LANDOS BIOPHARMA

Clinical stage biopharmaceutical company focused on the development of first-in-class therapeutics for patients with autoimmune disease.

# Corporate Overview

February 28, 2023

# 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, 2021. 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' Path Forward

- **SINGULAR FOCUS** on advancing clinical development of NX-13 in Ulcerative Colitis (UC)
- NX-13 is a potential **GAMECHANGER**, with a novel mechanism of action (MOA), impressive safety profile, once-daily dosing with promising and early signals of clinical improvement (as soon as 2 weeks in patients' symptoms and 4 weeks by endoscopy in exploratory endpoints)
- **NX-13 IS CLINIC READY NOW** and expected to enter Phase 2 in Q2'23; top-line data expected in Q4'24
- Cash to fund planned operations into first half of **2025**
- Significant **OPTIONALITY** portfolio-wide for partnerships, development, and investment in the future
- Strong **IP** position
- **EXPERIENCED** management team with significant immunology & gastroenterology expertise

Note: Cash includes cash, cash equivalents and marketable securities

# Landos' Novel Immunology Portfolio

**2** Novel target (NLRX1 and PLXDC2) libraries of immunometabolic modulation pathways

**4** Potentially first-in-class, once-daily, oral therapeutics upstream of multiple canonical inflammatory/ regulatory pathways

**8** Indications in the immunology space targeted by broadly applicable MOAs

# Broad Portfolio of Clinical & Pre-clinical Programs

- **NX-13 (entering Phase 2 for UC):** Novel, oral, gut-selective NLRX1 agonist in development for the treatment of Ulcerative Colitis and Crohn's Disease as a once-daily treatment
- **LABP-66 (pre-clinical):** Novel, oral, once-daily, product candidate targeting NLRX1 in development for Multiple Sclerosis and Alzheimer's Disease
- **LABP-73 (pre-clinical):** Novel, oral, once-daily, product candidate targeting NLRX1 in development for Asthma and COPD
- **LABP-69 (pre-clinical):** Novel, oral, once-daily, product candidate targeting PLXDC2 in development for Rheumatoid Arthritis and Diabetic Nephropathy

**Our Focus: Advancing NX-13 Clinical Development in UC**

# Landos Strategy:
# Advancing NX-13 in UC is the Company's Focus

## NX-13 is the Top Priority

- **NX-13** has the potential to be an important new treatment for UC patients
- We believe favorable market dynamics, combined with a potentially unique and promising clinical profile, provide attractive entry point for commercialization

## Impressive & Emerging Data Foundation Supports Dual Focus

- **NX-13:** Phase 1b results showed a favorable safety and tolerability profile; promising signals of clinical improvement as soon as two weeks in patients' symptoms and four weeks by endoscopy in exploratory endpoints*

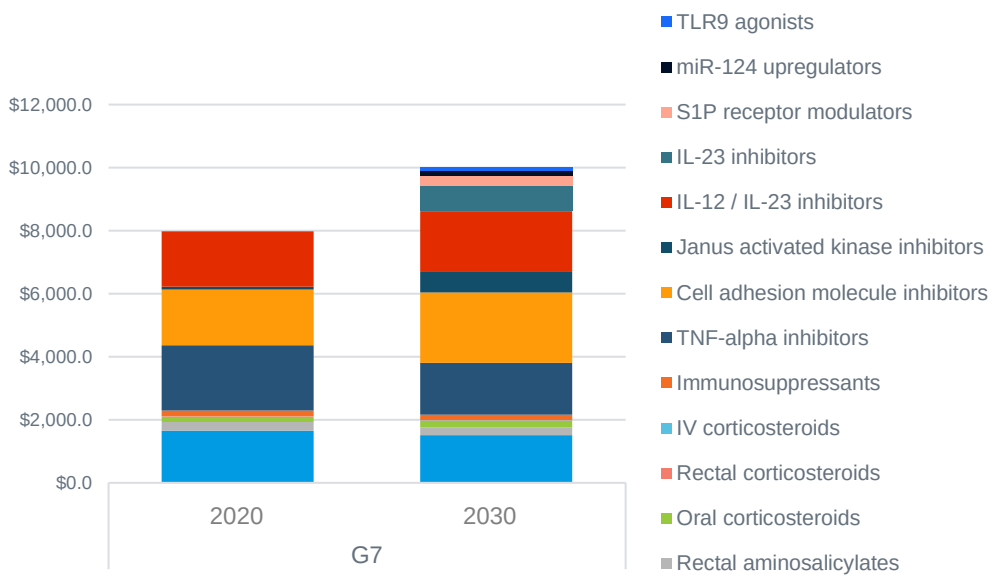
## Clear Path Forward Defines Next Steps

