, W., et al. 2016); Vedolizumab (Feagan, B., et al. 2013); Adalimumab (Reinisch, W., et al. 2011, Sandborn, W., et al. 2012); Tofacitinib (Sandborn, W., et al. 2017, D'Amico, F., et al. 2019)

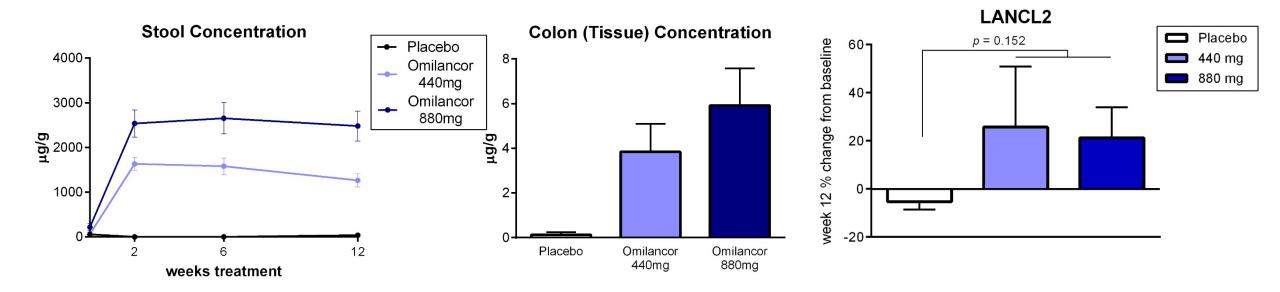


Robust Responses in Disease and Biologic Exposed Subjects



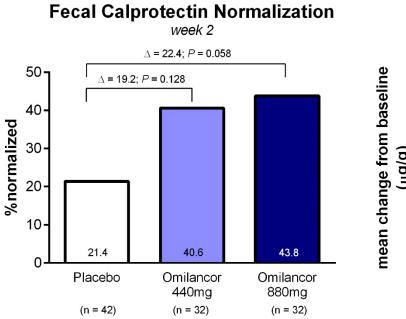


PK/PD results validate sufficient target engagement at both doses

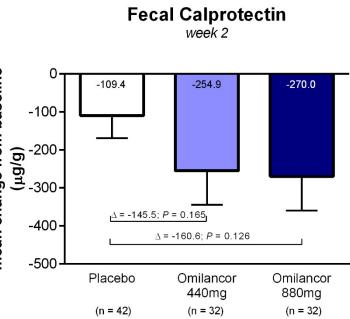


- Omilancor stool concentrations stable between 2 and 12 weeks of dosing
- No significant difference in stool concentrations between UC patients after 12 weeks and healthy volunteers after 7 days
- Stool and tissue concentration scale in a near dose-proportional manner
- 440 and 880 mg doses effectively clear therapeutic threshold, engage LANCL2, and increase LANCL2 expression in the colon





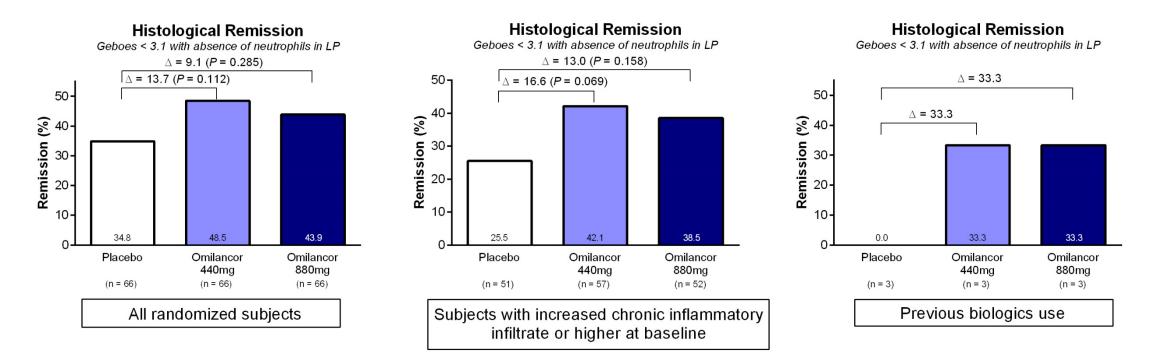
Fecal calprotectin considered normalized at < 250 ug/g Inclusive of subjects with abnormal levels at baseline



	Rate	Placebo Adjusted
Normalization < 250 u	g/g	
Omilancor (440 mg) <i>Week 2</i>	40.6	19.2
Tofacitinib Week 12	29.0	N/A
Ustekinumab Week 8	30.3	8.5
Normalization < 150 u	g/g	
Omilancor (440 mg) <i>Week 2</i>	33.3	15.1
Vedolizumab Week 6	29.3	12.5



