LANDOS BIOPHARMA

January 2024

Clinical stage biopharmaceutical company focused on developing first-in-class, oral therapeutics for autoimmune disease

Corporate Overview

Forward Looking Statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, contained in this presentation, including statements regarding our strategy, future operations, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “predict,” “project,” “target,” “potential,” “will,” “would,” “could,” “should,” “continue,” and similar expressions are intended to identify forward looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements are subject to a number of risks, uncertainties and assumptions. Risks regarding our business are described in detail in our Securities and Exchange Commission filings, including in our Annual Report on Form 10-K for the year ended December 31, 2022. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. The forward-looking statements contained in this presentation reflect our current views with respect to future events, and we assume no obligation to update any forward-looking statements except as required by applicable law.

This presentation includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties as well as our own estimates of potential market opportunities. All of the market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. Industry publications and third party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our product candidates include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reasonable, no independent source has verified such assumptions.

Landos Biopharma is Singularly Focused on Advancing NX-13 Clinical Development in UC

NX-13

Potentially transformative oral, once-daily therapy for moderate to severe ulcerative colitis (UC)

- Immunometabolism addresses multiple causes of UC through novel, bimodal MOA targeting NLRX1
- Promising safety profile and early signals of clinical improvement in Phase 1b study
- NEXUS Phase 2 proof of concept trial initiated Q2 2023; Top-line results expected Q4 2024

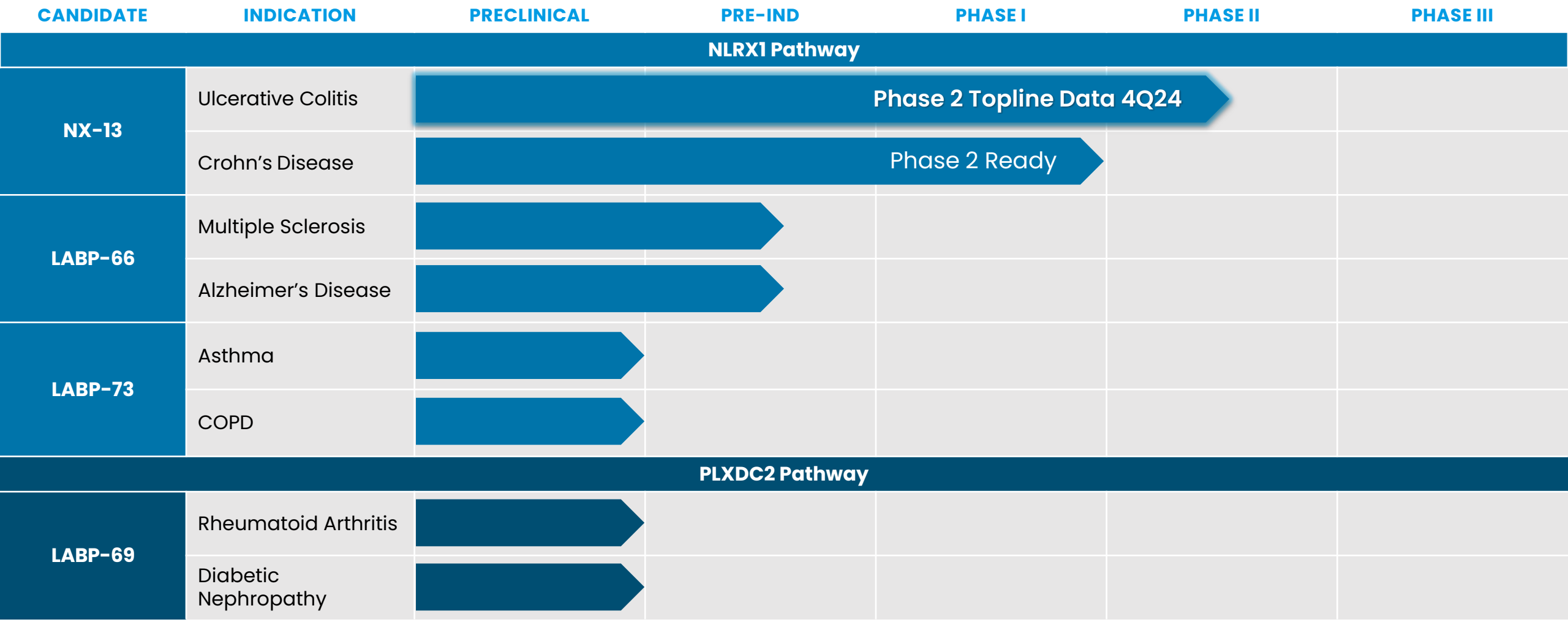
Experienced management team with significant gastroenterology, immunology and drug development expertise

Strong IP position

Significant optionality portfolio-wide for partnerships, development & investment

Capital efficient with sufficient cash to fund planned operations into first half of 2025

Landos Pipeline Focused on Novel, Immunometabolic Targets



Significant **optionality** portfolio-wide for additional *indications, partnerships, development & future investment*

Note: The Company is focused on advancing NX-13 clinical development in UC; Development and potential commercialization rights of NX-13 in China and select Asian markets licensed to LianBio; Research collaboration with Johns Hopkins University School of Medicine focused on advancing LABP-66 as a potential oral, once-daily therapy for MS and other disorders.

Therapeutic Challenges Present Large Unmet Need for UC Patients

Ulcerative Colitis

Chronic colonic inflammation with rectal bleeding and diarrhea

Patients experience relapsing (flares) and remitting episodes of disease severity

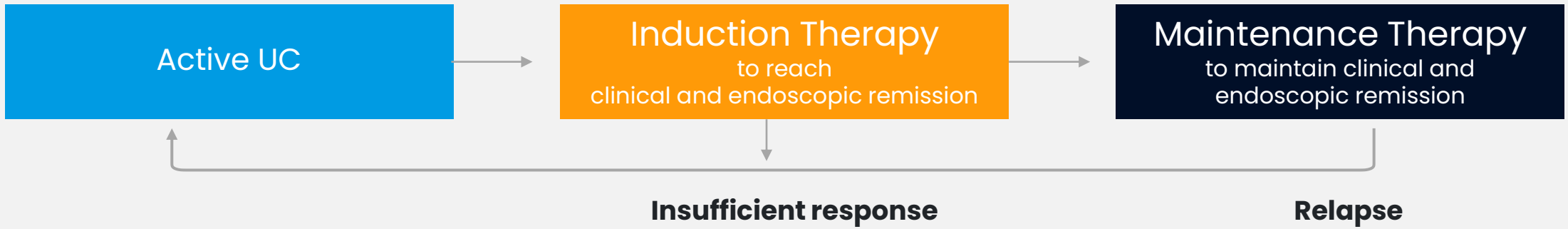
Therapeutic Goals

Induce and maintain steroid-free symptom relief
Healing of colon lining
Improved quality of life

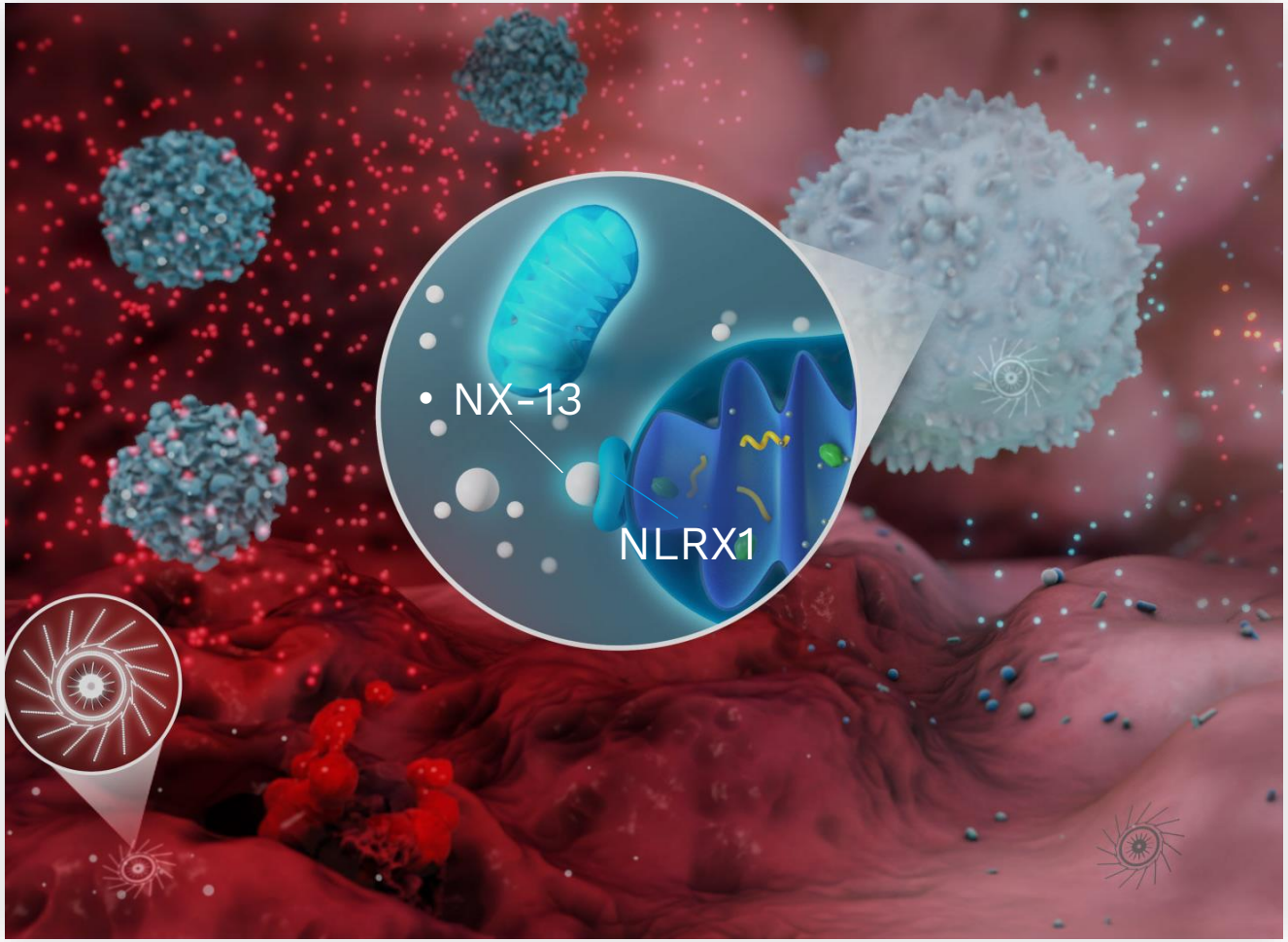
Therapeutic Challenges

Limited Efficacy: many patients do not respond or lose response to treatment

Safety Risks: infections, cancer, blood clots or cardiac events



NX-13 Unique Bimodal MOA Activates NLRX1 Pathway for Treatment of Ulcerative Colitis (UC)



