



# Forward-Looking Statements

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Transforming the treatment of pain and inflammation with breakthrough science



# Lead Drug: Otenaproxesul

## 1. Novel H<sub>2</sub>S-Releasing NSAID with Robust IP Protection to 2043

New chemical entity pairs an anti-inflammatory hydrogen sulfide (H<sub>2</sub>S)-releasing moiety with naproxen for a safer alternative to current NSAIDs and opioids for acute pain

- Best-in-class gastrointestinal (GI) safety with a favorable cardiovascular profile
- Robust analgesic efficacy targeting equivalence to opioids

## 2. De-Risked Program with an Accelerated Development Path

Leveraging strong GI safety and unequivocal Phase IIB osteoarthritis efficacy data

- 700+ subjects administered otenaproxesul in multiple clinical trials
- Phase II abdominoplasty trial set to initiate in calendar Q1 2024, with top-line data expected in Q3 2024

## 3. Very Large Market with Urgent Unmet Need

Demand for new non-opioid painkillers is documented in daily news headlines

- US\$ 25 billion global market with no novel oral painkillers introduced in 25 years
- Rising interest in new pain therapeutics by potential partners

Oral non-opioid of choice for acute pain: a novel anti-inflammatory without the limitations of current NSAIDs and opioids





## A Successful Pivot to Acute Pain...

# **Crystalline Formulation**



## **Amorphous Formulation**

## **Chronic Pain**

## **Strong Phase IIB proof-of-concept data**

16:1 GI safety superiority to naproxen (2.5% vs. 42.1% ulceration rate) in 14-day trial with 244 healthy subjects (*March 2018*)

### **Robust Phase IIB efficacy data**

Significantly outperformed placebo in reducing osteoarthritis pain in 14-day trial with 384 patients (*June 2020*)

## Transient liver signal seen in chronic dosing

Transient liver transaminase elevations (LTEs) seen in ~5% to 12% of subjects treated for chronic pain (August 2021)

## **Acute Pain**

## Liver signal understood – solved for acute pain

In process for chronic pain (March 2022)

## Novel formulation and innovative dosing regimen

Faster-absorbing formulation accelerates onset of action while lowering total exposure, complemented by innovative dosing regimen (patent filed October 2022)

## **Strong human safety and PK data**

No drug-related adverse events nor increase in LTEs in 36 healthy subjects (*November 2023*)

## Large Phase II to start Q1; top-line in Q3 2024

Safety and efficacy of high and low dose regimens to be evaluated in placebo-controlled abdominoplasty study for acute pain

Successful strategic pivot to acute pain for a faster clinical development path in a very large market with urgent unmet needs – while dosing strategies for chronic pain are refined

# Acute Pain:

# Market and Unmet Need



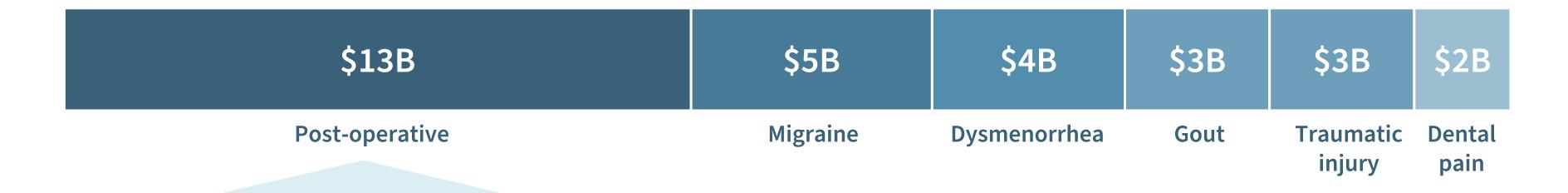


# Large Market with Urgent Unmet Need

Bringing safer, robust pain therapy to market for a broad acute pain label

## **Acute Pain Market**

US\$ 25+ billion



Initial commercial focus

US\$ 22 billion (2031)

5.7% CAGR (2022-2031)

...followed by rapid expansion into the broader acute pain market

Source: Transparency Market Research (2019), GlobalData (2021), Statista, DataBridge, DelveInsight (2021), Allied Market Research (2021), Biotech Advisors (2021), Antibe internal estimates.



# Post-Operative Pain: The Surgeon's Dilemma

There is an urgent global need for a safer non-addictive analgesic for post-operative pain, the largest segment of the acute pain market

The treatment paradigm for post-operative pain continues to rely heavily on opioids and nonsteroidal anti-inflammatory drugs (NSAIDs) — both have serious side effects



## **Opioids**

- Includes: hydrocodone (Vicodin), oxycodone (Percocet), and fentanyl
- High addiction and overdose potential
- Adverse effects include nausea, vomiting, respiratory depression and constipation

## **NSAIDs**

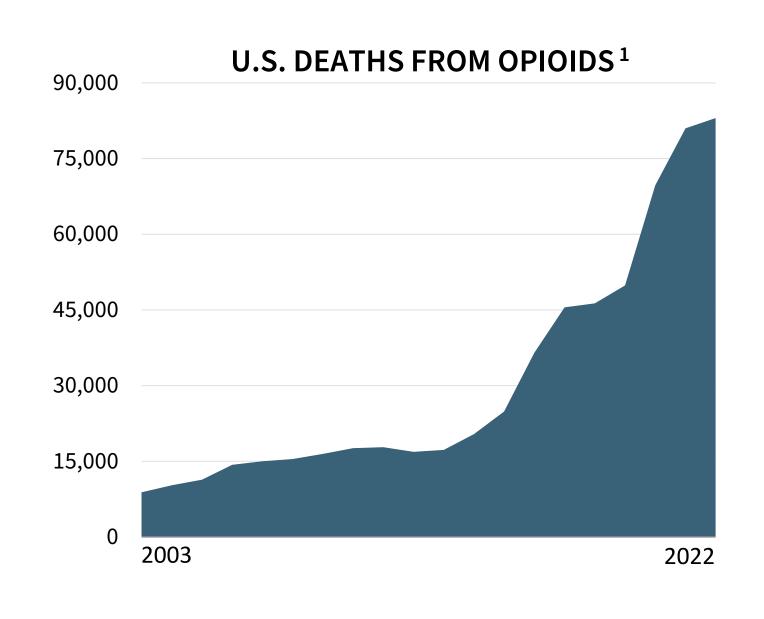
- Includes: naproxen, celecoxib (Celebrex) and ibuprofen
- Can cause serious GI ulcers and bleeding
- Increased cardiovascular (CV) risk with COX-2 inhibitors (e.g., celecoxib)

<sup>&</sup>lt;sup>1</sup>Transparency Market Research (2019), 2021 estimate.



# Prescribers Need Alternatives to Opioids

The opioid crisis has reached a tipping point — physicians, patients, policymakers and payors are seeking alternative therapies for acute pain



## 76 million

Number of annual surgeries performed in the United States <sup>2</sup> most patients are prescribed opioids<sup>3</sup>

## 2 million

Number of Americans every year who may become persistent opioid users after surgery<sup>3</sup>

## \$115 billion

Annual cost to the U.S. healthcare system from opioid use disorder and overdoses 4

#### **NOPAIN Act**

U.S. law improves access to non-opioid pain therapies via reimbursement (starting 2025)

<sup>&</sup>lt;sup>1</sup>CDC Wonder; <sup>2</sup>Gan, J Pain Res. (2017); 10: 2287–2298; <sup>3</sup> Brummett, JAMA Surg (2017);152(6); <sup>4</sup> Altarum, 2017 estimate.



## **NSAIDs Are the Preferred Alternative**

To reduce opioid use, widespread use of NSAIDs in multimodal analgesia strategies have become standard of care

## **NSAIDs** are the foundation

of opioid-sparing multimodal analgesia strategies



<sup>&</sup>lt;sup>1</sup> Memtsoudis, Anesthesiology (2018); 128: 891-902.