Improvement in Histological Remission



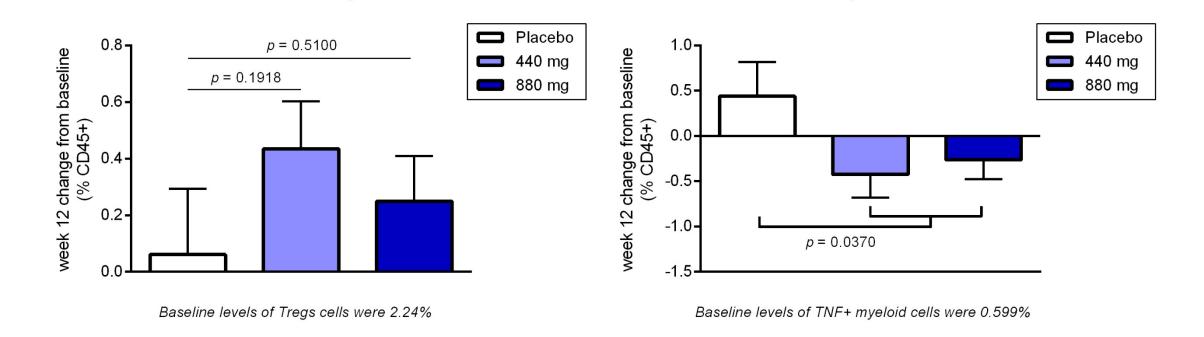
- Geboes score < 2B.1 is indicative of:
- No ulceration, erosion, or granulation
- Absence of neutrophils in the epithelium

- No crypt destruction
- No elevation of neutrophils in the lamina propria
- Histological remission has been associated with a >40% increase in patients remaining symptom free, as well as a lower rate of relapse, hospitalization, and colorectal cancer in previous meta-analyses

TNF+ Myeloid Cells

Colonic Tregs, TNF-producing Cells, TNF and IL-6 Concentrations

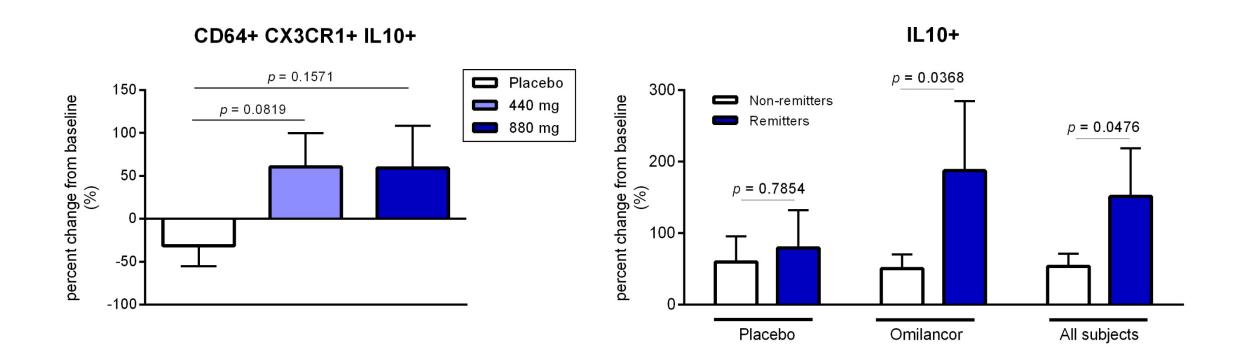
CD25+ Tregs



Omilancor induced increased levels of regulatory CD4+ T cells and myeloid cells, increased IL-10 expression in remitters, decreased TNF expressing myeloid cells, decreased IL-6 colonic concentrations by 55% and TNF concentrations by 44% relative to patients receiving placebo.



Increase in Colonic IL10+ Cells Associated with Low Disease Activity



CD64+ and CX3CR1+ regulatory macrophages are key producers of IL10 and were associated with lower disease activity scores preclinically after omilancor treatment (p = 0.0378)



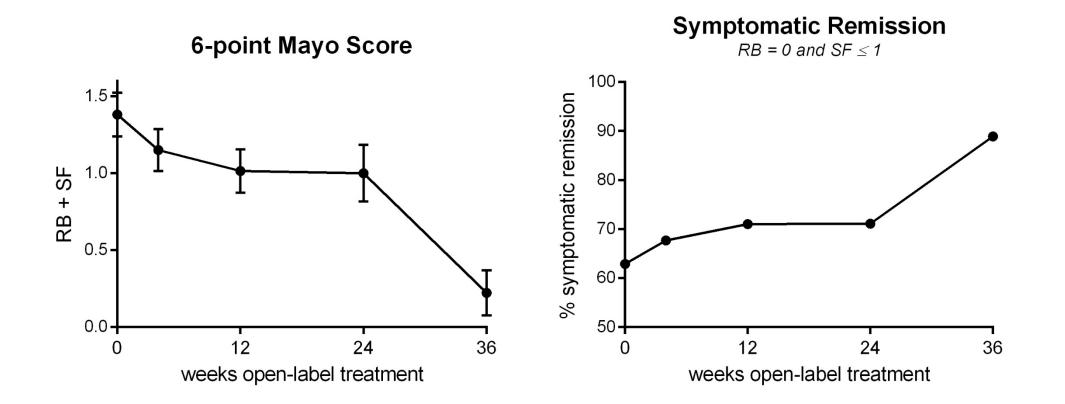
No Emergent Trends in AE Profiles in UC Patients Relative to Placebo