NLRX1: the NEXUS of Immunometabolism

Mitochondrial-associated anti-inflammatory NOD-like receptor (NLR)

- Direct metabolic role in mitochondria
- Direct anti-inflammatory role as NLR

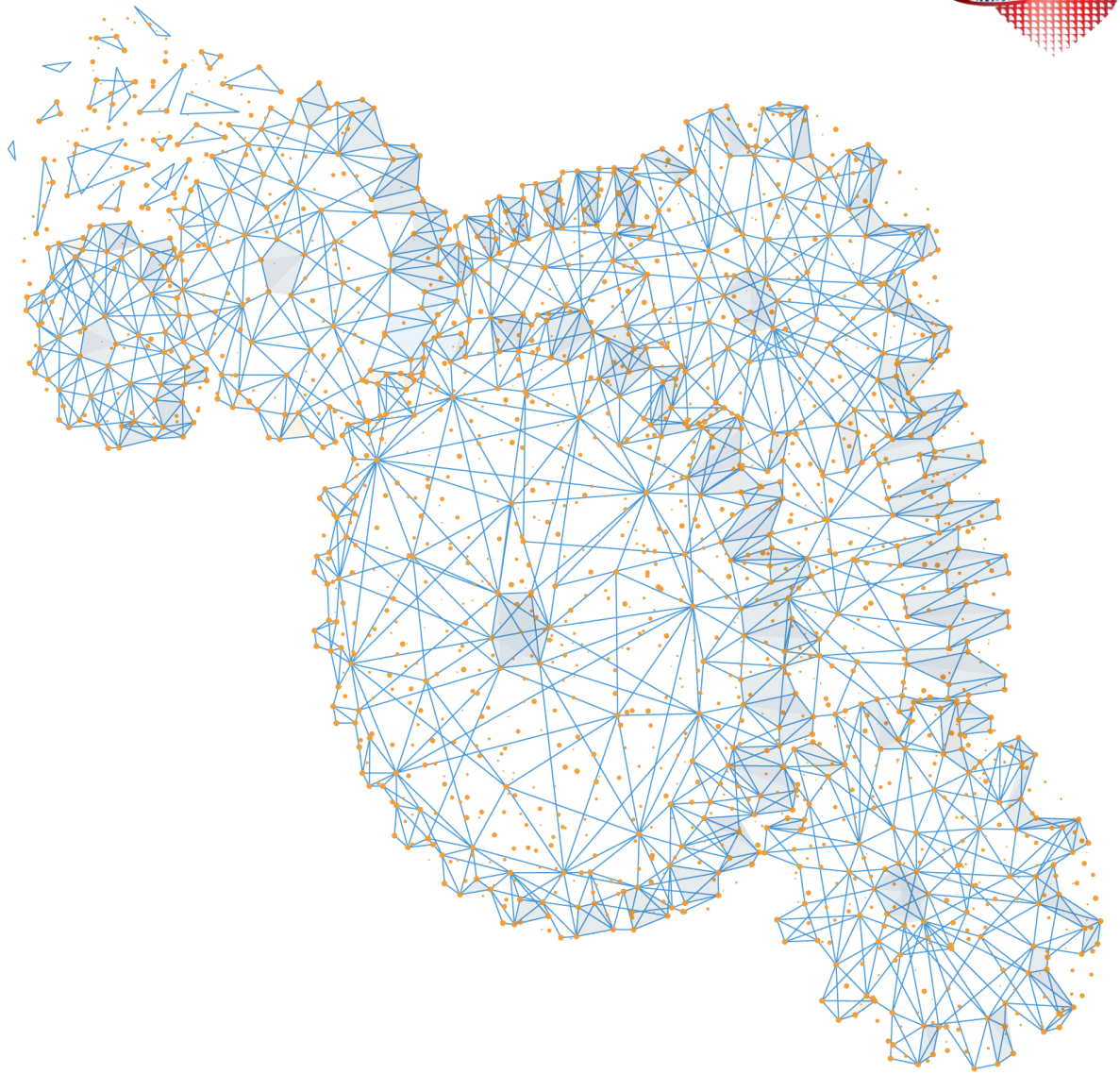
NX-13 is an oral, once-daily therapy being developed for moderate-to-severe UC

Novel NLRX1 agonist

Bimodal MOA aims to reduce reactive oxygen species **intracellularly** and inflammatory pathways **extracellularly** to reduce UC symptoms and flares

Leber et al. *J Immunology* 2019

Mechanism of Action



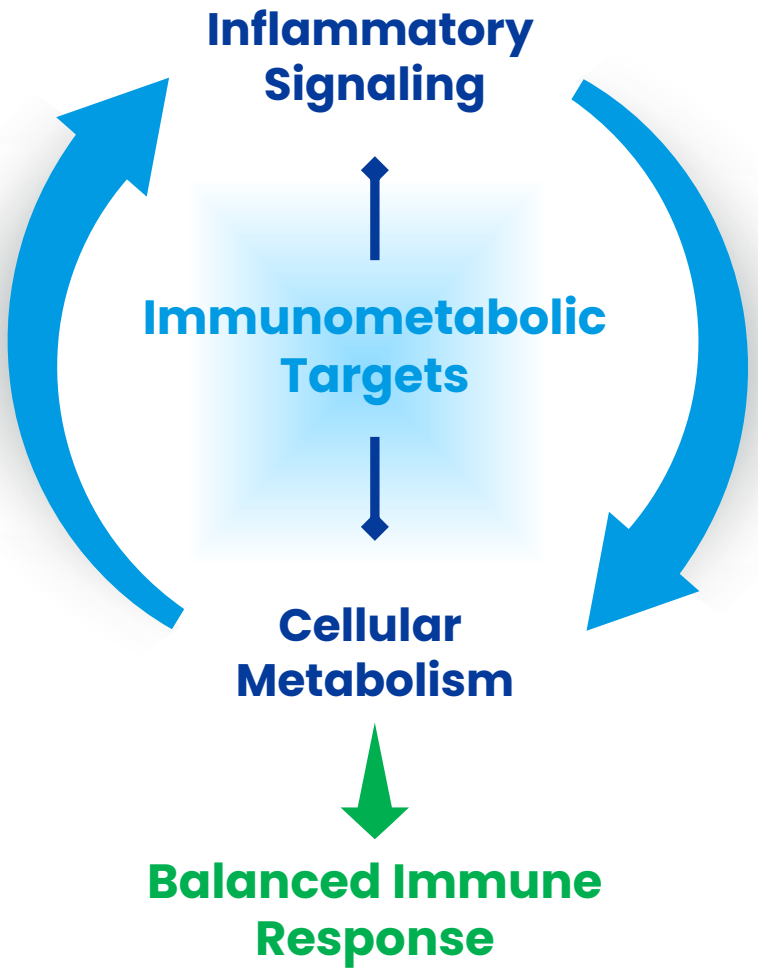
Immunometabolism May Play a Critical Role in Breaking the Therapeutic Ceiling of Current Treatments

Immunometabolism

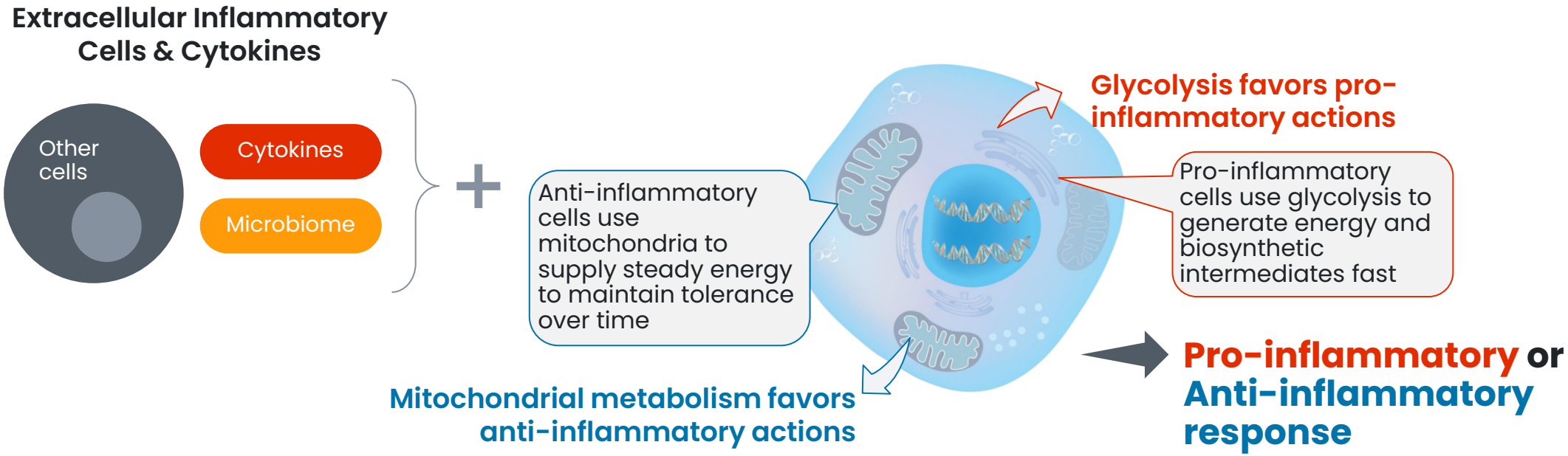
- Cellular metabolism is a central regulator of the activation and function of immune cells
- Dual effects to control both the intracellular metabolic environment and extracellular inflammatory response
  - Addresses the **intracellular** energy source and requirements of an immune response to shift how a cell responds to extracellular signals
  - Directly affects **extracellular** inflammatory signals