- **NX-13:** Key Phase 2 design principles: Dose-ranging, Blinded, Powered, and Placebo-controlled. On-track to initiate Phase 2 trial in Q2 2023; topline data readout expected by Q4 2024
- Broader portfolio with significant optionality for partnerships & continued development in the future

*NX-13 Phase 1b study was not designed or powered for exploratory clinical endpoints therefore results are hypothesis-generating only

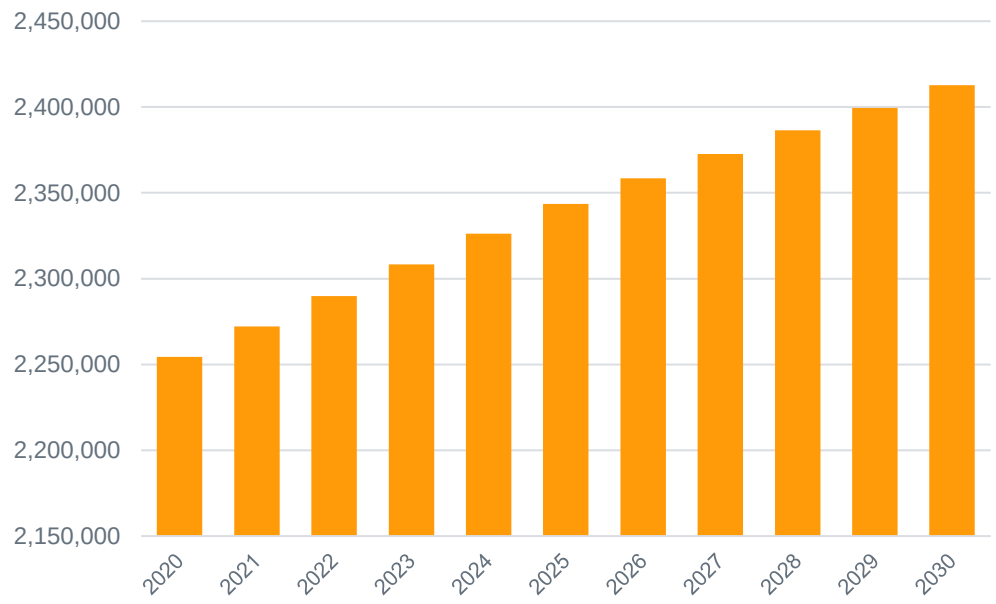
# UC is an Attractive & Growing Market Opportunity

## Global UC Sales ($M): 2020 – 2030




Source: Clarivate

## Global UC Diagnosed Patients: 2020 – 2030



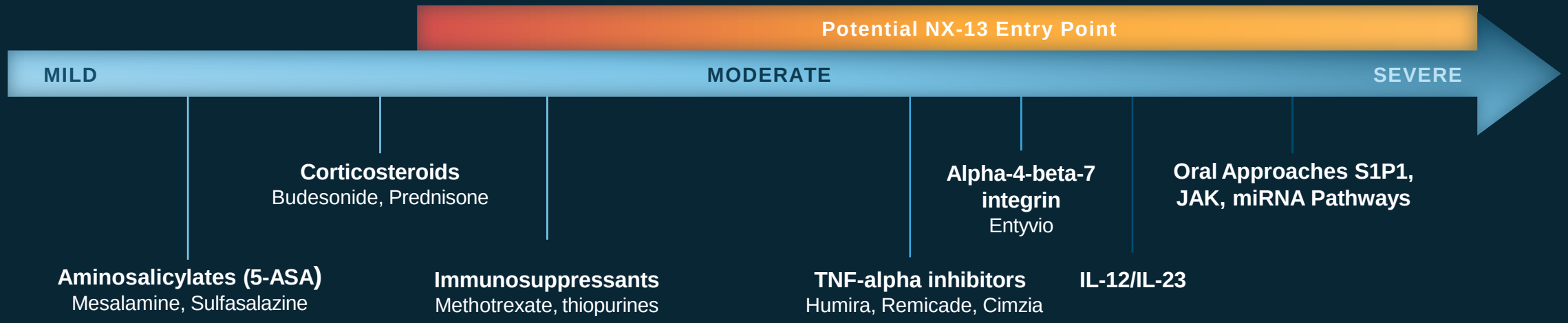

Source: Clarivate

Source: 2022 Decision Resource Group (Clarivate) UC Disease Landscape and Forecast including 2030 projected data