	Placebo (n = 66)	Omilancor 440 mg (n = 66)	Omilancor 880 mg (n = 66)
Subjects reporting ≥ 1 AE – no. (%)	20 (30.3%)	18 (27.3%)	20 (30.3%)
Total AEs – possibly related or higher	10	16	11
Total AEs – definitely related	0	0	0
Infections and Infestations	5 (7.6%)	4 (6.1%)	5 (7.6%)
Lymphopenia	1 (1.5%)	0 (0%)	0 (0%)
AEs experienced in ≥ 5% of subjects			
Ulcerative colitis worsening	5 (7.6%)	7 (10.6%)	7 (10.6%)

4 SAEs were reported during the induction phase. All were judged to be not related to study treatment:

- Worsening of UC (2)
- Calcaneus fracture
- Amoebiasis





Patients treated with omilancor maintain low Mayo scores and UC symptoms beyond 1 year of treatment with nearly 90% of patients achieving remission thresholds in stool frequency and rectal bleeding after 36 weeks of open-label treatment.



Positive Outcome from End-of-Phase 2 meeting with FDA

 Landos and the FDA agreed on key elements of pivotal global Phase 3 program that are necessary to prepare for regulatory approval

PACIFY

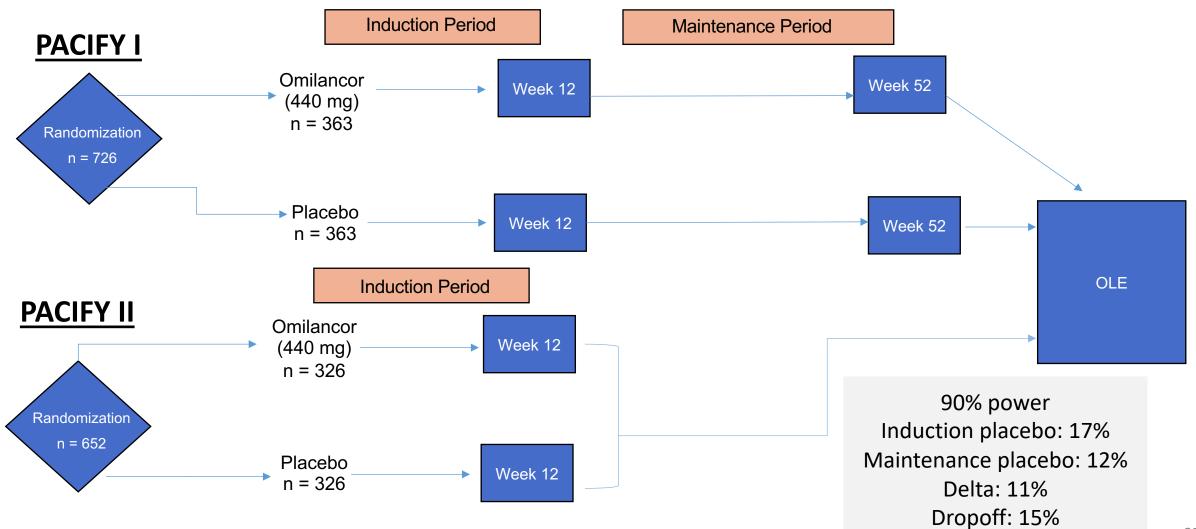
Phase 3 Design

- Total of 1,378 patients with mild-to-moderate active UC across two trials
- Trials will evaluate one dose (440 mg) versus placebo
- Primary endpoints include:
 - Clinical remission at Week 12
 - Clinical remission at Week 52
- Mucosal healing rate at Week 12 defined by endoscopic subscore of 0 or 1 with Geboes histologic index < 3.1 (label: mucosal healing)