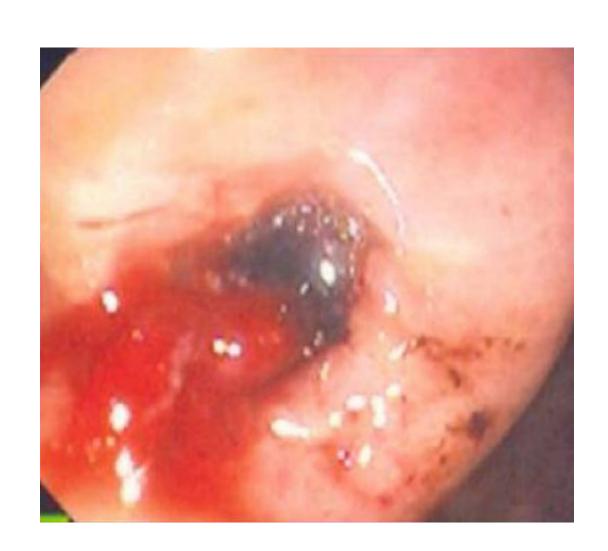
# **But Current NSAIDs Compromise GI Safety**

NSAID-induced gastrointestinal damage is a significant concern at ANY treatment duration

230/0

develop ulcers (≥3mm)
within 7 days 1-6

Incidence of ulcers likely higher if studied today using more advanced equipment

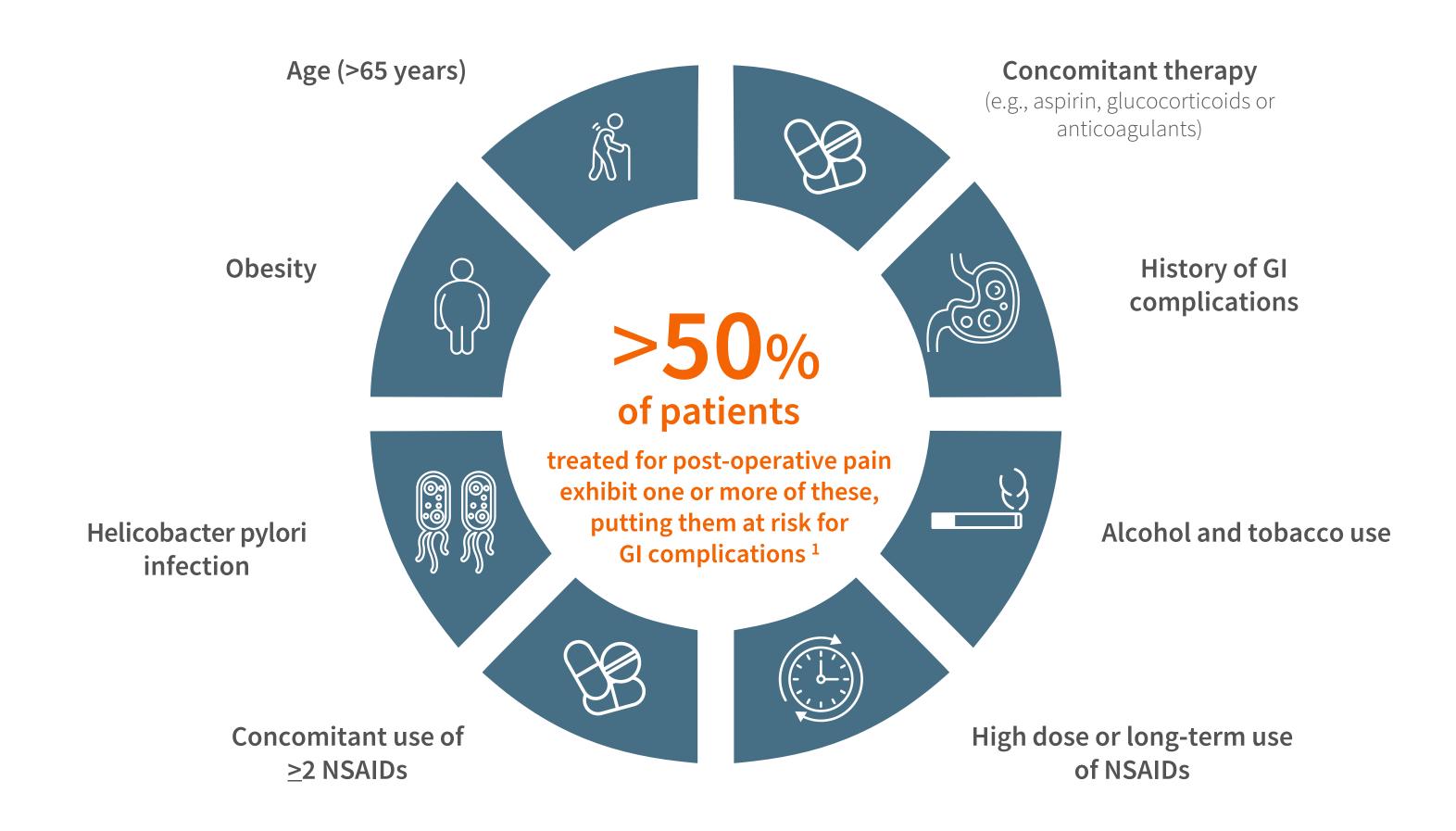


Bleeding ulcer after **2 days** of NSAID use <sup>7</sup>

<sup>1</sup>Desai, Aliment Pharmacol Ther (2009); 30(1):71-81; <sup>2</sup>Gagliano-Jucá, BMC Gastroenterol (2016); 16(1):58; <sup>3</sup>Goldstein, Clin Ther (2006); 28(3): 340-51; <sup>4</sup>Goldstein, Aliment Pharmacol Ther (2003);18(1):125-32; <sup>5</sup>Goldstein, Dig Dis Sci (2008);53(3):647-56; <sup>6</sup>Moberly, Dig Dis Sci (2007);52(2):442-50; <sup>7</sup>Goldstein and Cryer, Drug Healthc Patient Saf (2015); 7:31-41.



# Common Risk Factors Make Complications Worse

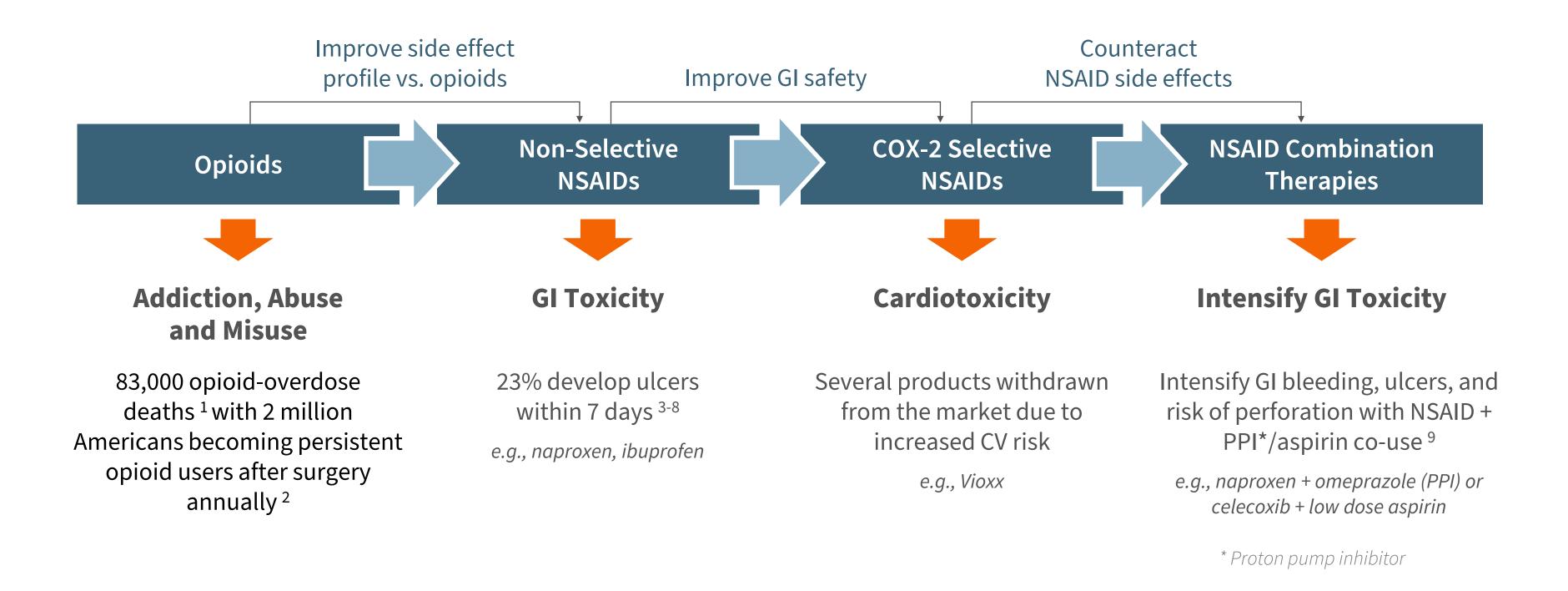


<sup>&</sup>lt;sup>1</sup> Shift Health; Varrassi, Adv Ther (2019); 36(10):2618-2637; Castellsague, Drug Saf (2012);35(12):1127-46; Salvo, Clin Pharmacol Ther (2011); 89(6):855-66.