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

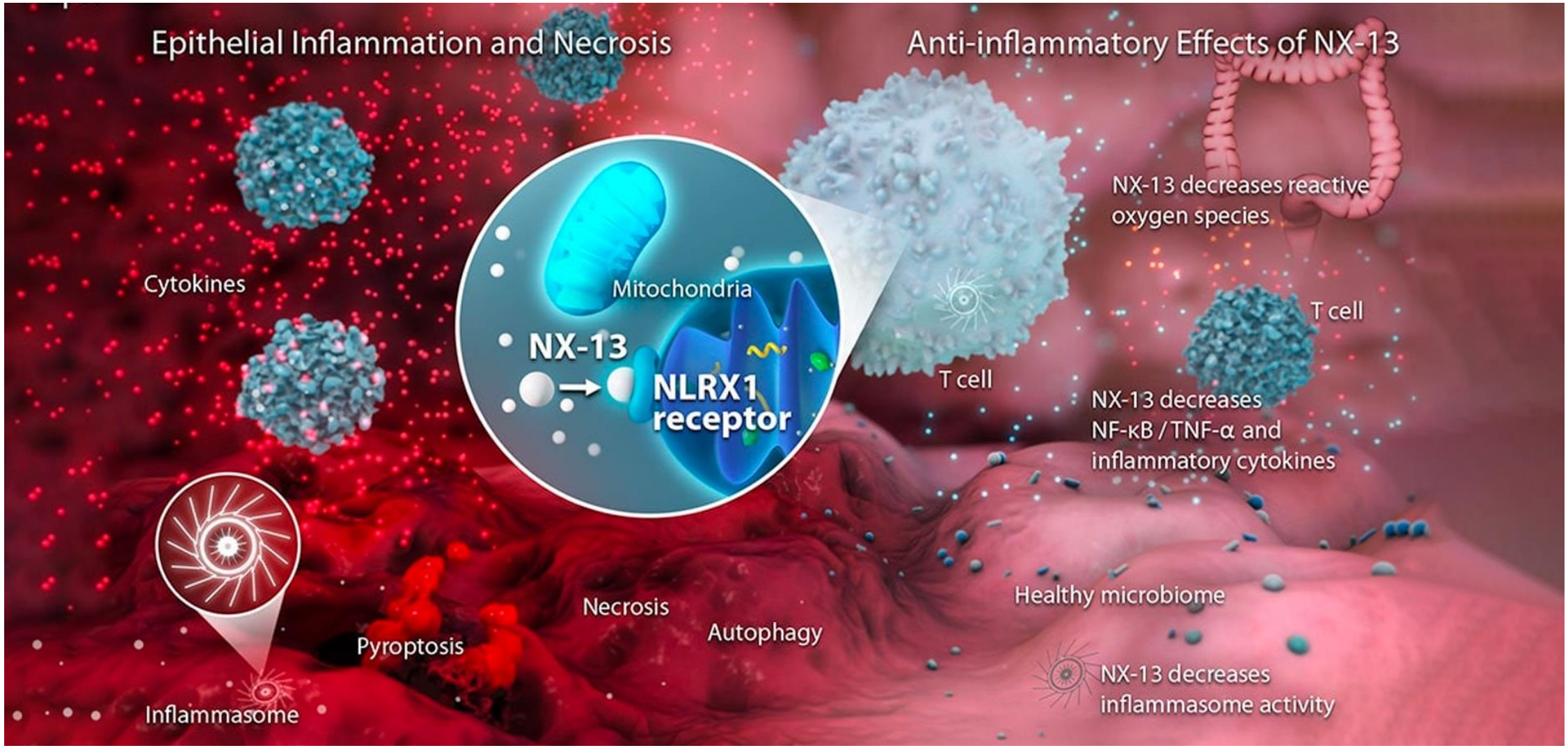
## Potential benefits that may help to transform the current treatment paradigm:

- Oral, once-daily dosing with a unique and novel MOA
- MOA  may allow for improved efficacy, greater mucosal healing, and safety for long-term use
- Clear, sustainable entry point for NX-13



# NLRX1 Library

# NLRX1 Activation Reduces Inflammatory Cytokines, Cells & Signaling Pathways



# NX-13 Profile

## Mechanism of Action

Targets NLRX1 pathway, a mitochondrial-associated regulatory NOD-like receptor

Bimodal MOA aims to decrease reactive oxygen species and oxidative stress, while decreasing pro-inflammatory signals