PACIFY Phase 3 Pivotal Study Design of Omilancor in UC

Aim to enroll a total of 1,378 patients



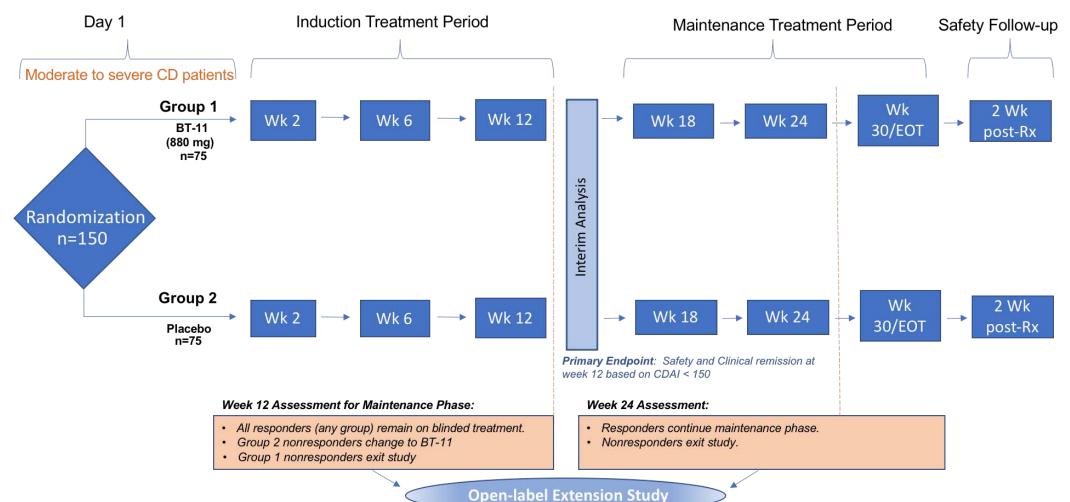
PACIFY Phase 3 Omilancor Study (PACIFY) Enrollment Criteria

- Male and female subjects aged 18 to 75 years, inclusive
- Diagnosis of UC for at least 3 months prior to screening
- Mild to moderate UC, as defined by a modified Mayo Score greater than or equal to 4 at baseline with a MES equal or greater than 2 and a <u>rectal bleeding subscore of at least 1</u>. Offering the broadest possible label (90% of UC patients with active disease).
- If subjects have previously received biologic therapy for UC (i.e., tumor necrosis factor [TNF] antagonists, vedolizumab or ustekinumab), they must have a washout period of 8 weeks prior to randomization, and any previous failure of biologic treatment is limited to only one class of biologic. <u>Controlled stratification to ensure a minimum of 20% of the overall population and a</u> <u>maximum of 40%.</u>
- If subjects are receiving the following UC treatments, they must be on a stable dose for at least 1 month prior to randomization: 5aminosalicylates (5-ASAs) (not exceeding 4.8 g per day), oral corticosteroids (not exceeding prednisone 20 mg, budesonide 9 mg, or equivalent)
- If subjects are receiving bile-salt sequestrant, they must be on a stable dose for at least 3 months prior to randomization