# All Current Options Have Limitations

Due to their non-addictive nature and proven efficacy, NSAIDs are central to treating pain; however, they present serious GI toxicity – all efforts to mitigate this problem have been unsatisfactory

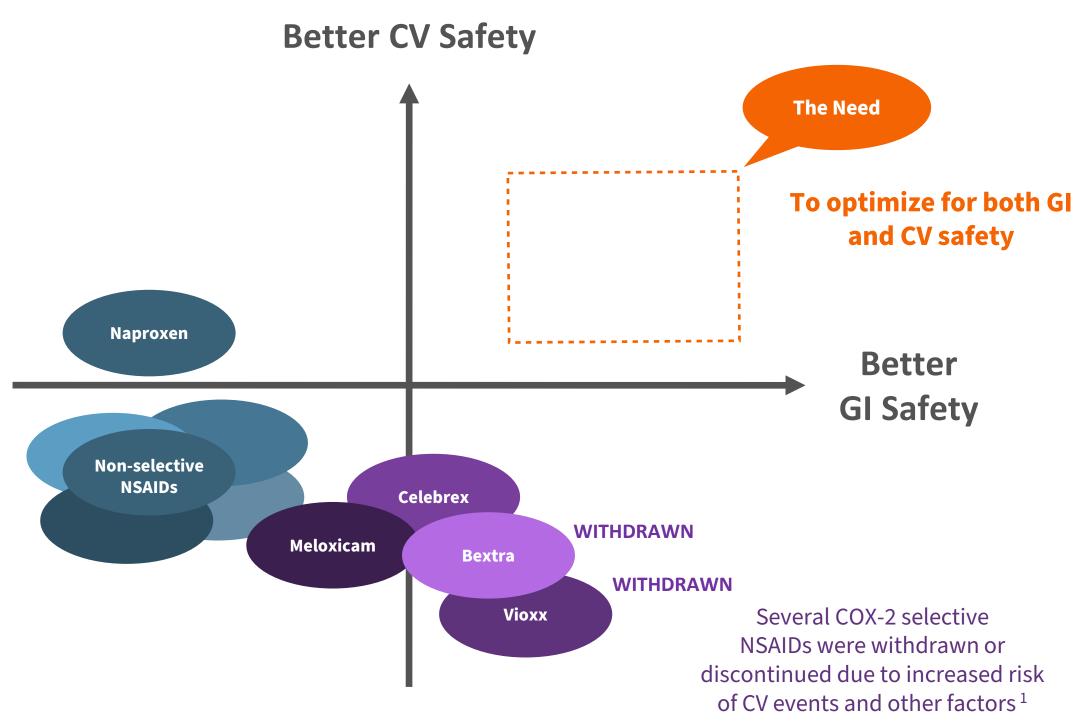


<sup>&</sup>lt;sup>1</sup> CDC Wonder (2022); <sup>2</sup> Brummett, JAMA Surg (2017);152(6); <sup>3</sup> Desai, Aliment Pharmacol Ther (2009); 30(1):71-81; <sup>4</sup> Gagliano-Jucá, BMC Gastroenterol (2016); 16(1):58; <sup>5</sup> Goldstein, Clin Ther (2006); 28(3): 340-51; <sup>6</sup> Goldstein, Aliment Pharmacol Ther (2003);18(1):125-32; <sup>7</sup> Goldstein, Dig Dis Sci (2008);53(3):647-56; <sup>8</sup> Moberly, Dig Dis Sci (2007);52(2):442-50; <sup>9</sup> Tai, Clin Med (2021);21(2):131-134.



# The Need: Optimized GI and CV Safety

Todays NSAIDs carry labels with black box warning for risk of gastrointestinal (GI) and cardiovascular (CV) safety



Schematic for illustrative purposes – not to scale

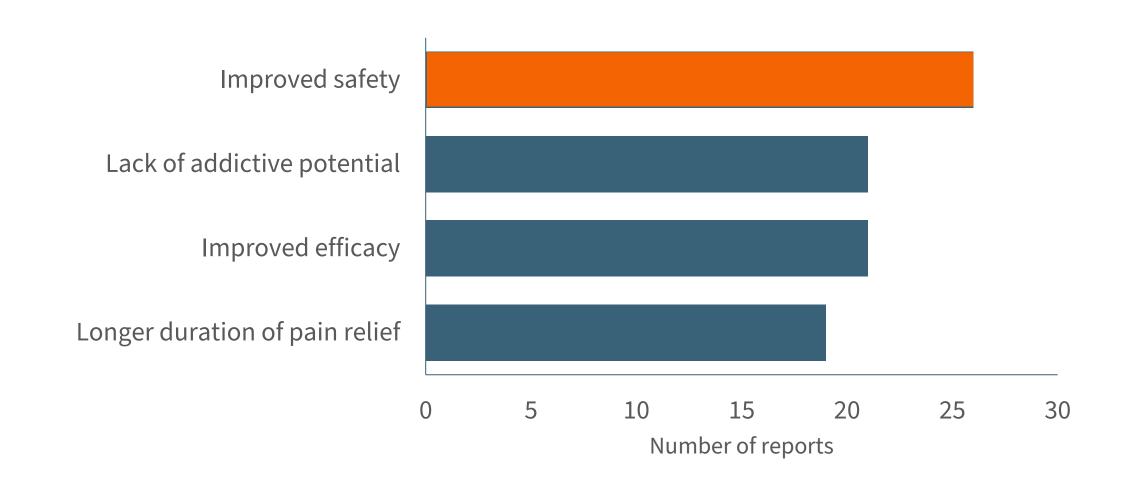
<sup>&</sup>lt;sup>1</sup> FDA. Postmarket Drug Safety Information for Patients & Providers (Voluntarily Withdrawal of Vioxx, Sept. 2004 and FDA Request for Withdrawal of Bextra, April 2005).



# Prescribers Agree

Primary market research with U.S. clinicians confirms high unmet need for safer non-opioid medications for acute pain

## Improved safety is the highest unmet need in acute pain management



of surgeons and anesthesiologists would switch to otenaproxesul's target product profile

Source: Shift Health survey (2022) of US clinicians who prescribe NSAIDs for acute or perioperative pain.



# Target Product Profile (TPP)

A potent, novel analgesic without the limitations of current NSAIDs and opioids

Attributes		Overview	
	Robust Pain Relief	For moderate-to-severe acute pain	
ffective	Fast-Acting	60-minute onset of action	
	Minimal GI Damage	Minimal GI damage including perforation, ulceration and bleeding	
	Favorable CV Profile	No elevated blood pressure (correlated with thrombotic risk)	
Safer	Safe for Combined Use	Designed to be used in combination with other acute pain therapies	
	Non-Addictive & Well Tolerated	Low potential for abuse and minimal side effects	
Novel	New Mechanism of Action	New mechanisms complement existing medications, also enabling robust IP protection	



# Target Product Profile (TPP)

A potent, novel analgesic without the limitations of current NSAIDs and opioids

Attributes		Otenaproxesul TPP	
Effective	Robust Pain Relief	For moderate-to-severe acute pain	<b>✓</b>
	Fast-Acting	60-minute onset of action	<b>√</b>
	Minimal GI Damage	Minimal GI damage including perforation, ulceration and bleeding	<b>✓</b>
Safer	Favorable CV Profile	No elevated blood pressure (correlated with thrombotic risk)	<b>✓</b>
	Safe for Combined Use	Designed to be used in combination with other acute pain therapies	<b>√</b>
	Non-Addictive & Well Tolerated	Low potential for abuse and minimal side effects	<b>√</b>
Novel	New Mechanism of Action	New mechanisms complement existing medications, also enabling robust IP protection	<b>√</b>

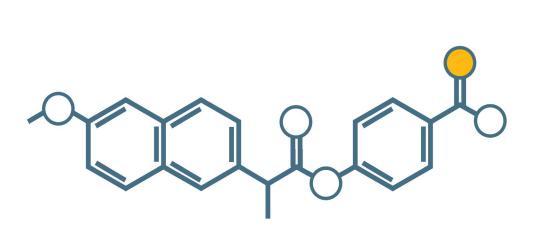
# Otenaproxesul





19

## The Solution that Checks All the Boxes



## **Otenaproxesul**

A novel, orally administered non-opioid analgesic

#### **New Chemical Entity**

New molecule pairs a proprietary hydrogen sulfide-releasing moiety with naproxen



- Unequivocal superiority to placebo in Phase IIB efficacy study in reducing osteoarthritis (OA) pain (n=384)\*
- Robust efficacy in comparison to a comprehensive metaanalysis of historical NSAID trials in OA pain\*

## **GI-Sparing and Well Tolerated**

- Exceptional GI safety vs naproxen in Phase IIB trial (n=244)\*
- 8,000+ person-days on drug in more than 700 subjects\*\*
- Naproxen was selected for its favorable CV profile <sup>1</sup>



H<sub>2</sub>S

## **Novel Mechanism of Action**

- Protects the gastrointestinal tract
- Anti-inflammatory, cytoprotective, cardioprotective and analgesic <sup>2,3,4</sup>
- Increases potency 5

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<sup>\*</sup> Data for original crystalline formulation.