Immunometabolic targets
work to restrict entry into the inflammatory cascade and inflammation cycle to maintain (restore) balance

Inflammatory Response



Immune Function is Intimately Tied to the Intracellular Environment of Processing & Using Energy



- The intracellular immunometabolic state (the processing & using of energy through glycolysis or mitochondrial metabolism) provides a baseline, and can affect cellular response as pro- or anti-inflammatory
- Many proteins, molecules & substrates have dual action on cellular metabolism AND immune function
- The underlying intracellular (internal) immunometabolic environment can affect the response of multiple cells involved in UC and gut homeostasis (including T cells, antigen presenting cells, and epithelial cells)

O'Neill et al,. *Nat Rev Immunol* 2016; Chi, *Cell & Mol Immuno* 2022

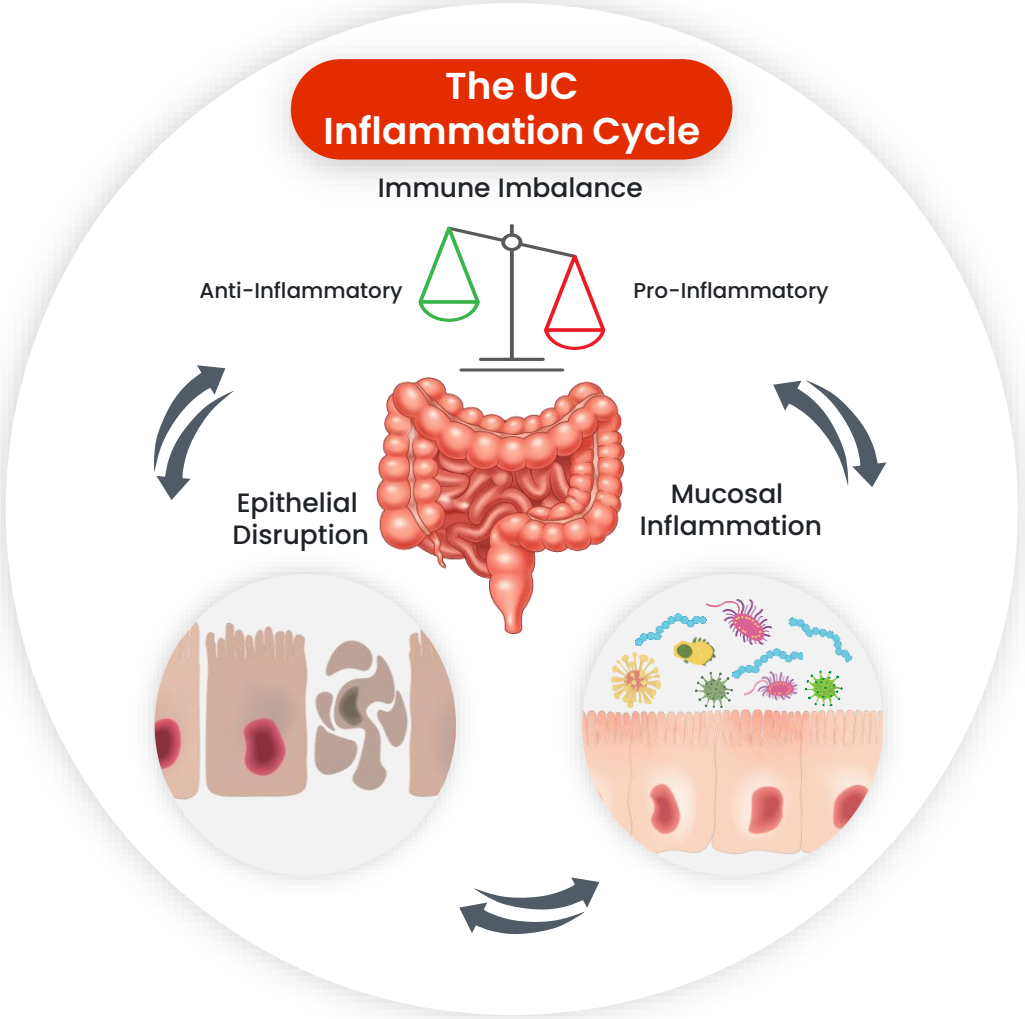
The Role of Immunometabolism in Immunology & UC

Immunometabolic response in inflammatory diseases in the immunology universe & UC:

- Abnormal or imbalanced immune activation of the response resulting in over abundance of pro-inflammatory cells & cytokines with lack of anti-inflammatory control.
- In UC, Pathogens cross the damaged epithelial barrier, activating immune response
- Immune activation is energetically costly, requiring the cell to use fast & inefficient glycolytic metabolism.

Multiple Factors contribute to the UC Inflammation Cycle:

- Low grade Mucosal Inflammation and microbiome dysbiosis
- Epithelial Cell Damage and barrier disruption
- Broad Immune Activation favoring pro-inflammatory cells and cytokines



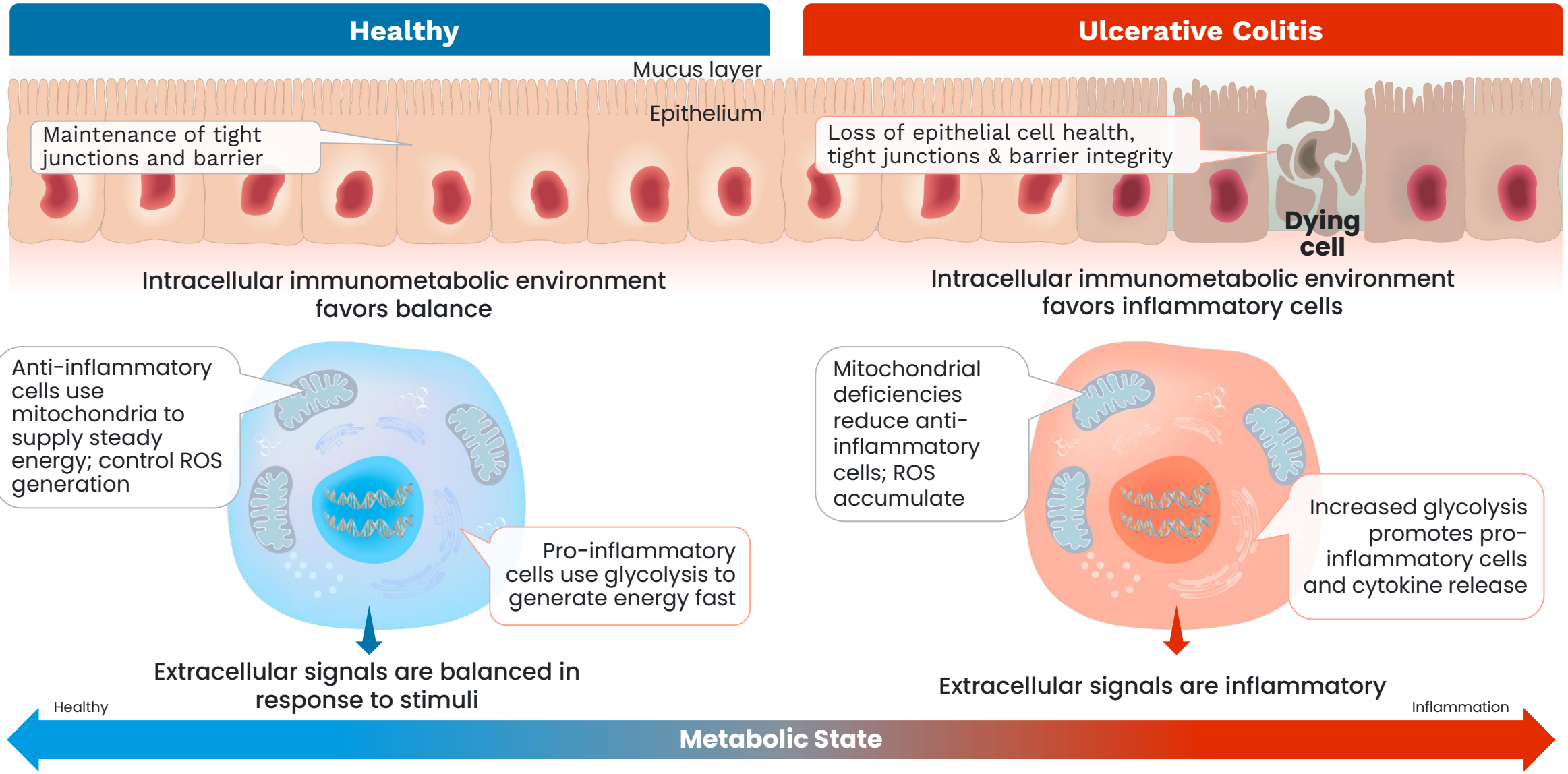
Global Data Report GDHC271PIDR, Ungaro, et al., Lancet 2017; Chi, *Cell & Mol Immuno* 2022

Current Therapies Focus Exclusively on Extracellular Actions or Signals Falling Short of Effectively Treating a Multifactorial Disease Like UC

Drug Classes	MOA	Extracellular (External)		Intracellular (Internal) Environment
		Cytokines	Specific Cells	
NX-13 Bimodal targeting (Immunometabolism)	**Reduce intracellular reactive oxygen species (ROS) & extracellular immune response**	✓	✓	✓
Anti-Inflammatory / Immunosuppressants	Reduce entire immune response	X	X	
Anti-TNFs, Anti-ILs	Block cytokine binding to immune cells	X		
Anti-integrins	Inhibit entrance of immune cells to the gut tissue from the circulation		X	
S1PR modulators	Inhibit exit of immune cells from immune organs to circulation & gut		X	
JAK Inhibitors	Block cytokine signaling (TNF, IL-17, IFN, etc)	X	X	