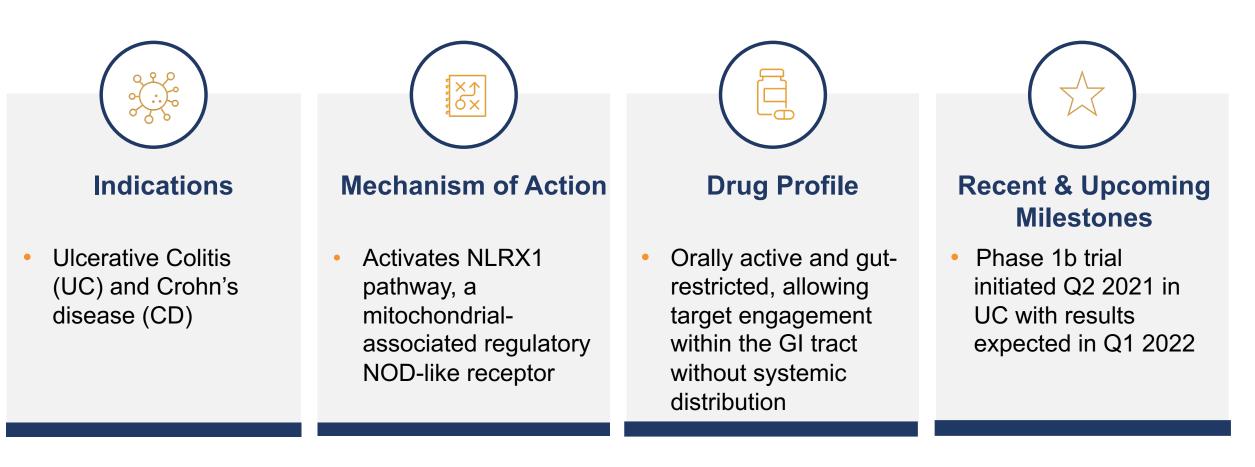


Omilancor Phase 2 Study Design in CD

Results expected in 1H 2022







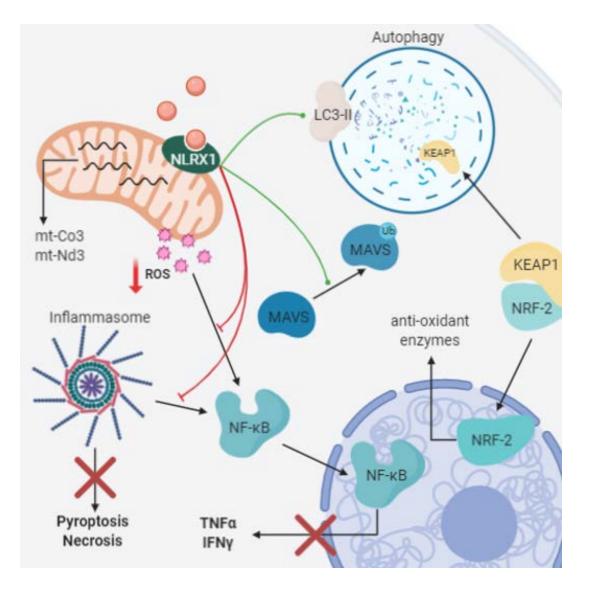


NX-13 multi-modal mechanism of action by activating the NLRX1 pathway

- Decreases cellular reactive oxygen species
- Antagonism of NF-kB activation resulting in downregulation of myeloid cell and T cell derived cytokines like TNF and IFNγ
- Decreases inflammasome formation (NLRP1 and NLRP3)
- Decreases differentiation of effector CD4+ T cells

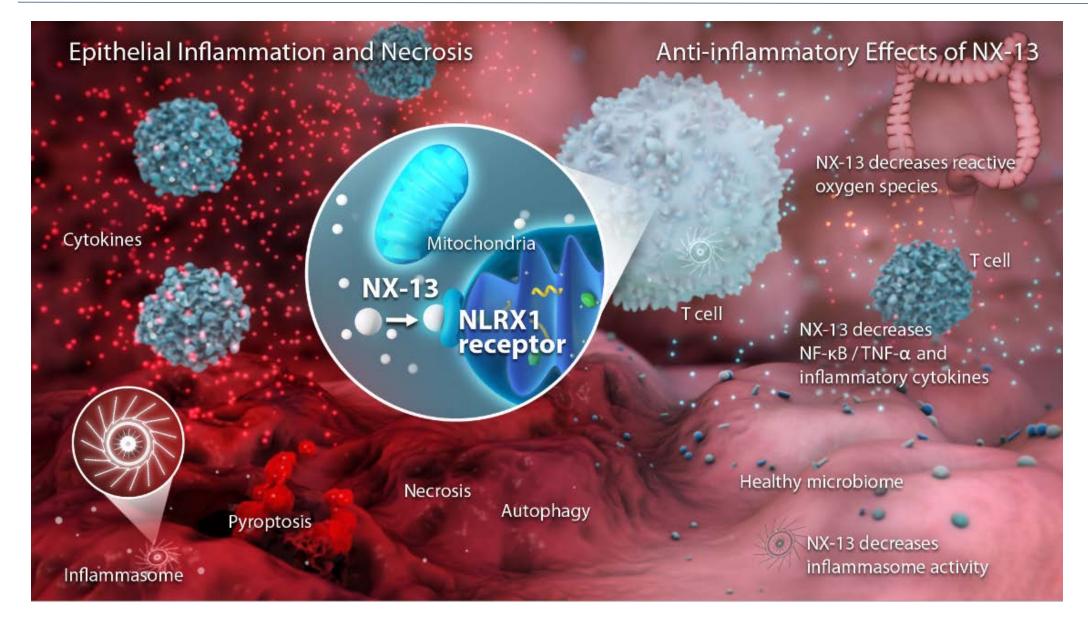
NLRX1 activation in intestinal epithelial cells increases mitochondrial metabolism and prevent oxidative stress

 Favors cell survival, the maintenance of barrier integrity and the expression of tight junction proteins