<sup>\*\*</sup> Data includes both crystalline and amorphous formulation.

<sup>&</sup>lt;sup>1</sup>Varga, Cureus (2017);9(4):e1144; <sup>2</sup> Wallace and Wang, Nature Rev Drug Disc (2015); 14,329-345; <sup>3</sup> Cirino et al., Physiol Rev (2023); 103(1):31-276; <sup>4</sup> Loboda and Dulak, Cells (2024); 13(2), 158; <sup>5</sup> Wallace et al., Br J Pharmacol (2019) 1-9.



# H<sub>2</sub>S Has Broad Therapeutic Potential

Now known to be made in every cell in the body, H<sub>2</sub>S delivers a wide range of anti-inflammatory and cytoprotective effects that also enhance pain management

## Anti-Inflammatory

- Inhibits leukocyte adhesion and extravasation, preventing edema
- Drives neutrophil apoptosis and promotes polarization of
   M2 macrophages for inflammation resolution
- Inhibits NF-κB signaling, reducing pro-inflammatory cytokines production

### Cytoprotective

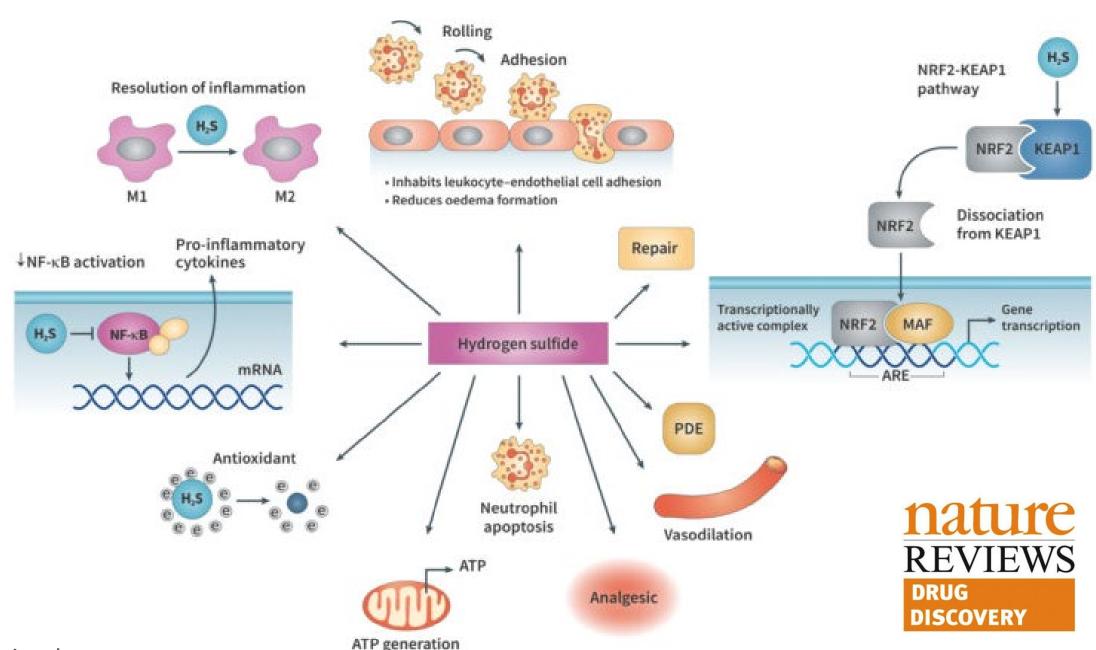
- Inhibits phosphodiesterase activity, enhancing blood flow & accelerating angiogenesis and repair
- Functions as a "true" antioxidant, scavenging toxic free radicals for cellular protection

## Analgesic

- Exerts anti-nociceptive effects by activating K<sub>ATP</sub> channels
- Downregulates CGRP through inhibition of PKC/Raf-1/ERK pathways, preventing the development of opioid withdrawal-induced hyperalgesia

### Cardioprotective

- Regulates apoptosis and ion channels, decreases oxidative stress, stimulates angiogenesis, modulates vascular tone and relaxes blood vessels



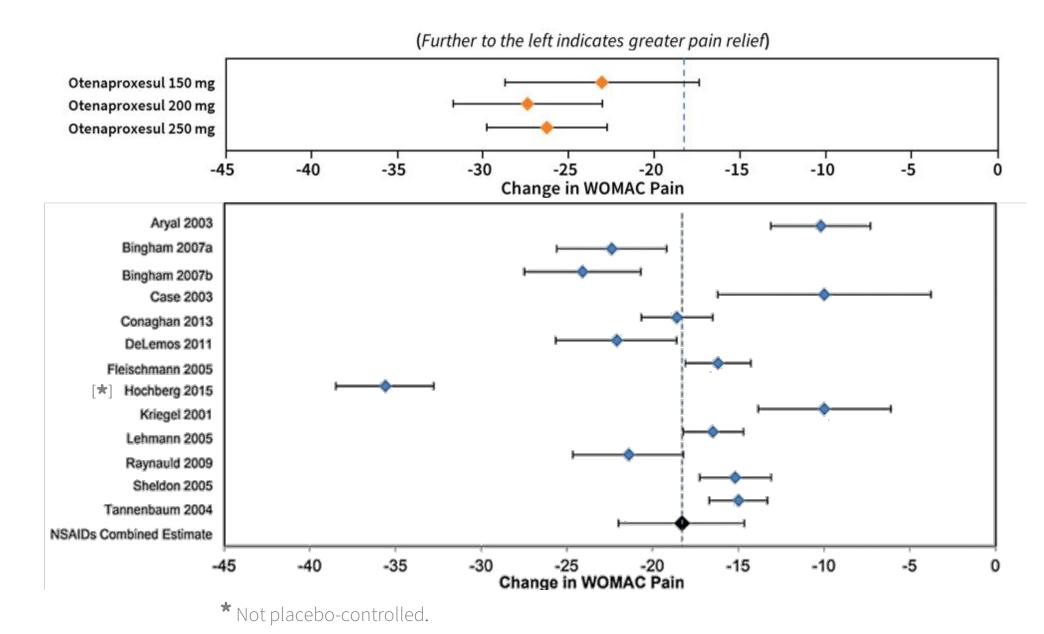
Source: Wallace and Wang, Nature Rev Drug Disc (2015); 14,329-345. Cirino et al., Physiol Rev (2023); 103(1):31-276. Loboda and Dulak, Cells (2024); 13(2), 158.



## Robust Pain Relief in Chronic Pain

Otenaproxesul demonstrated unequivocal superiority to placebo in a Phase IIB dose-ranging, efficacy study in reducing osteoarthritis (OA) pain

## Summary of Adjusted Mean Change in WOMAC Pain Score Reduction of Otenaproxesul and Historical Studies of NSAIDs (mITT Population)



- 200 mg dose demonstrated highly statistically significant efficacy vs. placebo (p = 0.007) \*\*
  - Phase IIB trial involved 384 patients with OA of the knee over a 14-day treatment period
  - Randomized to placebo or one of three doses once-daily

Otenaproxesul demonstrated robust efficacy when viewed alongside a comprehensive metaanalysis of historical NSAID trials in OA pain

Figures: Adjusted mean change from baseline in WOMAC Pain (with 95% confidence intervals) for the ATB-346-P2B-DRF study (upper graphic) and for all studies included in the review article (lower graphic): Smith, S.R. et al, Comparative pain reduction of oral NSAIDs and opioids for knee osteoarthritis: systemic analytic review. Osteoarthritis and Cartilage 24: 962-972, 2016. The 95% confidence intervals are constructed using standard deviations of "Mean Change". Adjusted Mean Change from Baseline for historical NSAID studies were computed with the assumption that subjects who showed insufficient efficacy had change from baseline WOMAC pain score of 0. Adjusted Mean Change from Baseline for ATB-346 dose groups were computed with the assumption that subjects who withdrew from the study prior to Day 14 had change from baseline WOMAC pain score of 0.