No on-target toxicities associated with NLRX1; Adverse Event incidence similar to placebo

## Drug Profile

Orally active and gut-selective, allowing target engagement within the GI tract

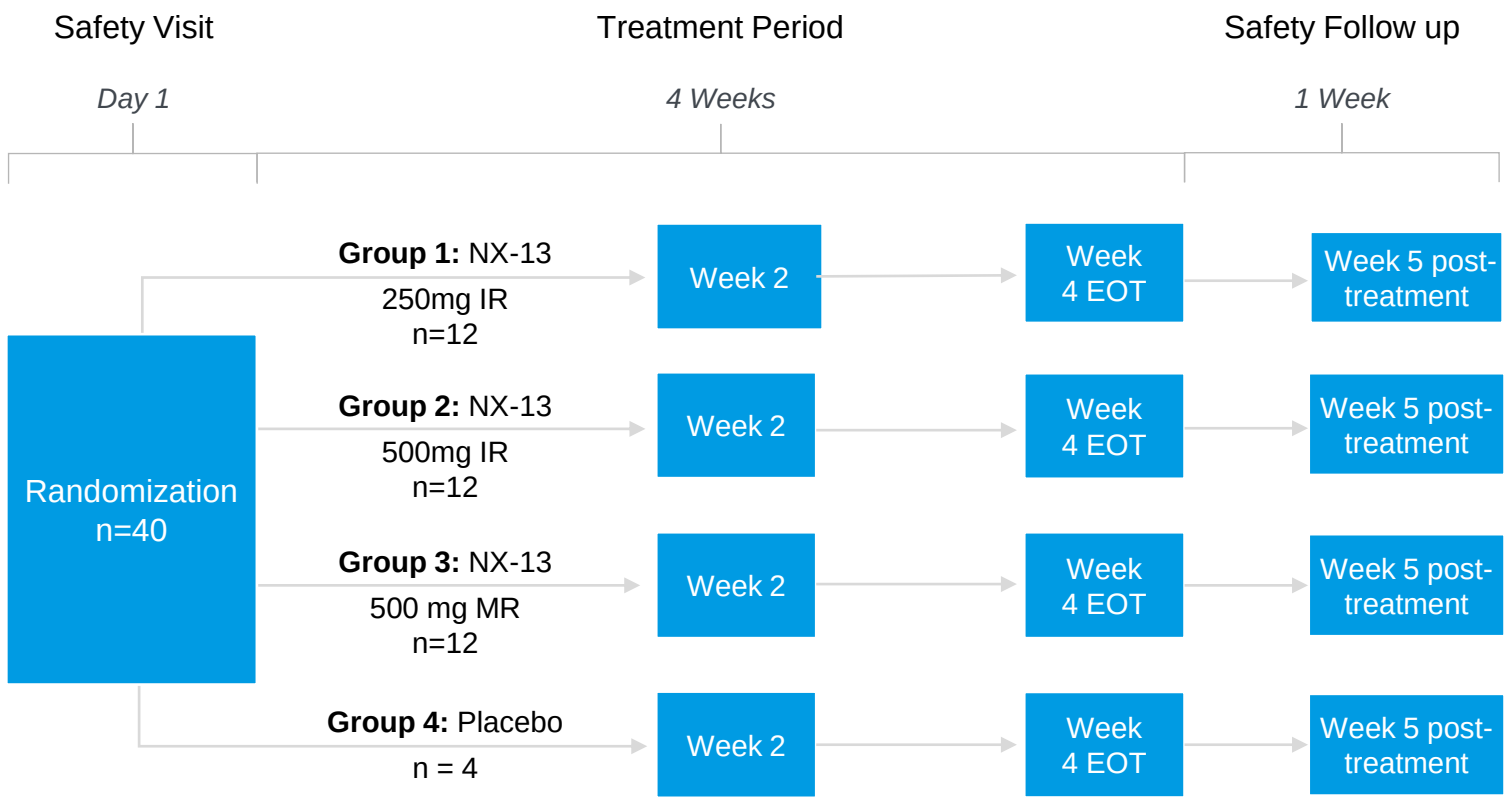
In development for Ulcerative Colitis & Crohn's Disease