NX-13 Selectively Activates Novel Target NLRX1 in the Gut



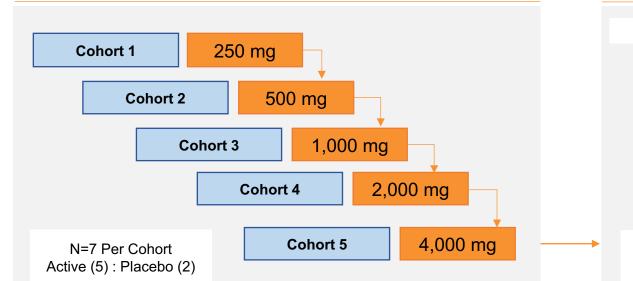


NX-13 Phase 1a Results: MTD 10-fold greater than anticipated therapeutic dose

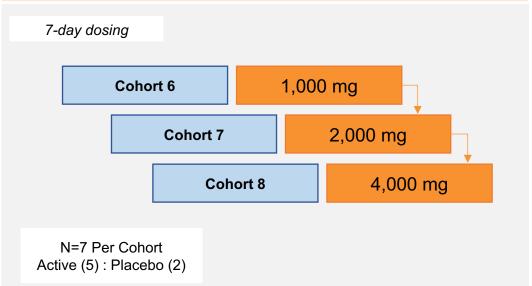
No serious adverse events

Single Ascending Dose

- GI concentrations >2500-fold peak plasma concentrations
- 56% of subjects dosed with NX-13 brought fecal calprotectin to at or below detection limit after single oral dose
- Mean levels of FCP at all NX-13 tested dose levels on d 2 near that of omilancor 500 mg (12.3 μg/g)
- All primary and secondary endpoints in safety and tolerability were achieved

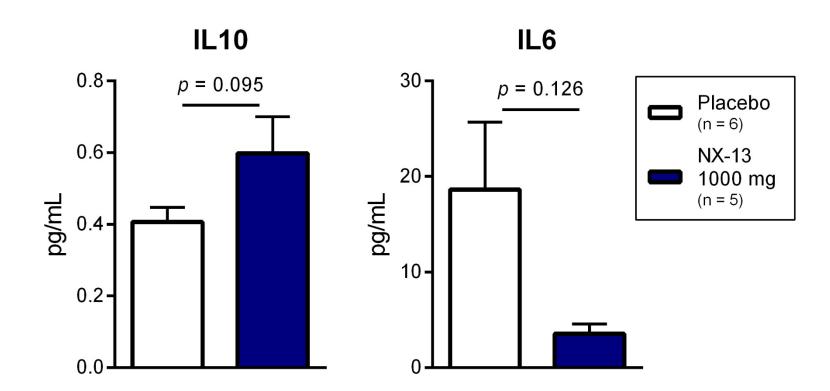


Multiple Ascending Dose





NX-13 Promotes Detectable Changes in Cytokines in NHVs



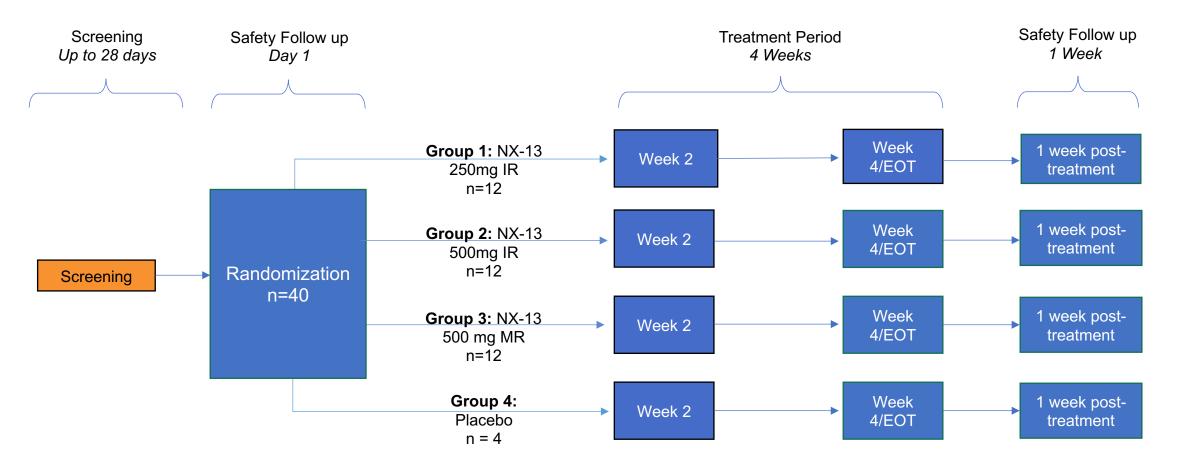
Serum cytokines from normal healthy volunteers dosed with 1000 mg (lowest dose tested the MAD) or placebo for 7 days results in a nearly 50% increase in IL-10 and over 5-fold reduction in IL-6 relative to placebo