Global Data Report GDHC271PIDR; Chi, *Cell & Mol Immuno* 2022

Bimodal Targeting of the Intracellular Environment & Extracellular Inflammatory Response Aims to Control Multiple Factors in the UC Inflammation Cycle

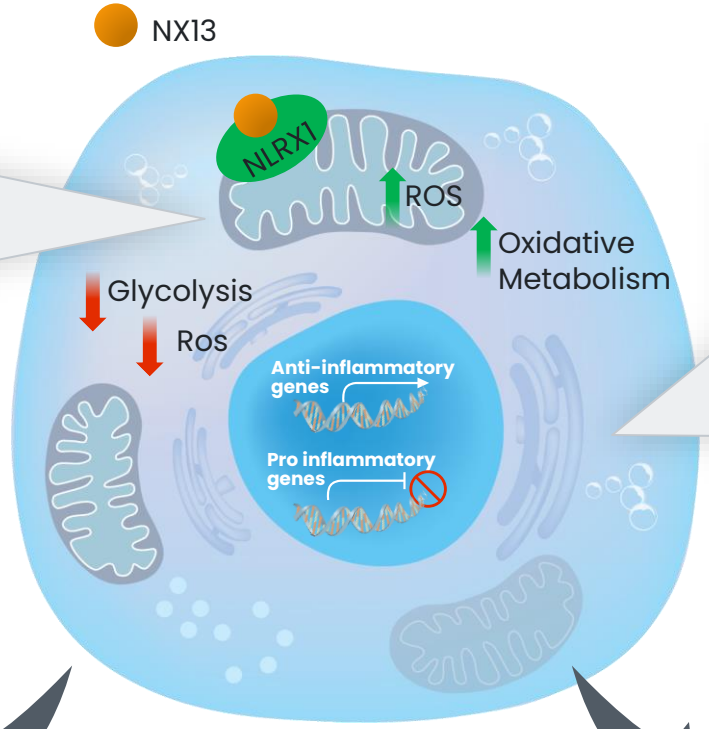


O'Neill et al. *Nat. Rev. Immunol.* 2016; Bittencourt et al. *Inflammm Bowel Dis* 2021; Chi, *Cell & Mol Immuno* 2022; ROS: Reactive Oxygen Species

NX-13 Bimodal MOA Addresses Both Extracellular Signals and Intracellular Environment to Reduce UC Inflammation Cycle

NX-13 is designed to shift the underlying intracellular immunometabolic environment of immune cells:

- Increases mitochondrial metabolism
- Upregulates antioxidant enzymes
- Decrease ROS
- Decreases Inflammasome activation



NX-13 is designed to modulate the extracellular response:

- Reduces inflammatory cell differentiation
- Reduces TNFα, IFNγ, IL-17, IL-1.
- Increases anti-inflammatory activation

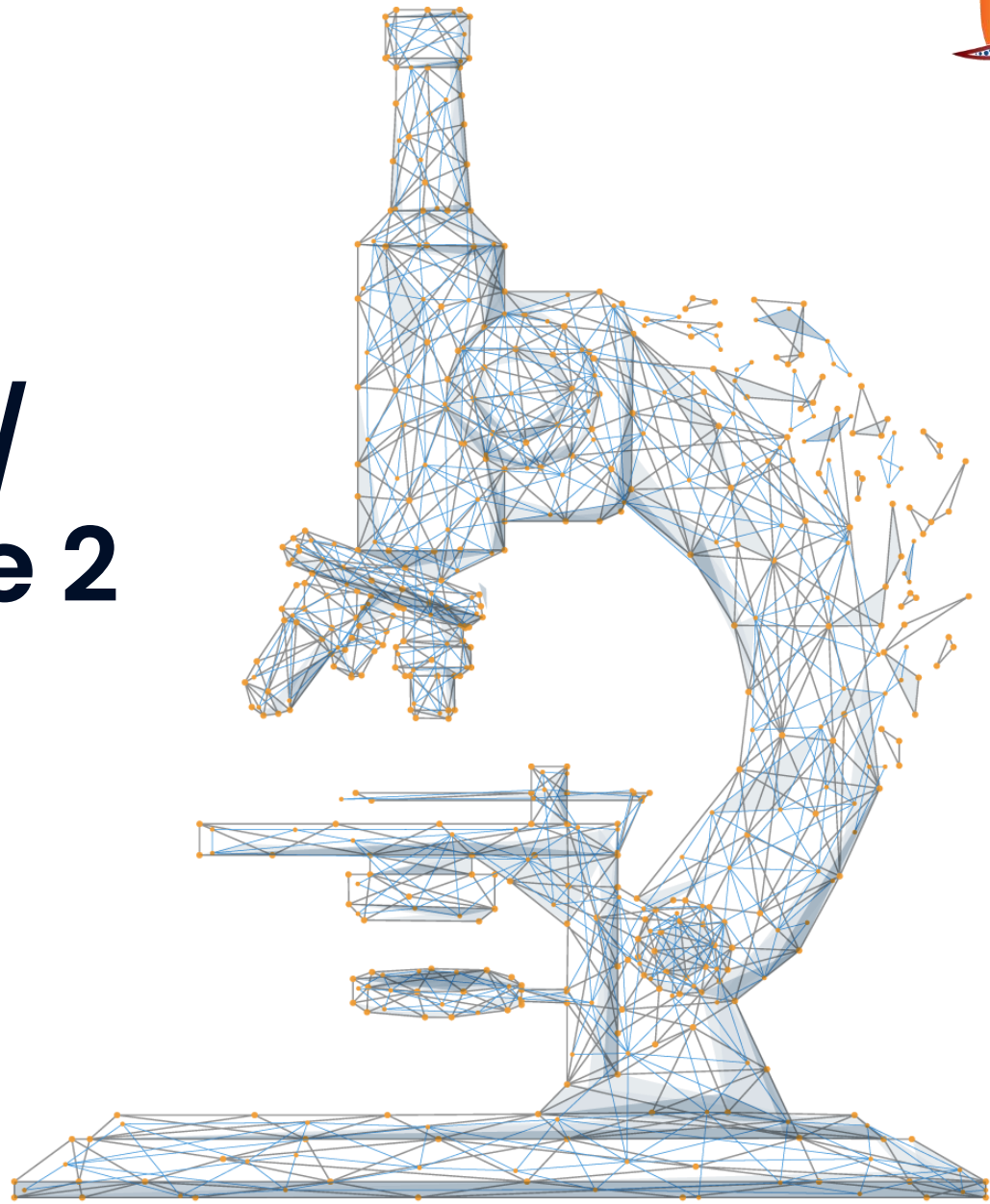
Broad immune balance disfavors pro-inflammatory cells and cytokines with enhanced anti-inflammatory control

Improved epithelial barrier integrity to reduce exposure to inflammatory microbes

Decreased low grade mucosal inflammation and microbiome dysbiosis

Leber et al. *J Immunology* 2019; Leber et al. *Front. Immuno* 2018

NX-13 Pre-Clinical / Clinical Data & Phase 2 Trial Design

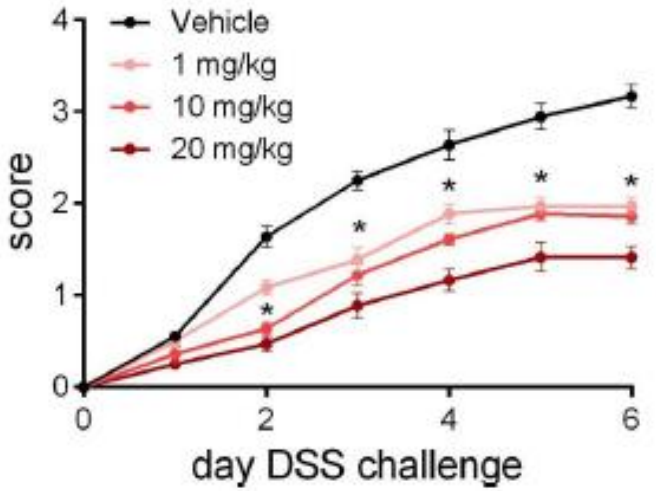


Pre-Clinical Data Suggests NX-13 Potential to Broadly Reprogram Immune Response

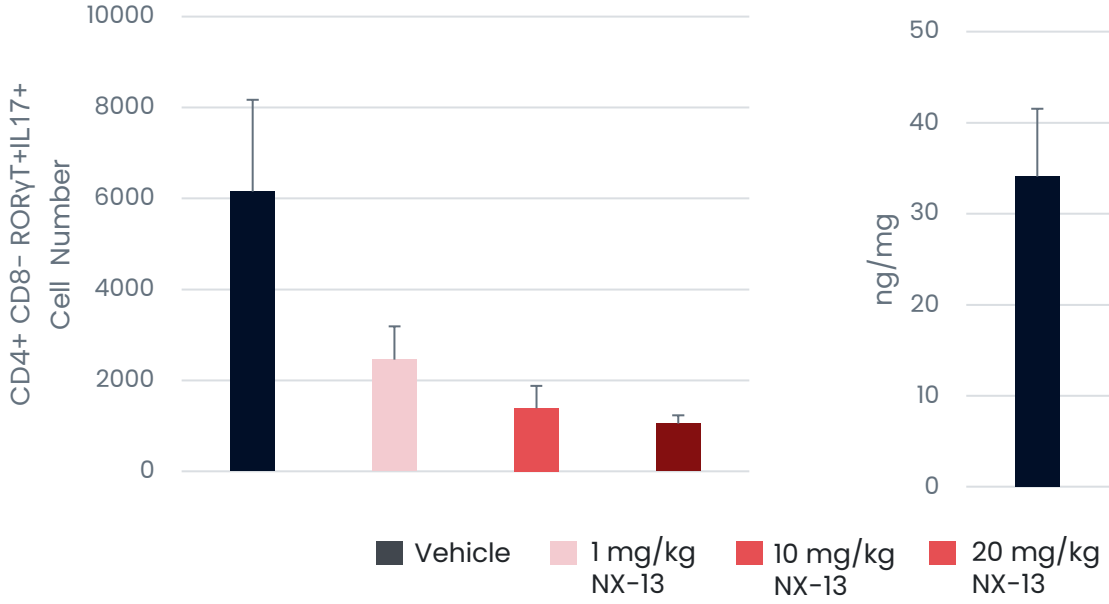
Reduced disease activity driven by robust anti-inflammatory immunometabolic mechanism*