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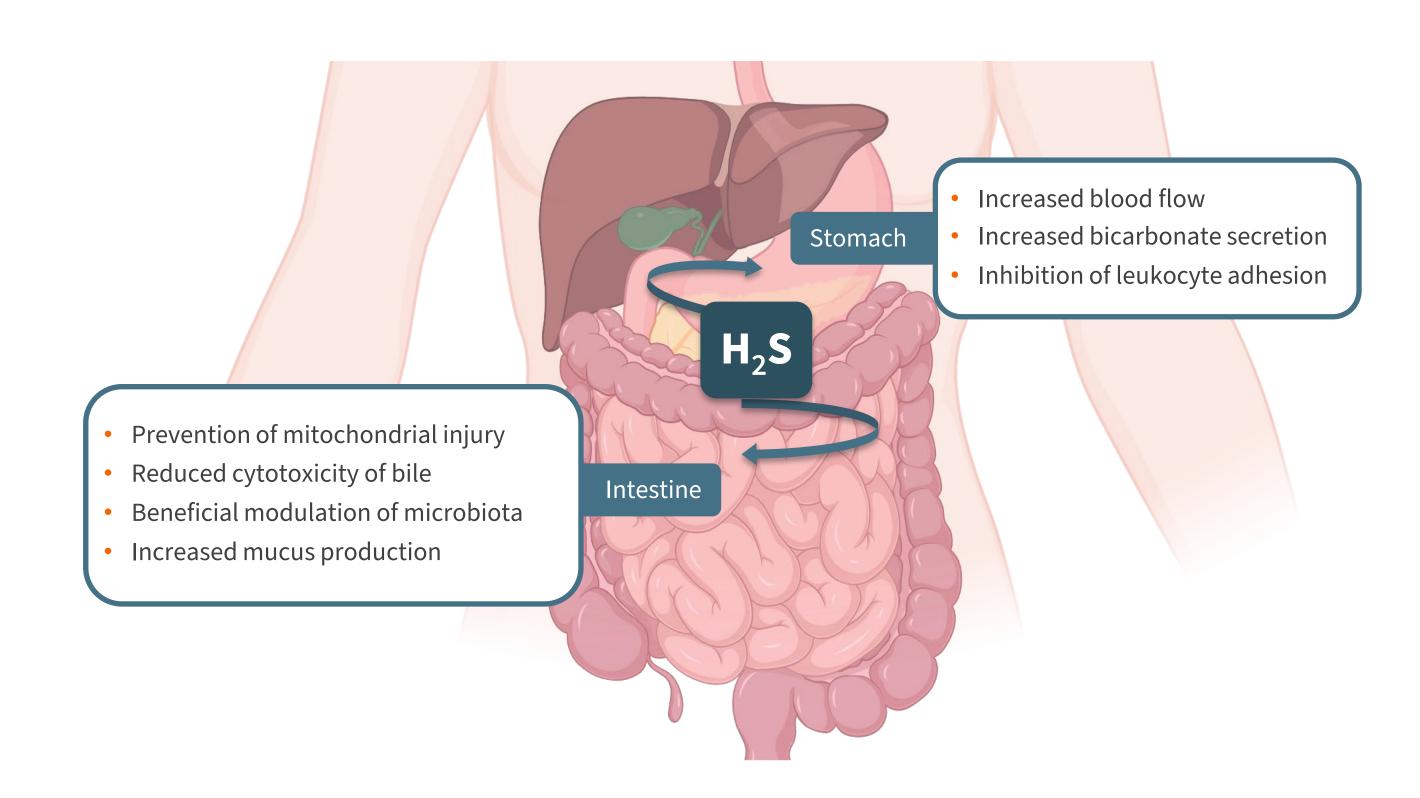
<sup>\*\*</sup> Data for original crystalline formulation



22

# H<sub>2</sub>S Provides Profound GI Protection

H<sub>2</sub>S physiological activities reduce inflammation in the GI tract and prevent NSAID-induced injury through a variety of mechanisms



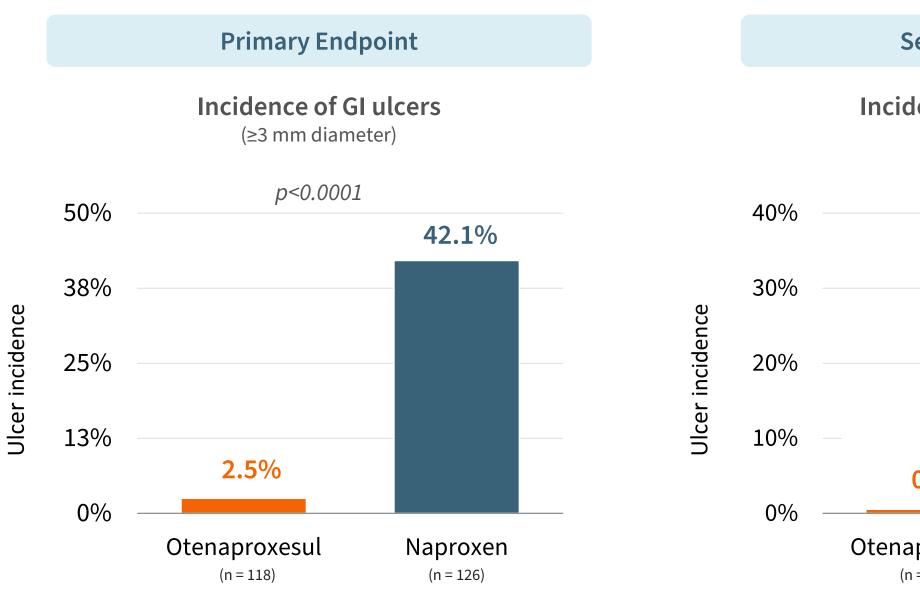
Source: Gemici et al., Nitric Oxide 46 (2015) 25-31.

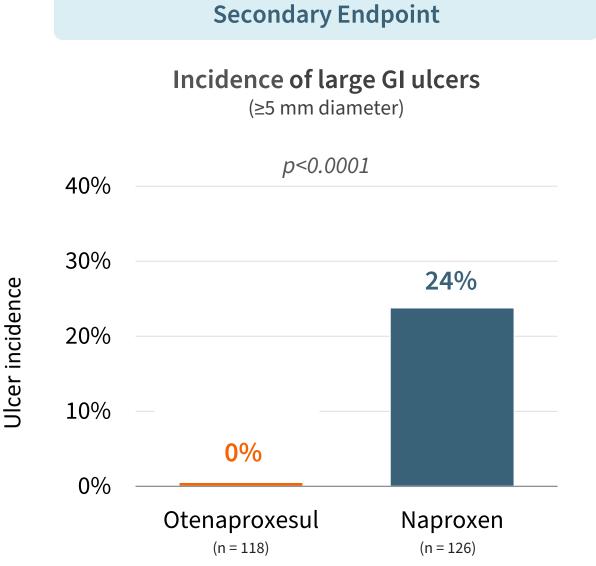


## Superior GI Safety vs. Naproxen

Otenaproxesul exhibited an ulceration rate of 2.5% versus 42.1% for naproxen over a 14-day treatment period (p<0.0001)

Phase IIB double-blind study in 244 healthy volunteers \*





<sup>\*</sup> Subjects received either 250 mg of otenaproxesul once daily or 550 mg of naproxen twice daily. Doses administered represent the therapeutic dose of otenaproxesul (original crystalline formulation) and the standard prescription dose of naproxen for treating OA pain.

Source: Wallace et al., Br J Pharmacol (2019) 1-9.



# New, Faster-Absorbing Formulation

## **Strategic Pivot to Acute Pain**

Faster clinical development path for a very large market with urgent unmet needs – while refining dosing strategies for chronic pain\*

## Successful transition to new formulation

Faster-absorbing formulation accelerates onset of action and elimination, allowing for optimal efficacy while reducing total drug exposure (in combination with an innovative treatment regimen)

## Robust safety and kinetics data in PK/PD study

Exhibited no drug-related adverse events nor LTEs in 36 healthy subjects (November 2023)

## Phase II start set for Q1 2024; top-line in Q3 2024

Safety and efficacy of high and low dose to be evaluated in Phase II placebocontrolled abdominoplasty study for acute pain

## Liver response understood – solved for acute pain

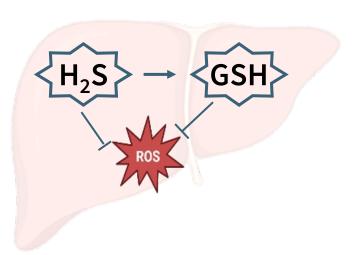
(in process for chronic pain)