## Recent & Upcoming Milestones

Recently completed successful Phase 1b trial

Finalizing design of Phase 2 proof-of-concept trial

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




**PRIMARY ENDPOINTS**

Evaluate safety and pharmacokinetics of multiple dose levels

**INCLUSION**

Total Mayo 4-10; MES 2-3; FCP>250

**ADDITIONAL INFORMATION**

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

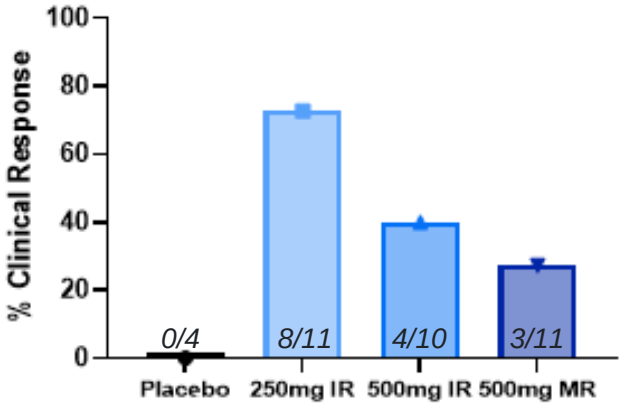
IR = Immediate Release; MR = Modified Release

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

# Phase 1b Results: NX-13 Treated Patients Experienced Reductions in Multiple Clinical Measures after 4 weeks

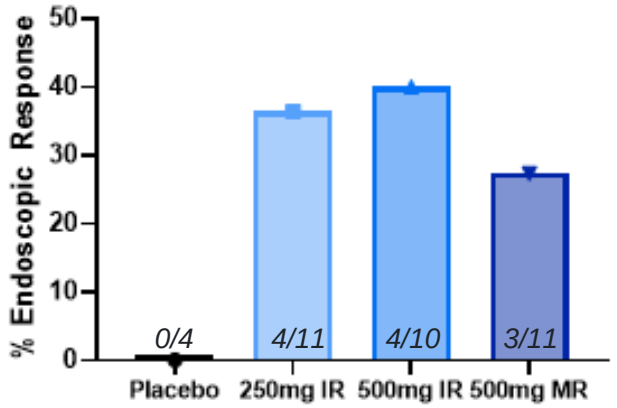
## Clinical Response

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



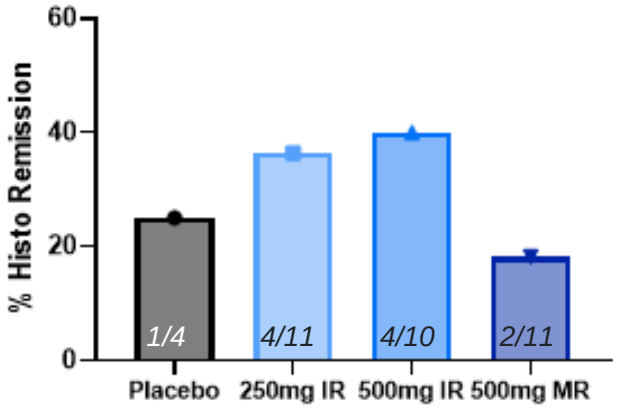

## Endoscopic Response

MES CFB of at least -1




## Histologic Remission

Geboes <3.1, no increased neutrophils in the LP



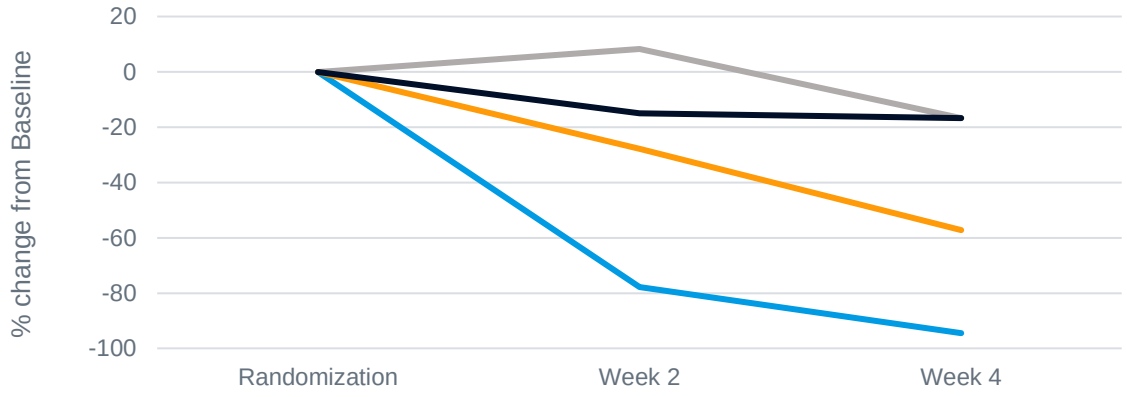

**Patients receiving NX-13 IR doses responded best:**

- 72% (8/11) of the 250mg group achieved clinical response; 40% of the 500mg IR group achieved clinical response
- 36-40% endoscopic response after just 4 weeks of treatment across IR dosage groups
- 36-40% of patients receiving IR achieved histologic remission after 4 weeks of treatment
  - Placebo patient started trial with Geboes <3.1