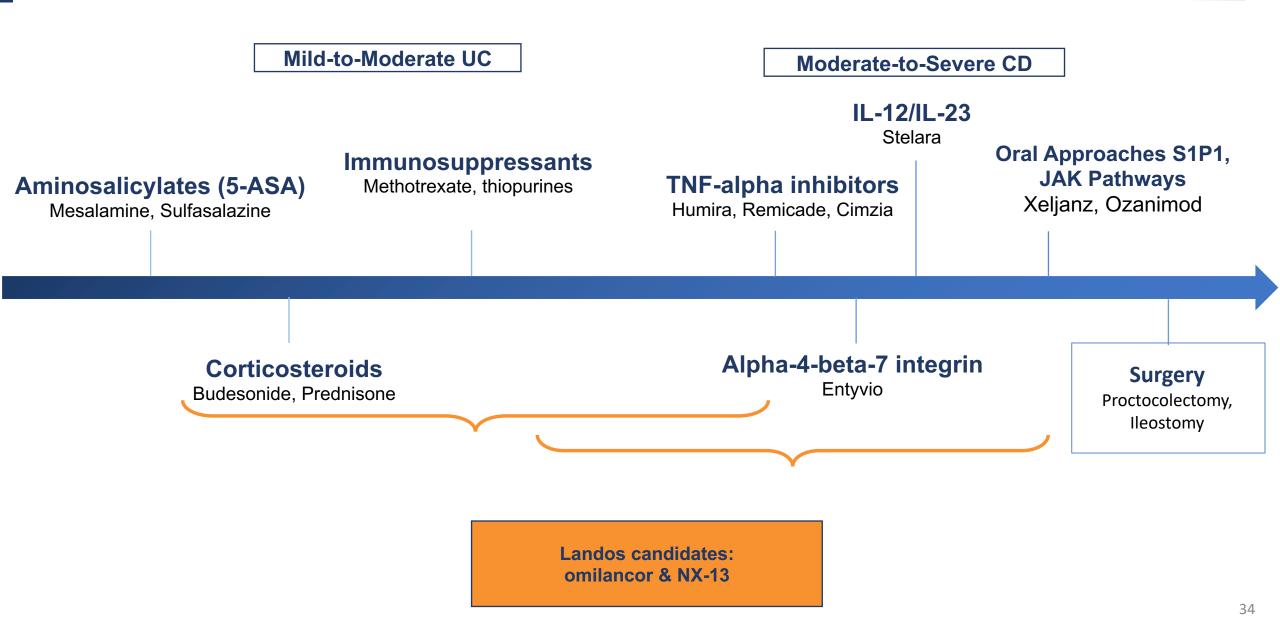
NX-13 Phase 1b Trial Design in UC

• **Primary endpoints:** Evaluate safety and pharmacokinetics of multiple dose levels



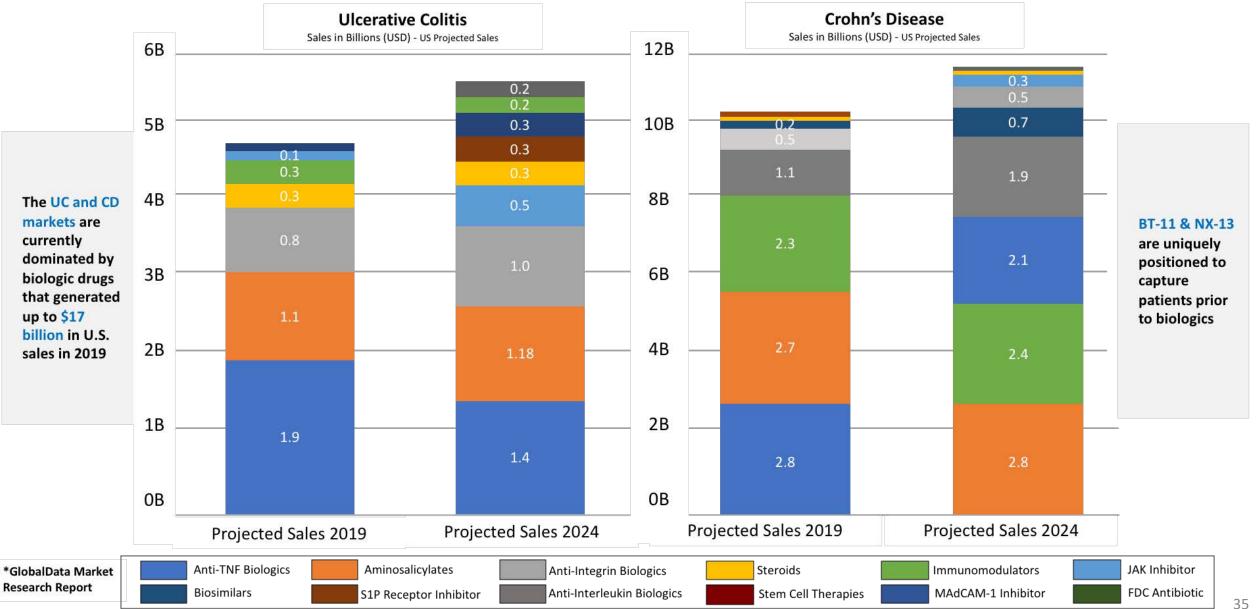








UC and CD Sales – 2019 and Forecasted 2024*







Landos is well-positioned to develop a franchise of new oral, first-in-class therapeutics for autoimmune diseases