- **Reduced overall Disease Activity in DSS colitis model** across dose range
- **Reduced Th17 cell infiltration** as well as Th1 cells and neutrophils in the lamina propria
- **Reduced Fecal Calprotectin** and improved cytokine profile with reductions in array of inflammatory cytokines including IL-1, IL-17, IFNγ, IL-4, IL-15, TNFα
- **Results validated in pig model** of acute colitis & human PBMC from UC patients

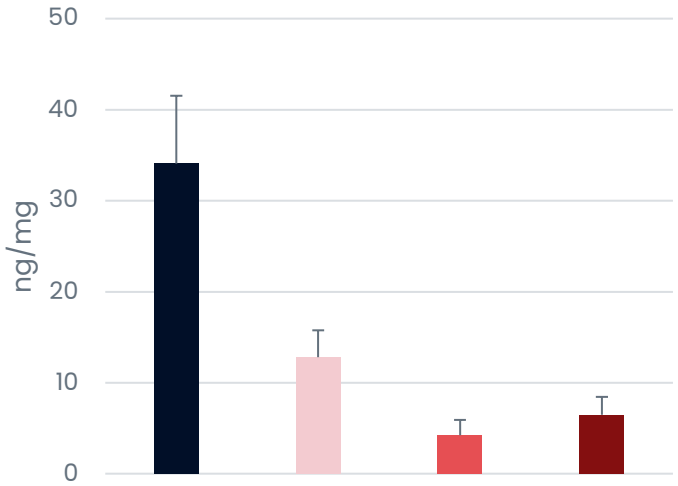
Disease Activity Challenge



Th17 Cell Infiltration

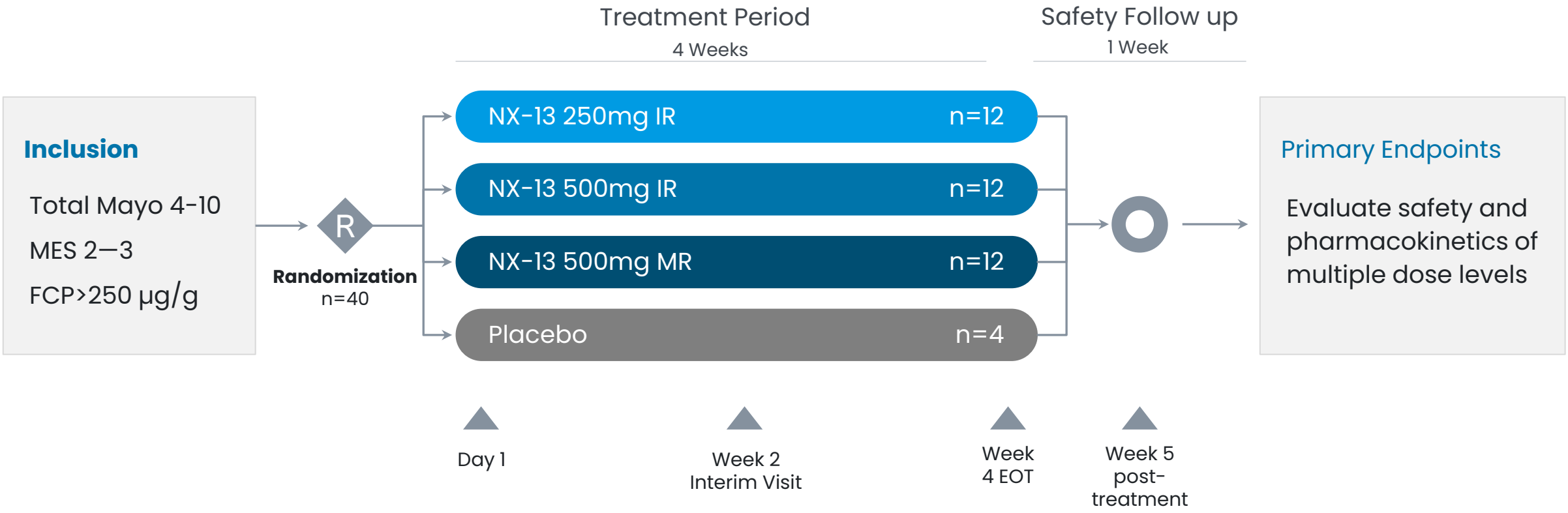


Fecal Calprotectin



*DSS colitis data shown. Similar data in the CD45RBhi adoptive transfer colitis & Mdr1a-/- colitis models. See Leber et al., *J Immunol* 15 December 2019; 203 (12): 3407–3415 for more information.

Phase 1b Study Design of NX-13 in Active UC



Additional Information
landosbiopharma.com/events-presentations
(NX-13 Phase 1b Topline Data Presentation)

IR = Immediate Release; MR = Modified Release; MES = Mayo Endoscopic Score; FCP = Fecal Calprotectin; EOT = End Of Treatment
Note: Study was not designed or powered for exploratory clinical endpoints therefore results are hypothesis-generating only

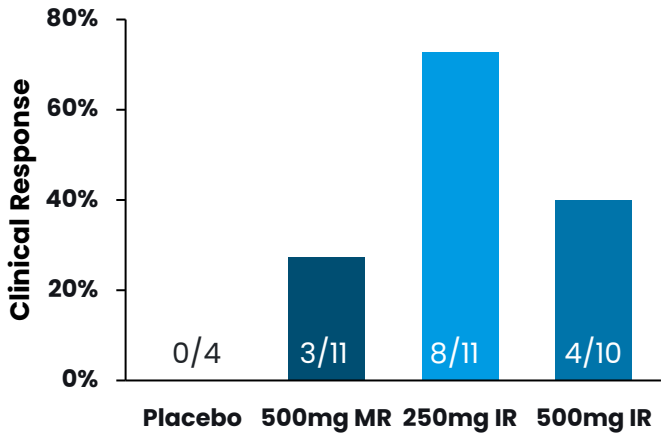
Phase 1b Results: NX-13 Demonstrated Favorable Endoscopic and Histologic Responses with Reductions in Multiple Clinical Measures After 4 Weeks

Patients receiving NX-13 IR doses responded best:

- Drug activity with IR formulation; study not designed for dose selection
- 72% of 250mg group achieved clinical response; 40% of 500mg IR group achieved clinical response
- 36-40% endoscopic response after just 4 weeks treatment across IR dosage groups
- 36-40% of patients receiving IR achieved histologic remission after 4 weeks of treatment