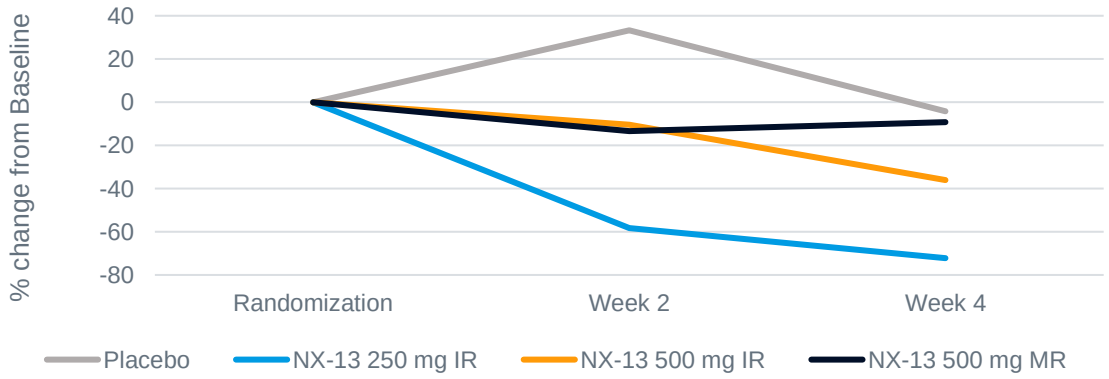
IR= Immediate Release; MR= modified release designed to dissolve at the terminal ileum
Note: Study was not designed or powered for exploratory clinical endpoints therefore results are hypothesis-generating only

# Phase 1b Results: NX-13 Supported Symptomatic Remission in Rectal Bleeding & Stool Frequency

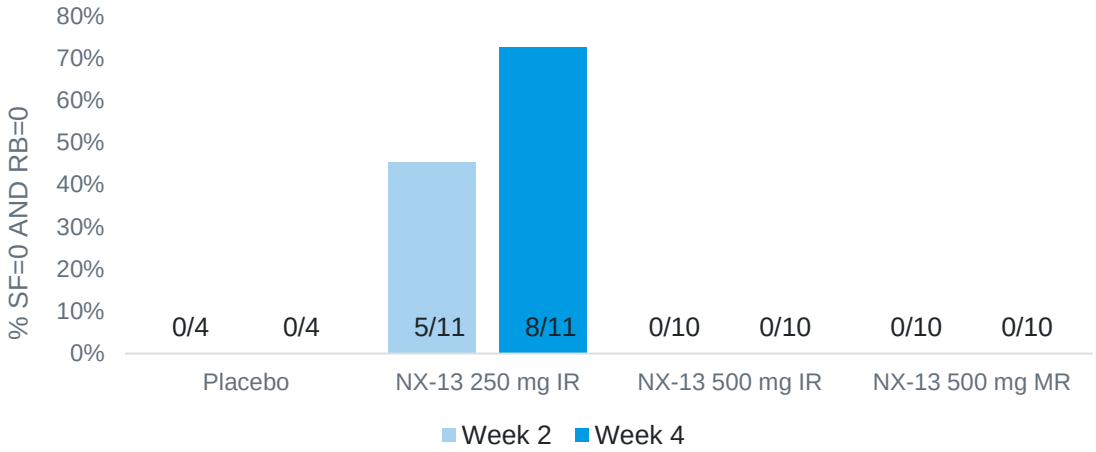
## Rectal Bleeding Change from Baseline




## Stool Frequency Change from Baseline




## Resolution of SF + RB




- Patients in the 250mg group had the greatest reduction of Rectal Bleeding and Stool Frequency at 2 weeks, with further reduction at 4 weeks
  - Majority of patients saw complete resolution of BOTH rectal bleeding and stool frequency after 4 weeks of treatment with NX-13 250mg, once daily