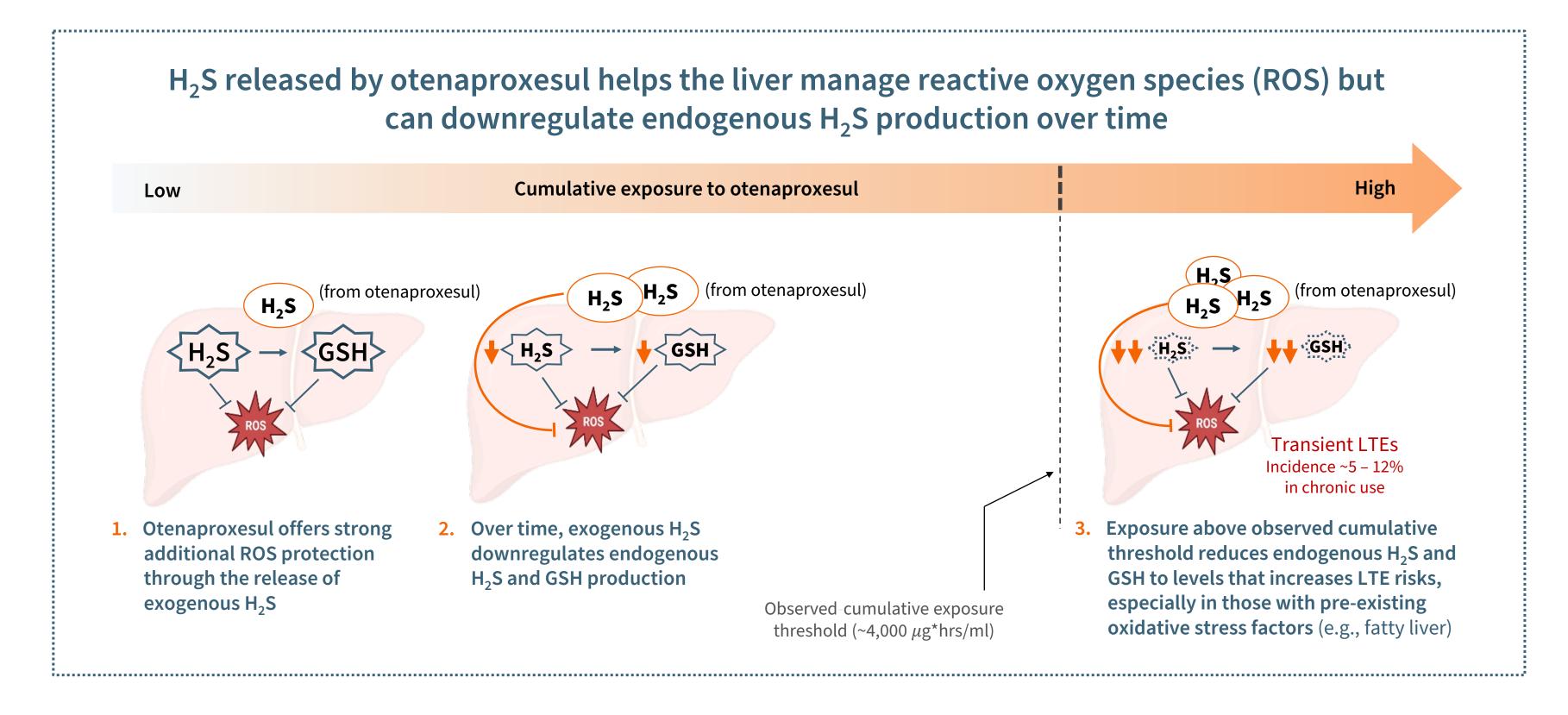
<sup>\*</sup> Transient liver transaminase elevations >3x ULN (LTEs) seen in ~5% to 12% of individuals treated with a chronic regimen of otenaproxesul's crystalline formulation (August 2021).



# Liver Response Understood...

It is now known that the liver produces endogenous H<sub>2</sub>S as it produces glutathione (GSH), providing protection against reactive oxygen species (ROS)







## ... and Solved for Acute Pain

New formulation and dosing regimen is liver safe – as predicted by comprehensive DILIsym\* modeling and confirmed in PK/PD study

- PK/PD clinical study (November 2023)
  - N=36, healthy male and female volunteers
  - Assessed early onset and overall PK/PD, along with liver safety of likely future dosing regimens
- Study objectives achieved
  - Linear, dose-proportional PK observed, with substantially lower doses needed to achieve target plasma levels
  - Much faster to  $C_{MAX}$  (3.5x)
  - More rapid elimination also observed, expanding the drug's safety envelope
- Liver safe in acute treatment regimen
  - All treatment regimens were liver safe no increase in liver enzymes (0% incidence); clinical data matched thousands of DILIsym simulations, all predicting full safety

## Multiple strategies to ensure liver safety

## **Amorphous Formulation**

New formulation is quickly absorbed and eliminated, reducing overall exposure

#### **Low Cumulative Exposure**

Dosing regimens remain well below exposure threshold known to be safe from clinical data

## **Dose Tapering**

Reduces liver's reliance on external H<sub>2</sub>S by maintaining its own internal H<sub>2</sub>S production

<sup>\*</sup> DILIsym is a sophisticated software model developed by a public-private partnership to predict the liver safety in new drug candidates. Frequently used in decision-making within the pharmaceutical industry, its modeling results are increasingly included in regulatory communications and submissions.



# Phase II Trial to Initiate in Q1 2024

- Randomized placebo-controlled, multi-center dose-ranging abdominoplasty trial with adaptive design
  - 300 patients with moderate-to-severe acute pain following abdominoplasty (adaptive trial design provides option to increase enrollment by up to 25% at midway point)
  - **Treatment arms:** High-dose regimen, low-dose regimen, or placebo for five days
  - **Twice-daily dosing:** A loading dose followed by intermediate doses, with tapering doses for the final two days
- To assess efficacy in reducing post-operative pain
  - Primary endpoint: SPID48 (time-weighted Sum of Pain Intensity Difference at 48 hours) \*
  - **Secondary and other endpoints**: SPID24, time to meaningful pain relief after first dose, rescue medication usage, safety and tolerability, pain with activity, patient endorsement, patient recommendation, patient global assessment (PGA)

#### POTENTIAL AS PIVOTAL TRIAL

- Two pivotal trials are required for FDA approval (soft tissue and hard tissue)
- Trial data may be accepted as pivotal with sufficient powering and robust dose-ranging data

#### **EXPECTED MILESTONES**

• Trial start: Q1 2024

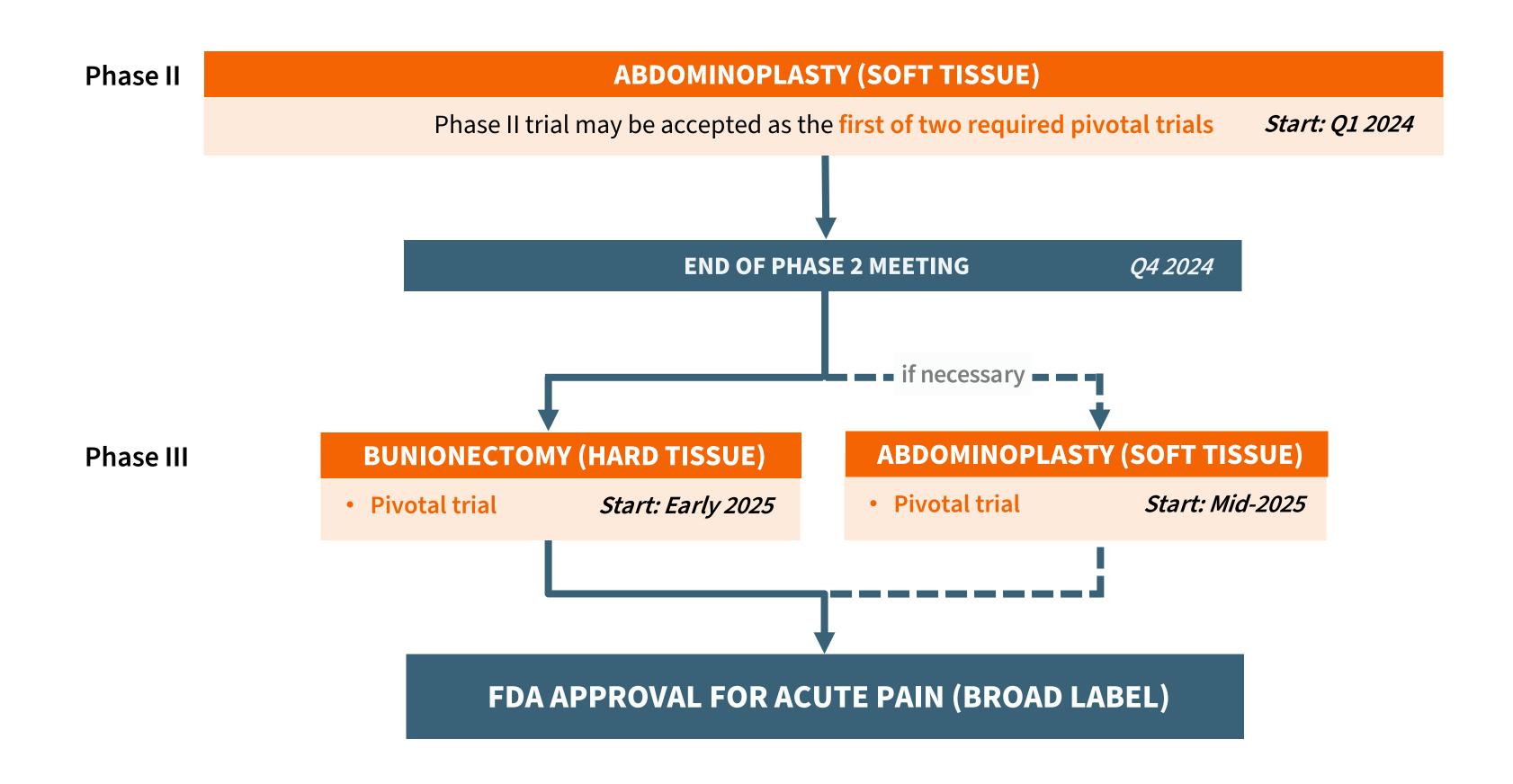
Completion: Q3 2024

• End of Phase 2 meeting: Q4 2024

<sup>\*</sup> SPID48 is a standard expectation by the FDA for the primary endpoint in acute pain trials.