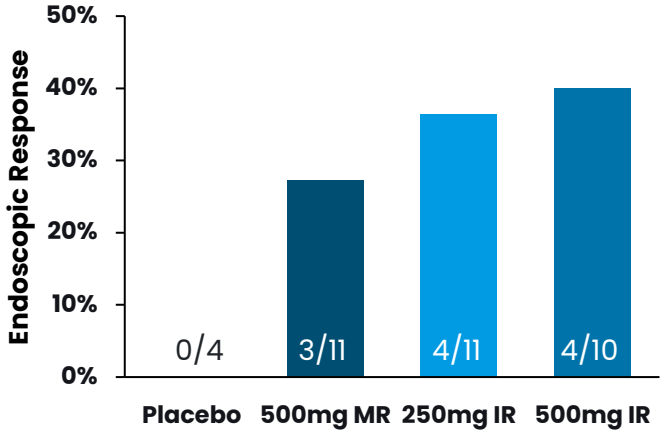
Clinical Response

Defined as CFB of at least -3, or -30% in Mayo Score



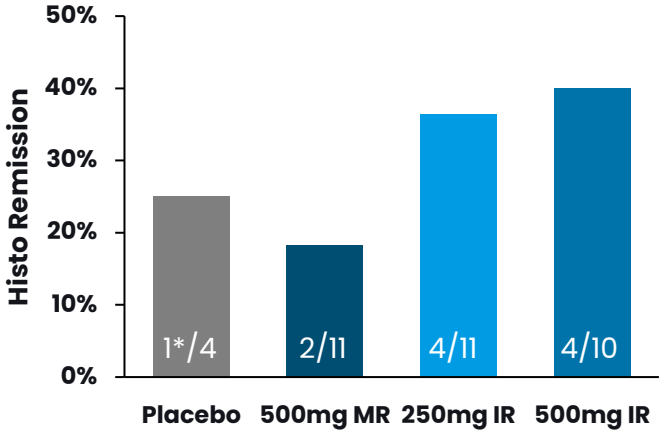
Endoscopic Response

MES CFB of at least -1



Histologic Remission

Geboes <3.1, no increased neutrophils in the LP



*Placebo patient started trial with Geboes <3.1

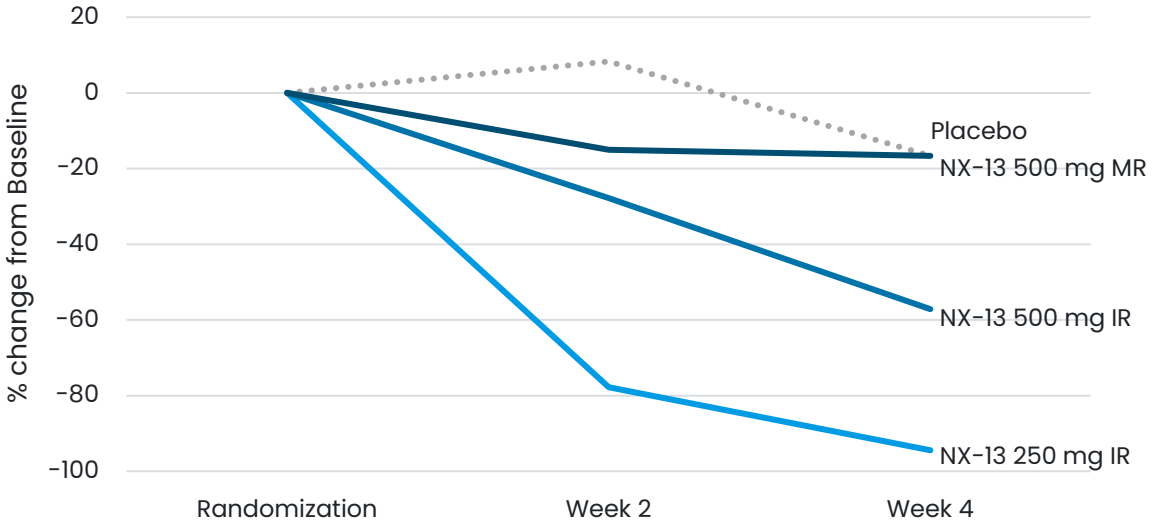
Primary endpoints were safety and tolerability; Exploratory endpoints were efficacy and biomarkers;
IR= Immediate Release; MR= modified release designed to dissolve at the terminal ileum; CFB = Change From Baseline; MES = Mayo Endoscopic Score; LP = Lamina Propria
Note: Study was not designed or powered for exploratory clinical endpoints therefore results are hypothesis-generating only
Peyrin-Biroulet et al, ECCO 2023; #P577, JCC 17(1), Feb 2023

Phase 1b Results: Fast Onset of Action for NX-13 Supported Symptomatic Remission in Rectal Bleeding & Stool Frequency

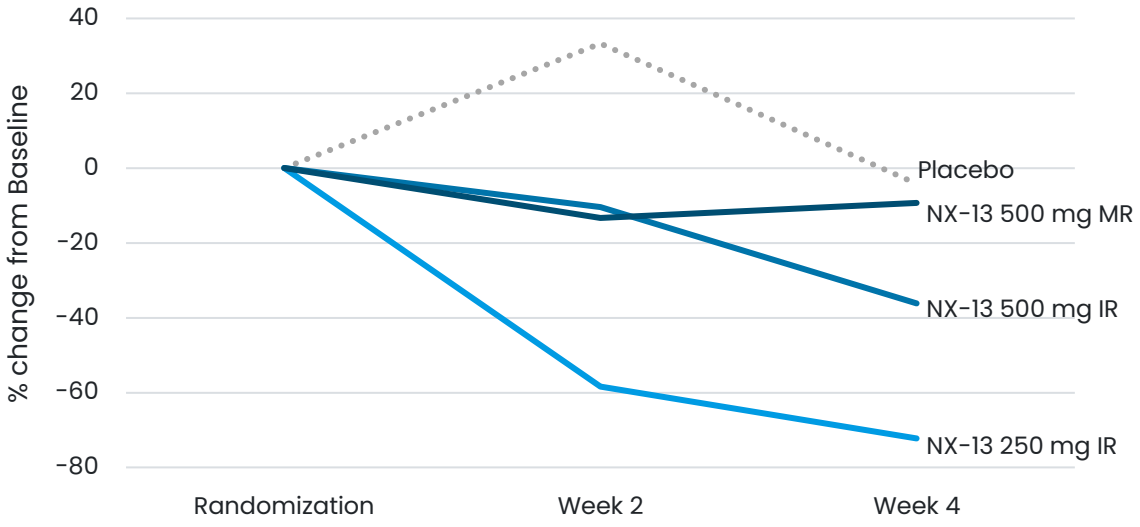
250mg group had greatest reduction of Rectal Bleeding and Stool Frequency at 2 weeks, with further reduction at 4 weeks

Majority of patients treated once daily with 250mg NX-13, saw complete resolution of BOTH rectal bleeding and stool frequency after 4 weeks of treatment

Rectal Bleeding Change from Baseline



Stool Frequency Change from Baseline



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Phase 1b Results: NX-13 Was Well-Tolerated & Shows Promising Signs of Clinical Improvement in Active UC

Safety

Generally well tolerated, consistent with non-clinical, Phase 1a data

- No Serious Adverse Events

Pharmacokinetics

NX-13 was gut-selective with low systemic exposure

- IR dosing peaks ~1 hour post-dose
- No signs of NX-13 accumulation

Efficacy

NX-13 induced early signs of clinical improvement in patient's symptoms by 2 weeks and endoscopy at 4 weeks:

- Positive signals of target engagement and downstream immunometabolic effects

Note: Study was not designed or powered for exploratory clinical endpoints therefore results are hypothesis-generating only

NEXUS Phase 2 Proof of Concept Trial

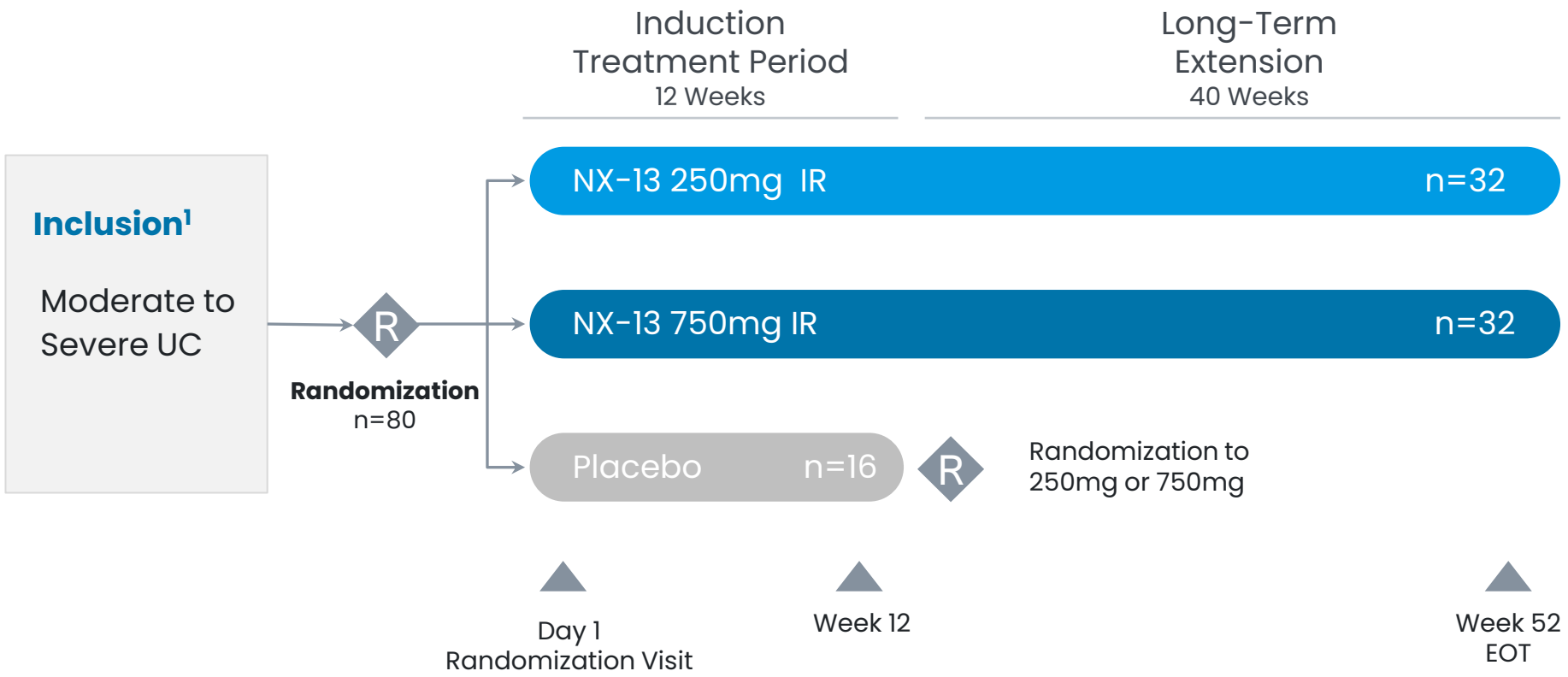
Goal	Evaluate safety, efficacy and pharmacokinetics of NX-13 in moderate to severe UC patients in 12-week induction trial
Timing	Initiated in Q2 2023; Expecting to report topline results in Q4 2024
Additional Phase 2 Learnings	Dose-Exposure-Response and PK/PD relationships (including site and MOA)
Dosing	Oral, once daily treatment with either: 250 mg IR dose of NX-13 | 750 mg IR dose of NX-13 | Placebo