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

# 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
- 3 unrelated Adverse Events (AEs) of note

## Pharmacokinetics

**Plasma levels were generally low**

- Modified Release tablet produced a flattened, prolonged exposure profile
- Tissue levels fell below the limit of quantification in a portion of patients in all dose groups, suggesting need for higher sensitivity assay

## Efficacy

**4 weeks of low dose, immediate release, once daily treatment induced:**

- Clinical response in 8/11 patients
- Clinical remission in 3/11 patients
- Endoscopic and Histologic response in 4/11 patients
- Symptomatic Remission (Stool Frequency=0, Rectal Bleeding=0) in 8/11 patients
- Fecal Calprotectin Normalization in 5/11 patients

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

# What's Next: Study Design for NX-13 Phase 2 Proof of Concept Trial

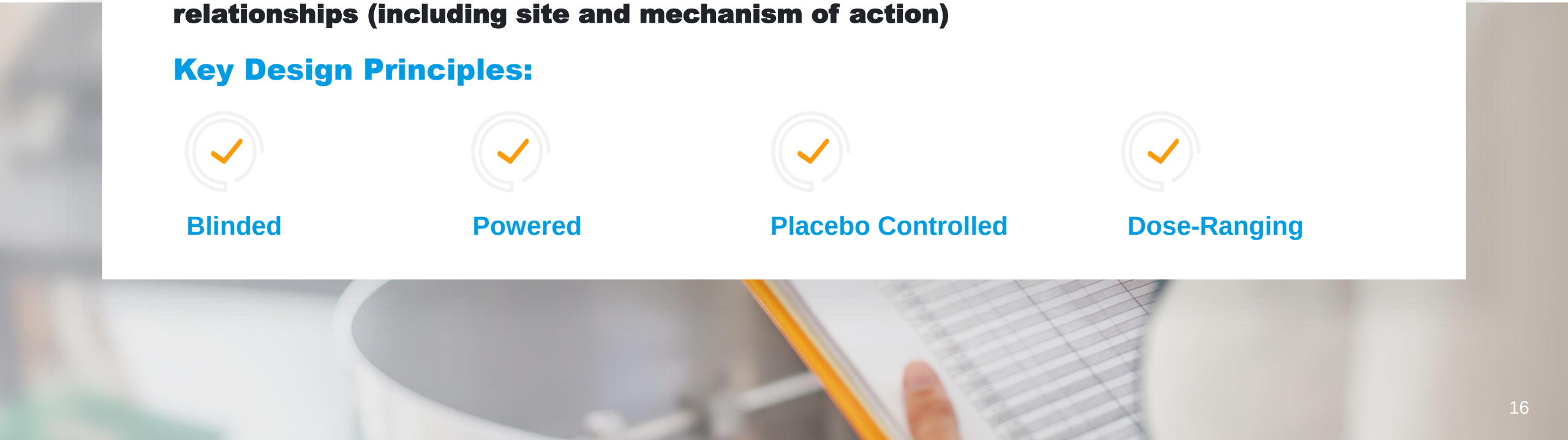
**GOAL | Evaluate the safety, efficacy and pharmacokinetics of NX-13 in moderate to severe UC patients.**

**TIMING | On-track to initiate Phase 2 trial in Q2 2023; Expecting to report topline data by Q4 2024**

**ADDITIONAL PHASE 2 LEARNINGS | Dose-Exposure-Response relationships and PK/PD relationships (including site and mechanism of action)**