# Remaining Path to Approval



Otenaproxesul will be commercialized in dosing packs to ensure safety, convenience and compliance. The initial version will provide for a 5-day regimen; 3-day and 7-day packs are in development.



# Favorable Target Positioning vs. Competitors

#### Main competitor

Highly anticipated novel analgesic with \$1.5B peak sales estimate <sup>1</sup>



	THERAPEUTICS				
	Otenaproxesul *	Naproxen	Celecoxib	VX-548 *	
	Next-generation NSAID with enhanced safety for stand-alone or multimodal use	Widely used NSAID, restricted in those with high GI risk	Used in place of other NSAIDs for reduced GI risk in certain populations	Novel non-opioid with modest efficacy to date, likely for multimodal use	
Mechanism	H <sub>2</sub> S-releasing COX-1/2 inhibitor	COX-1/2 inhibitor	COX-2 inhibitor	NaV1.8 inhibitor	
Use	Moderate-to-severe pain	Mild-to-moderate pain <sup>2</sup>	Moderate-to-severe pain <sup>3</sup>	Moderate-to-severe pain <sup>4</sup>	
Dosing	Oral, twice daily	Oral, twice daily	Oral, twice daily	Oral, twice daily	
Onset of Action	<60 minutes	<60 minutes	<60 minutes	60+ minutes <sup>5</sup>	
Analgesia	++	<b>+</b> +	++	+ (+) ^	
Gastrointestinal	+++	ххх	+	+++	
with PPIs	+++	XXXX	X		
with Aspirin	+++	ххх	x x x	^ Limited patient exposures to date	
Cardiovascular	+++	+++	X	•	

Note: Symbols in light blue are Antibe assessments compared with currently available oral NSAIDs.

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<sup>\*</sup> In development.

<sup>&</sup>lt;sup>1</sup> STAT News; <sup>2</sup> FDA Prescribing Information (naproxen); <sup>3</sup> FDA Prescribing Information (Celebrex); <sup>4</sup> Vertex Pharmaceuticals Corporate Presentation (Q3 2023); <sup>5</sup> Jones et al., N Engl J Med. (2023); 389(5): 393-405.



# Otenaproxesul: Non-Opioid of Choice

## Novel H<sub>2</sub>S-Releasing Anti-Inflammatory Drug

New chemical entity (NCE): H<sub>2</sub>S-releasing moiety molecularly bonded to naproxen

Faster-absorbing amorphous formulation developed with rapid onset profile

## Best-in-Class Safety Profile

Superior GI safety vs. naproxen \*

Benefits from H<sub>2</sub>S's and naproxen's favorable CV profile

GI-safe with low-dose aspirin \*

## **Human POC Established in Chronic Pain**

Large Phase IIB studies for GI safety and OA efficacy completed with unequivocal positive results \*

700+ subjects administered otenaproxesul in multiple clinical trials \*\*

## Seeking FDA Approval for Acute Pain

Post-operative pain, migraine, dysmenorrhea, traumatic injury, dental pain and gout

Following a standard acute pain regulatory pathway (hard and soft tissue)

Opioid comparator planned for European approval trial

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Otenaproxesul

Safer Non-Opioid

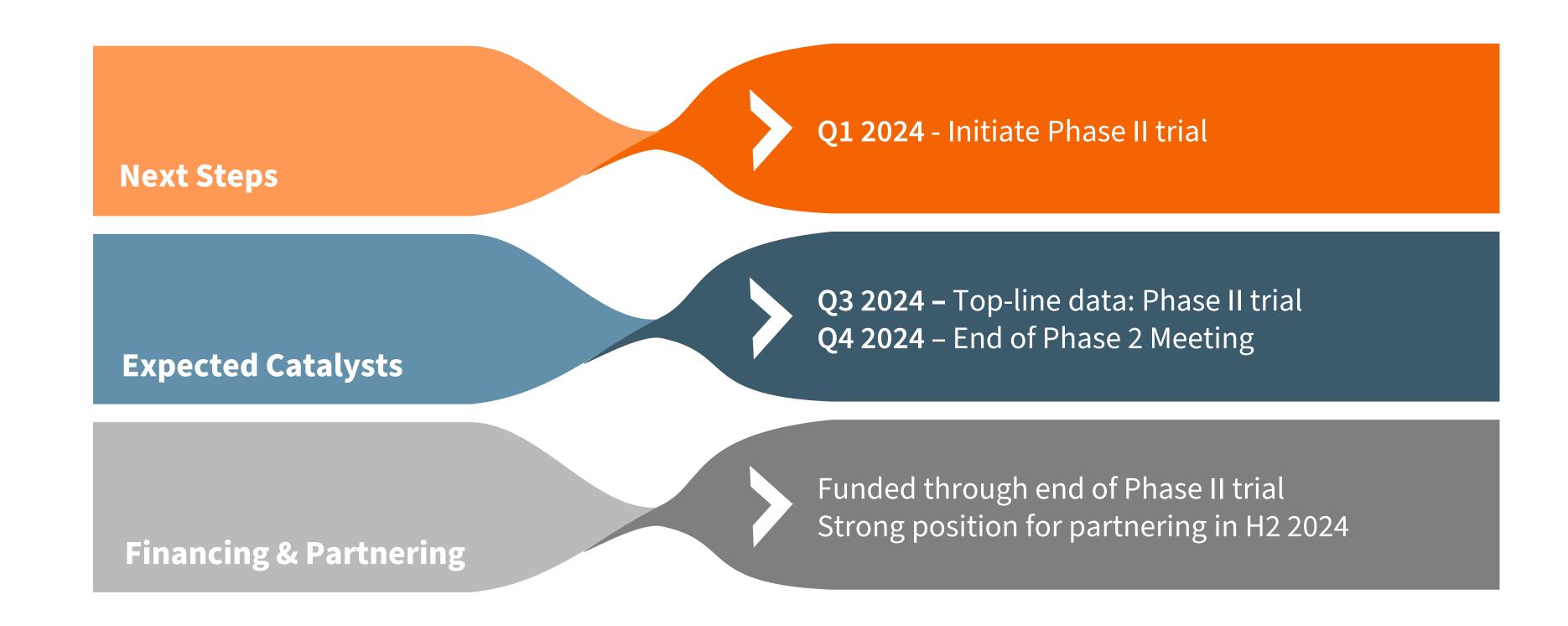
Analgesic

<sup>\*</sup> Data for original crystalline formulation.

<sup>\*\*</sup> Data includes both crystalline and amorphous formulation.