Innovative LANCE[®] Advanced A.I. platform yielding novel targets (LANCL2, NLRX1, PLXDC2), biomarkers and lead product candidates with strong intellectual property foundation (>100 patents)



Extensive animal pharmacology, mechanism of action, toxicology, benign safety profile and human translational and clinical data on lead candidates (Phase 3-ready omilancor and NX-13)



Filed at least 3 INDs in 2021 for new product candidates



Committed leadership team with autoimmune disease and biopharma industry experience in effectively executing clinical development plans



Strong financial position with cash and equivalents of \$115 million and up to \$200M in milestone payments committed by LianBio partnership

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Omilancor (BT-11) & LANCL2 Publications

Leber, A., Hontecillas, R., Zoccoli-Rodriguez, V., Colombel, J-F., Chauhan, J., Ehrich, M., Farinola, N., Bassaganya-Riera, J. Safety, tolerability and PK of BT-11, an oral, gut-restricted LANCL2 agonist investigational new drug for IBD: A randomized, double-blind, placebo-controlled Phase 1 clinical trial, Inflammatory Bowel Diseases 2019. PMID: 31077582

Leber, A., Hontecillas, R., Zoccoli-Rodriguez, V., Chauhan, J., Bassaganya-Riera, J. Oral treatment with BT-11 ameliorates IBD by enhancing Treg responses in the gut. J Immunol, 2019. PMID: 30760618 DOI: <u>10.4049/jimmunol.1801446</u>

Leber, A., Hontecillas, R., Zoccoli-Rodriguez, V., Ehrich, M., Davis, J., Chauhan, J., Bassaganya-Riera, J. Nonclinical toxicology and toxicokinetic profile of an oral LANCL2 agonist, BT-11. Int J Tox, 2019. PMID: 30791754 DOI: <u>10.1177/1091581819827509</u>

Leber A., Hontecillas R. Zoccoli-Rodriguez V, Bassaganya-Riera J. Activation of LANCL2 by BT-11 Ameliorates IBD by Supporting Regulatory T Cell Stability through Immunometabolic Mechanisms. Inflammatory Bowel Diseases. 2018 24:1978-1991. PMID: 29718324 PMCID: <u>PMC6241665</u>

Carbo A., Gandour RD, Hontecillas R, Philipson N, Uren A, Bassaganya-Riera J. *An N,N Bis(benzimidazolylpicolinoyl)piperazine (BT-11): A Novel LANCL2-Based Therapeutic for Inflammatory Bowel Disease*. J Med Chem. 2016 Nov 23;59(22):10113- 10126. PubMed PMID: 27933891.

Bissel P., Boes K, Hinckley J, Jortner BS, Magnin-Bissel G, Were SR, Ehrich M, Carbo A, Philipson C, Hontecillas R, Philipson N, Gandour RD, Bassaganya-Riera J. *Exploratory Studies With BT-11: A Proposed Orally Active Therapeutic for Crohn's Disease*. Int J Toxicol. 2016 Sep;35(5):521-9. doi: 10.1177/1091581816646356. PubMed PMID: 27230993; PubMed Central PMCID: <u>PMC5033715</u>.



Leber, A., Hontecillas, R., Zoccoli-Rodriguez, V., Bienert, C., Chauhan, J. and Bassaganya-Riera, J. Activation of NLRX1 by NX-13 ameliorates IBD through immunometabolic mechanisms in CD4+ T cells. J Immunol, PMID: 31694910

Leber, A., Hontecillas, R., Zoccoli-Rodriguez, V., Ehrich, M., Chauhan, J. and Bassaganya-Riera, J. Exploratory Studies with NX-13: Oral toxicity and pharmacokinetics in rodents of an orally active, gut-restricted first-in-class therapeutic for IBD that targets NLRX1. Drug and Chemical Toxicology, PMID: 31650868

Leber, A., Hontecillas, R., Tubau-Juni, N., Zoccoli-Rodriguez, V., Abedi, V., and Bassaganya-Riera, J. NLRX1 Modulates Immunometabolic Mechanisms Controlling the Host-Gut Microbiota Interactions during Inflammatory Bowel Disease. Front Immunol, 2018. PMID: 29535731

Leber, A., Hontecillas, R., Tubau-Juni, N., Zoccoli-Rodriguez, V., Hulver, M., McMillan, R., Eden, K., Allen, IC., and Bassaganya-Riera, J. NLRX1 regulates effector and metabolic functions of CD4+ T cells. J Immunol, 2017 PMID: 28159898