## Key Design Principles:

- Blinded
- Powered
- Placebo Controlled
- Dose-Ranging



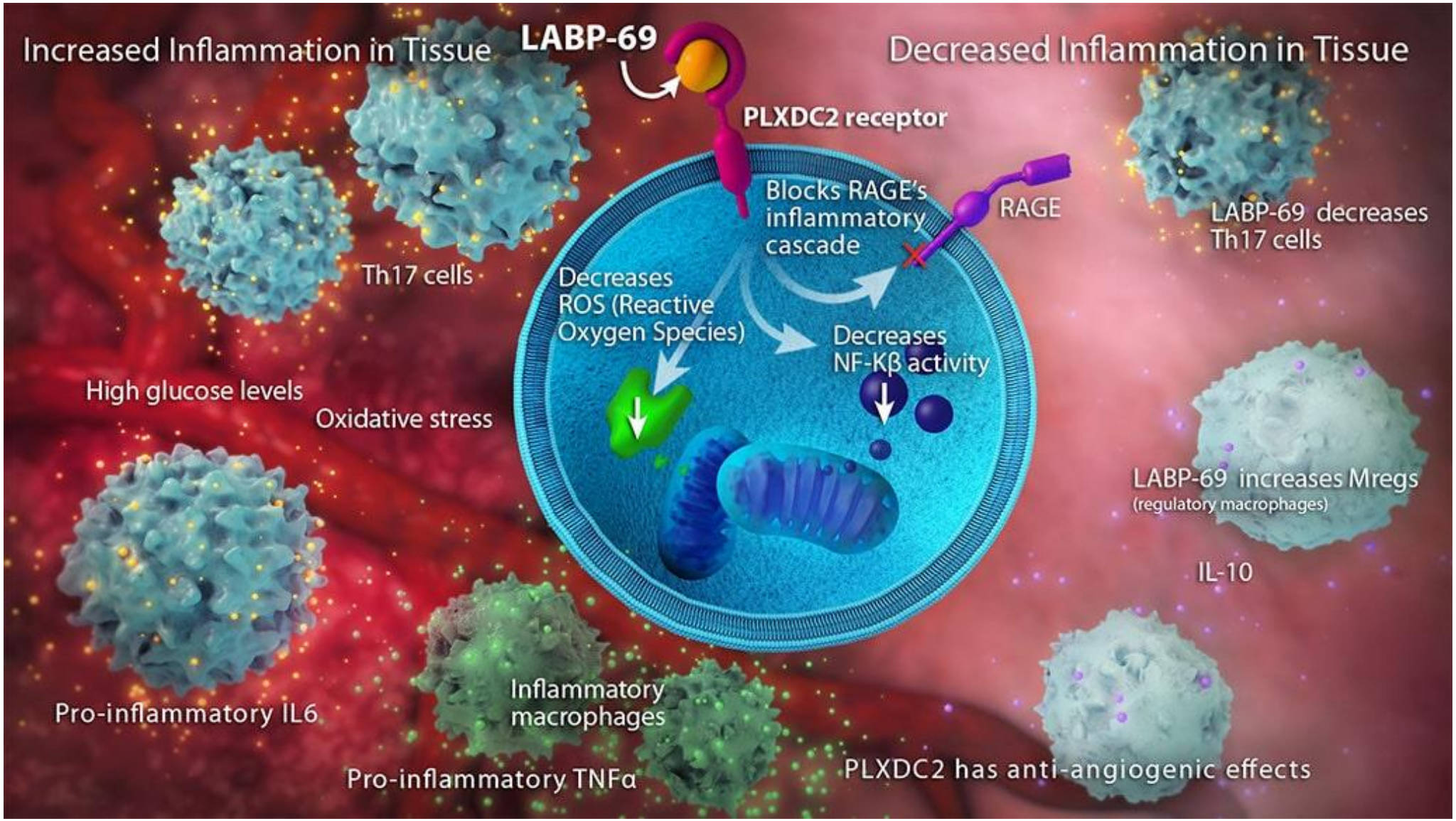
# Preclinical Programs in the NLRX1 Agonist Library

| | LABP-73 for Respiratory Inflammation | LABP-66 for CNS Inflammation |
|---|---|---|
| **Key Indications** | Asthma, COPD | MS, AlzD |
| **Administration** | Oral, once-daily | Oral, once-daily |
| **Development Stage** | Preclinical Development | Preclinical Development |
| **Additional Information** | MOA supported by efficacy in 3 respiratory inflammation mouse models<br>Systemic PK profile established | MOA supported by efficacy in 2 MS mouse models |

Note: Advancing NX-13 in UC is the Company's current focus and top priority
COPD: Chronic Obstructive Pulmonary Disease; MS: Multiple Sclerosis; AlzD: Alzheimer's Disease

# PLXDC2 Library

# Activation of PLXDC2 in Immune & Non-Immune Cells Suppresses Inflammation & Angiogenesis



# Preclinical Programs in the PLXDC2 Agonist Library

| | LABP-69 |
|---|---|
| **Key Indications** | Rheumatoid Arthritis (“RA”), Diabetic Nephropathy |
| **Administration** | Oral, once-daily |
| **Development Stage** | Preclinical Development |
| **Additional Information** | MOA: Designed to decrease reactive oxygen species, oxidative stress, pro-inflammatory signals & angiogenesis<br>MOA: Evidence in 2 RA rodent models |

Note: Advancing NX-13 in UC is the Company’s current focus and top priority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