Key Design Principles

- Blinded
- Powered
- Placebo Controlled
- Dose-Ranging

ClinicalTrials.gov Identifier: NCT05785715

NEXUS Phase 2 Proof of Concept Study Design: NX-13 in Moderate to Severe UC



Primary Objective

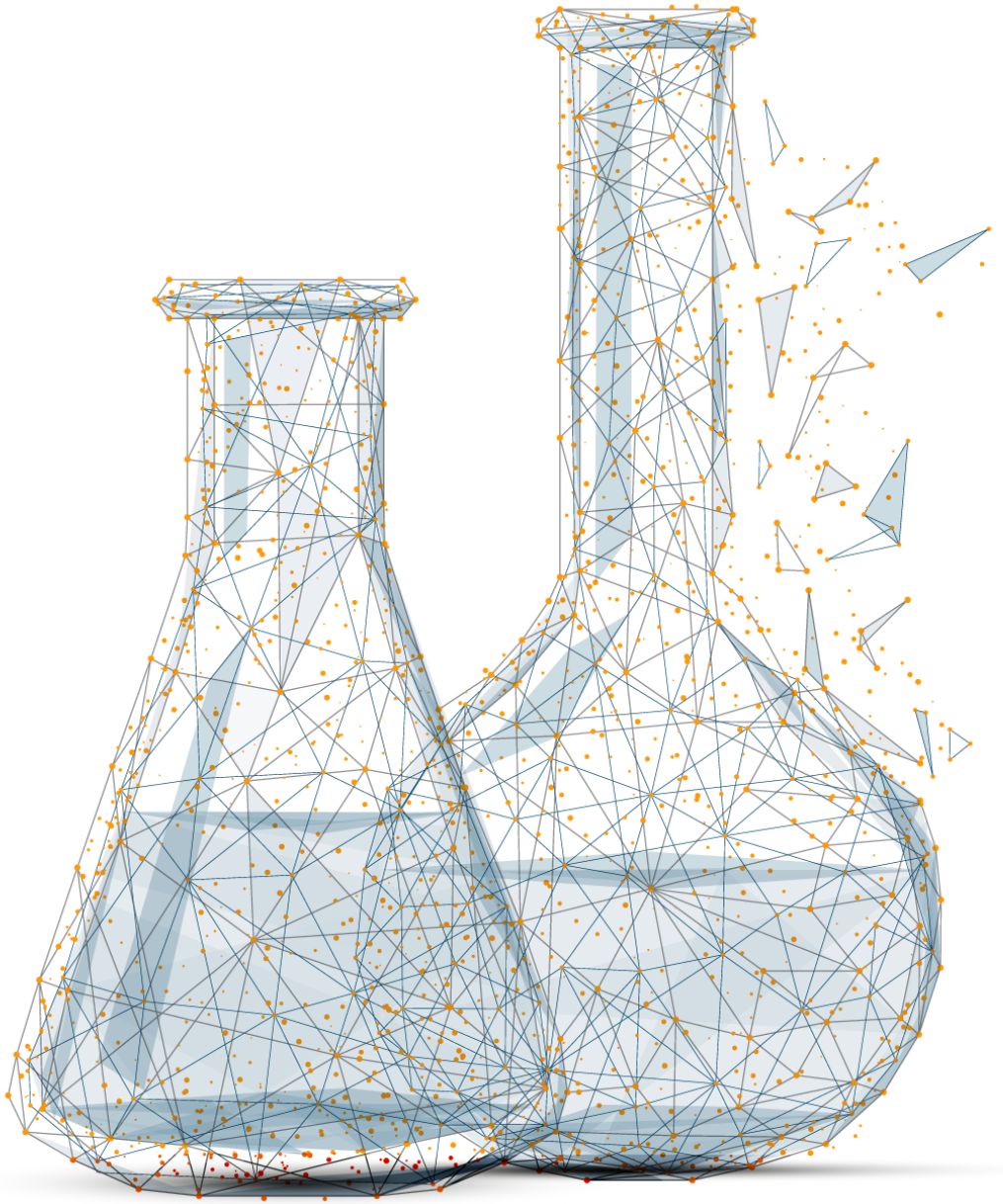
Evaluate the clinical efficacy, safety and pharmacokinetics of oral NX-13 in moderate to severe UC patients in 12-week induction trial

Additional Information

clinicalTrials.gov: NCT05785715

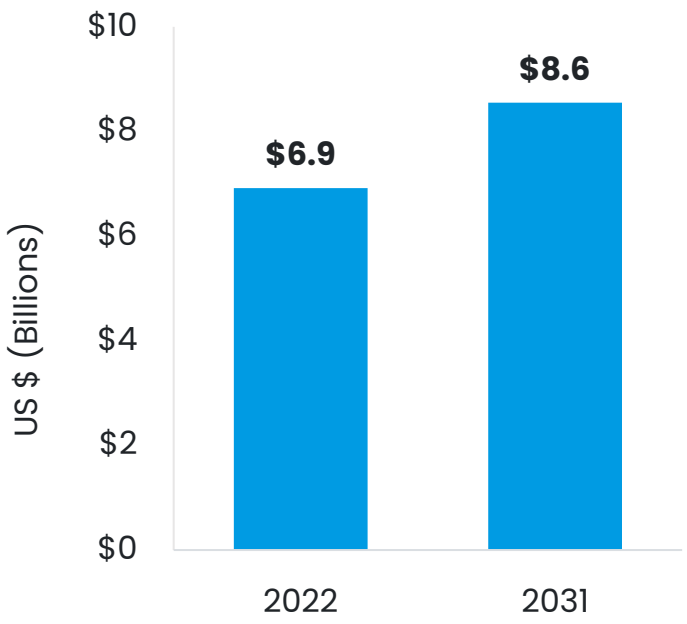
[1] 18 years to 75 years ; Moderate to severe UC (Modified Mayo Score 5-9); Signs/symptoms of moderate to severe UC for >= 3 months prior to screening; inadequate response, loss of response, or intolerance to 5-ASA, immunomodulators, steroids and/or advanced therapy UC drugs; Biologic/IS exposed & naïve

Market & NX-13
Positioning

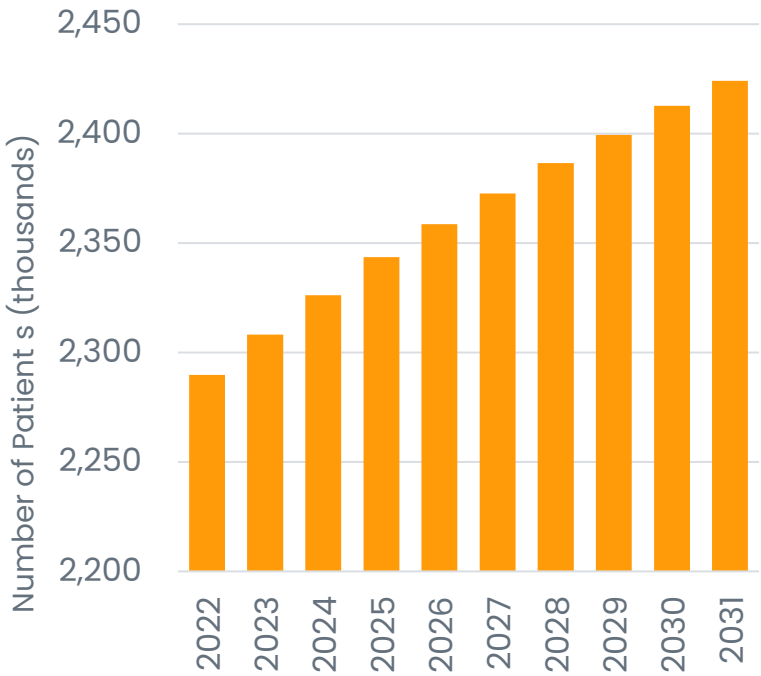


Attractive & Growing Market Opportunity in UC

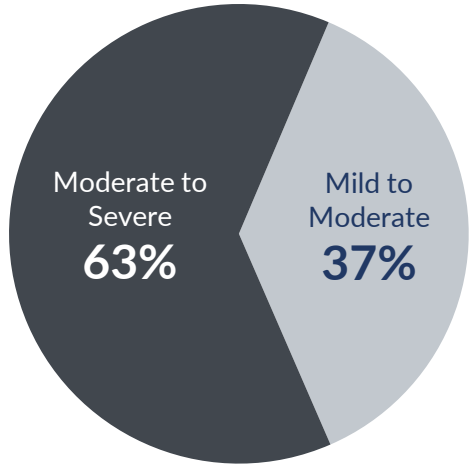
Global UC Sales[1]



Global UC Diagnosed Patients[1]



Largest market opportunity is in moderate to severe[2] patients



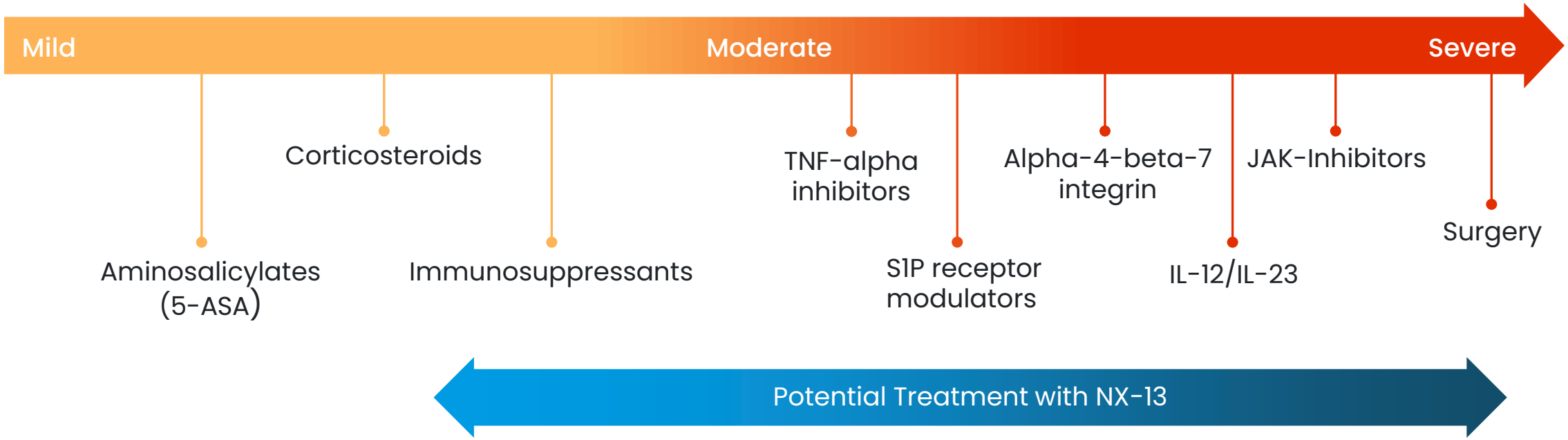
~89% of sales[2] are in moderate to severe category

[1] November 2022 Clarivate UC Disease Landscape & Forecast; [2] April 2023 Global Data Ulcerative Colitis: Eight-Market Drug Forecast & Market Analysis 2021-2031; Severe category includes fulminant

NX-13 Poised for Broad Utilization in Both Early & Late-Stage Disease

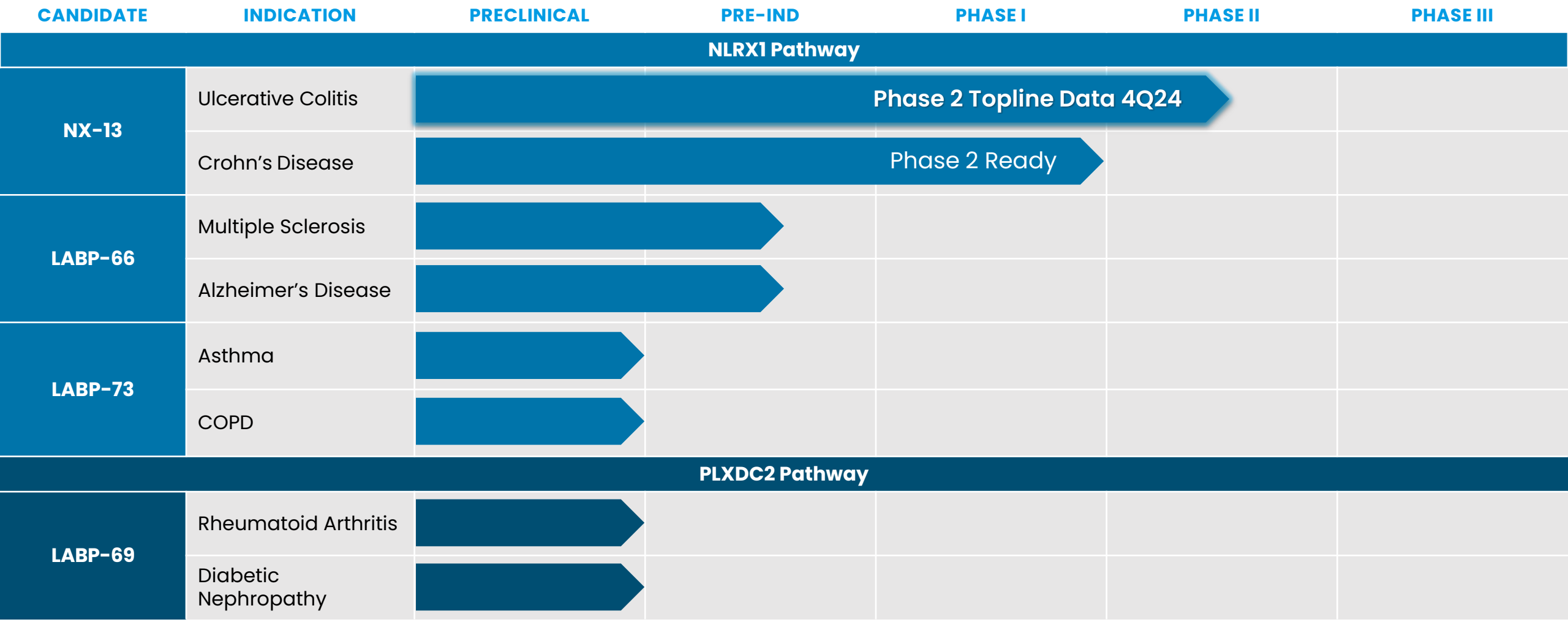
Potential benefits may help transform the current treatment paradigm:

- Gut selective allowing target engagement with the GI tract
- Novel, first-in-class MOA with convenient, oral, once-daily dosing
- MOA may allow for improved efficacy, greater mucosal healing, and safety for long-term use
- No on-target toxicities associated with NLRX1, with adverse event incidence in Phase 1a & 1b similar to placebo



Source: Internal analysis

Landos Pipeline Focused on Novel, Immunometabolic Targets



Significant **optionality** portfolio-wide for additional *indications, partnerships, development & future investment*

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Future NLRX1 & PLXDC2 Indications & Programs Provide Compelling Growth Potential Beyond NX-13 in UC

	Ulcerative Colitis	Crohn's Disease	Asthma[1]	Multiple Sclerosis[2]	Rheumatoid Arthritis
WW Annual Sales[3] 2022→ 2031 (in billions)	~$6.9 → ~$8.6	~$18.2 → ~$19.1	~$15.6 → ~$20.8	~$17.2 → ~$21.7	~$33.5 → ~$33.1
US Diagnosed Population[3] (in millions)	~1.0	~.91	~3.9	~.48	~3.6
Landos Asset	NX-13		LABP-73	LABP-66	LABP-69
Target Pathway	**NLRX1**				**PLXDC2**

Potential Areas of Future Development Include Eosinophilic Esophagitis, Dermatology & Neuroscience

[1] Moderate to Severe only; [2] Relapsing-Remitting MS only; [3] Clarivate UC Disease Landscape & Forecast 2023

Experienced Management Team in Immunology & Drug Development

GREGORY OAKES
President & Chief Executive Officer
Celgene · Schering-Plough · NOVARTIS

DAWN LOURO
Vice President, Clinical Operations
STATERA BIOPHARMA · Supernus Pharmaceuticals

FABIO CATALDI, MD
Executive Vice President & Chief Medical Officer
ARENA PHARMACEUTICALS · Pfizer · abbvie

REBECCA MOSIG, PHD
Vice President, Corporate Development
Mount Sinai · VIRGINIA TECH

JENN CREEL
Interim Chief Financial Officer
Celgene · ADC THERAPEUTICS

DAVID PEREIRA, PHD
Vice President, CMC
cempra PHARMACEUTICALS INCORPORATED · AimMax Therapeutics, Inc. · pdlh PONCE DE LEON HEALTH

CLAUDIA LOPEZ, DVM
Vice President, Clinical Development
ARENA PHARMACEUTICALS · Takeda

AMY PLACE, PHD
Vice President, Project Leadership & Site Engagement
Shire · Pfizer · ScholarRock

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Xontogeny, Perceptive Advisors

ROGER ADSETT
Chief Operating Officer of Insmed, Inc.

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FRED CALLORI
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CFO of Televant Therapeutics

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Cleveland Clinic

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Landos Biopharma is Singularly Focused on Advancing NX-13 Clinical Development in UC

NX-13

Potentially transformative oral, once-daily therapy for moderate to severe ulcerative colitis (UC)

- Immunometabolism addresses multiple causes of UC through novel, bimodal MOA targeting NLRX1
- Promising safety profile and early signals of clinical improvement in Phase 1b study
- NEXUS Phase 2 proof of concept trial initiated Q2 2023; Top-line results expected Q4 2024

Experienced management team with significant gastroenterology, immunology and drug development expertise

Strong IP position

Significant optionality portfolio-wide for partnerships, development & investment

Capital efficient with sufficient cash to fund planned operations into first half of 2025

LANDOS BIOPHARMA

Thank you

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Appendix: Key Publications

- (11/23) The Safety, Tolerability, Pharmacokinetics and Clinical Efficacy of the NLRX1 agonist **NX-13** in Active Ulcerative Colitis: Results of a Phase 1b Study. **Journal of Crohn's and Colitis, e-published ahead of print**
- (10/23) The Nucleotide-Binding Oligomerization Domain, Leucine Rich Repeat Containing X1 (NLRX1) Agonist **NX-13** Demonstrates Rapid Symptomatic and Biomarkers Improvement in Ulcerative Colitis: Results In a Phase 1b Study. **UEG Week Journal Abstracts 2023; Poster Presentations – United European Gastroenterology Journal (11) S8 (Publication OP078 / p76)**
- (10/23) Symptomatic Relief Is Correlated with Early Endoscopic Response to the Nucleotide-Binding Oligomerization Domain, Leucine Rich Repeat Containing X1 (NLRX1) Agonist **NX-13** In Ulcerative Colitis: Results in a Phase 1b Study. **UEG Week Journal Abstracts 2023; Poster Presentations – United European Gastroenterology Journal (11) S8 (Publication OP104 / p103)**
- (10/23) Target Engagement And Pharmacodynamic Molecular Mechanism Evaluation In A Phase 1b Study of the Nucleotide-binding Oligomerization Domain, Leucine Rich Repeat Containing X1 (NLRX1) Agonist **NX-13** in Ulcerative Colitis. **UEG Week Journal Abstracts 2023; Poster Presentations – United European Gastroenterology Journal (11) S8 (Publication PP785 / p975)**
- (2/23) A Phase 1b Study to Evaluate Safety, Tolerability, Pharmacokinetics and Clinical Efficacy of the Nucleotide-binding oligomerization domain, Leucine rich Repeat containing X1 (NLRX1) agonist **NX-13** in Ulcerative Colitis. **Journal of Crohn's and Colitis, Volume 17, Issue Supplement 1 (Publication P577)**
- (10/21) Safety and Tolerability of **NX-13** in a Randomized, Double-Blind Placebo Controlled Phase I Study in Normal Healthy Volunteers. **UEG Week 2021 Poster Presentations - United European Gastroenterology Journal (9) S8 (Publication P0480)**
- (11/19) Activation of NLRX1 by **NX-13** Alleviates Inflammatory Bowel Disease through Immunometabolic Mechanisms in CD4+ T Cells. **The Journal of Immunology (November 6, 2019)**
- (6/19) 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 (June 10, 2019)**
- (5/19) Preclinical Efficacy and Safety of **NX-13**: A Novel Nlrx1-Targeting Immunometabolic Therapeutic for Crohn's Disease and Ulcerative Colitis. **AGA Journals (May 2019)**
- (2/18) **NLRX1** Modulates Immunometabolic Mechanisms Controlling the Host-Gut Microbiota Interactions during Inflammatory Bowel Disease. **Front Immunol (February 2018)**
- (3/17) **NLRX1** Regulates Effector and Metabolic Functions of CD4+ T Cells. **J Immunol (March 2017)**
- (5/21) **PLXDC2** activation by PX-69 ameliorates rheumatoid arthritis through activation of novel immunometabolic mechanisms. **J Immunol (May 1, 2021)**