# Next Steps and Catalysts



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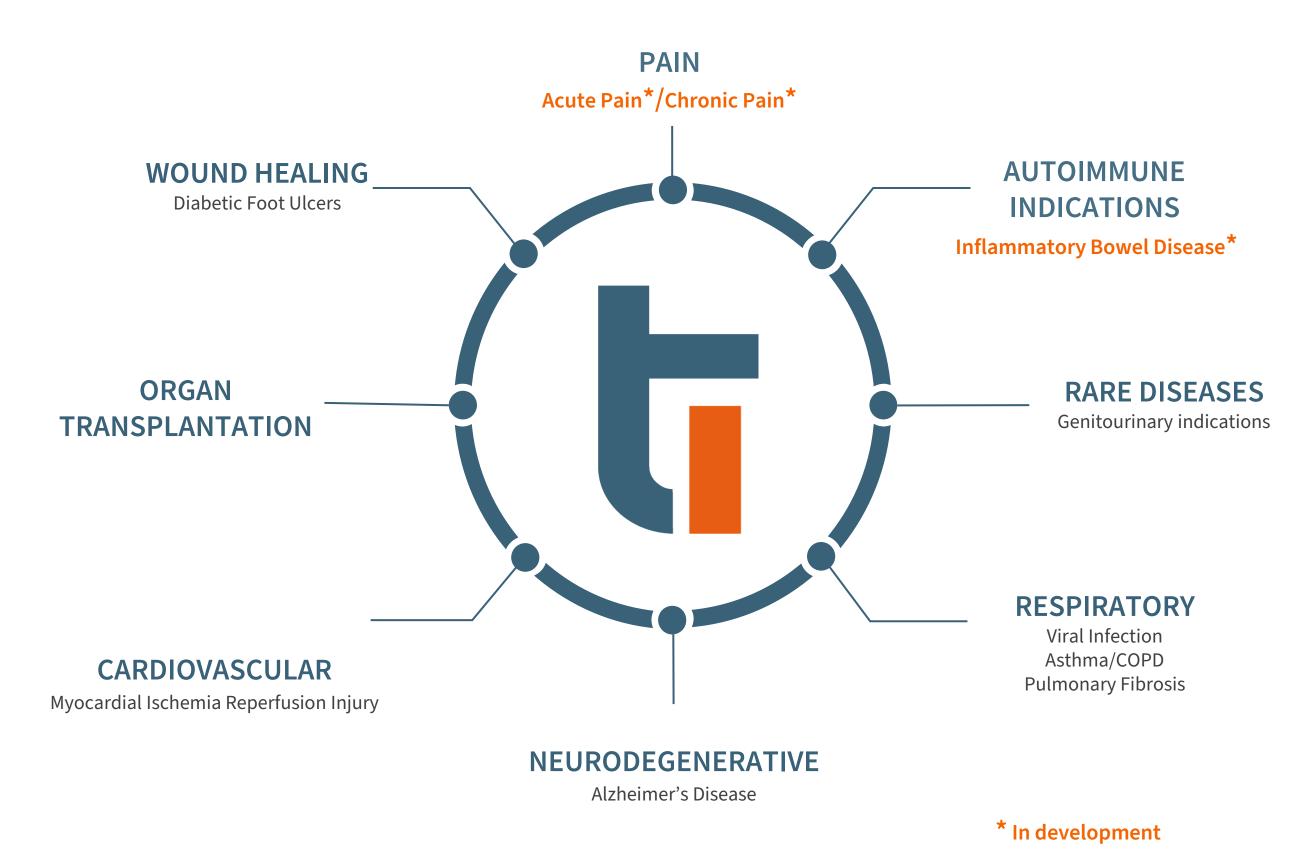
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# Research & Development



# H<sub>2</sub>S Platform: Broad Therapeutic Potential

Beyond our target areas of pain and inflammatory bowel disease, H<sub>2</sub>S has broad therapeutic potential across a range of disease categories and indications



Source: See References slide in Appendix.

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# Targeting Inflammation

Our breakthrough science underpins a unique platform for novel medicines that address large markets in pain and inflammatory diseases

	Therapeutic Candidate	Indication	Route	Milestones
DEVELOPMENT	Otenaproxesul (faster-absorbing formulation)  Acute pain		Oral	PK/PD study – Q4 2023 <i>(completed)</i> Phase II start – Q1 2024 Phase II read out – Q3 2024
DEVEL	ATB-352	Specialized pain indication	Oral	Animal model validation*
ARCH	IBD Program	Inflammatory bowel disease	Oral	Evaluation in animal efficacy models
RESEARCH	Emerging Discovery Program	Announcement – Q1 2024		

<sup>\*</sup> Model also to be validated with otenaproxesul.



# Improving Efficacy for Mild-to-Moderate IBD

Novel compound is designed to help patients postpone initiation of more side effect-prone and expensive therapies such as corticosteroids, immunomodulators and biologics

- Mesalamine (5-ASA) and derivatives are wellestablished 1<sup>st</sup> line treatments for mild-tomoderate IBD\*
- Novel compound in development combines
   5-ASA with an H<sub>2</sub>S-releasing moiety
- Global IBD market projected to grow to \$25 billion by 2029<sup>1</sup>



\* IBD is comprised of two diseases: ulcerative colitis and Crohn's disease, with approx. 50/50 prevalence.

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35 January 2024

<sup>&</sup>lt;sup>1</sup>GlobalData (2020).

<sup>&</sup>lt;sup>2</sup> Visiongain: Global Inflammatory Bowel Diseases (IBD) Drug Market Forecast 2019-2029.

# Corporate Information





## Experienced Leadership Team

## Management

- Dan Legault JD
   CHIEF EXECUTIVE OFFICER
- Scott Curtis Meng, CFA CHIEF OPERATING OFFICER
- Joseph Stauffer do, MBA, FAPCR
   CHIEF MEDICAL OFFICER
- David Vaughan PhD
   CHIEF DEVELOPMENT OFFICER
- Alain Wilson MBA
   CHIEF FINANCIAL OFFICER
- Ana Stegic MD EXECUTIVE DIRECTOR, CLINICAL OPERATIONS

## **Board of Directors**

- Robert E. Hoffman Chair
  PRESIDENT, CEO & CHAIRMAN / KINTARA THERAPEUTICS, INC.
- Roderick Flower PhD EMERITUS PROFESSOR OF PHARMACOLOGY / WILLIAM HARVEY RESEARCH INSTITUTE
- Amal Khouri MBA
  CHIEF BUSINESS OFFICER / KNIGHT THERAPEUTICS INC.
- Dan Legault JD CHIEF EXECUTIVE OFFICER
- Walt Macnee MBA
  VICE CHAIR / ANTIBE; FORMER GLOBAL PRESIDENT / MASTERCARD INC.
- Jennifer McNealey MHA
  CHIEF FINANCIAL OFFICER / ABDERA THERAPEUTICS
- Yung Wu
  FORMER CHIEF EXECUTIVE OFFICER / Mars DISCOVERY DISTRICT

Antibe Therapeutics Inc.

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## World-Class Scientific Advisors

Our clinical and scientific advisory boards are comprised of world-class scientists and clinicians, including a Nobel Laureate

- Dr. Andre Buret PhD CALGARY, ALBERTA
- Dr. Francis Chan MD, PhD HONG KONG, CHINA
- **Dr. Giuseppe Cirino** PhD NAPLES, ITALY
- Dr. Peter B. Ernst DVM, PhD SAN DIEGO, CALIFORNIA
- Dr. Derek Gilroy PhD LONDON, ENGLAND

- Dr. Richard H. Hunt MD OXFORD, ENGLAND
- Dr. Louis J. Ignarro PhD LOS ANGELES, CALIFORNIA
- Dr. Angel Lanas MD, DSc ZARAGOZA, SPAIN
- Dr. Gilberto de Nucci MD, PhD SAO PAOLO, BRAZIL
- Dr. Daniel K. Podolsky MD DALLAS, TEXAS

- Dr. James Scheiman BS, MD CHARLOTTESVILLE, VIRGINIA
- Dr. Harvey Schipper MD, FRCPC TORONTO, ONTARIO
- Dr. William Sessa PhD NEW HAVEN, CONNECTICUT
- Dr. Philip M. Sherman MD, FRCPC TORONTO, ONTARIO
- **Dr. J. Carter Thorne** MD, FRCPC, FACP NEWMARKET, ONTARIO



# Partnering Advisory Board

Highly experienced pharmaceutical executives with strong track record in supporting corporate growth

## Angus Russell CA

- Former CEO of Shire (2008 2013) led expansion into new therapeutic areas through a series of late-stage deals
- Currently Chairman of Mallinckrodt, a leading global specialty pharma company

## Dominique Monnet MBA

- Responsible for accelerating growth of Amgen's Inflammation division and its Enbrel® franchise
- Currently a director of PDL BioPharma, a manager of healthcare companies, products and royalties

### Andrew Powell JD

- Played instrumental role in the sale of: Medivation to Pfizer for \$14B; InterMune to Roche for \$8.3B; ImClone to Eli Lilly for \$6.5B
- Currently a director at Aclaris Therapeutics, a biopharma company focused on immuno-inflammatory diseases

## Don Haut PhD

- Spearheaded business development in AskBio's \$4 billion acquisition by Bayer AG; led \$4.2 billion in transactions in previous roles
- Currently CEO and Director of Carmine Therapeutics



## Stock and Financial Information

## Capitalization Summary

Stock Symbols	TSX-ATE; OTCQX-ATBPF
Share Price <sup>1</sup>	\$0.92
Shares Outstanding	52.8M
Stock Options & RSUs	5.7M
Warrants	6.5M
Market Capitalization <sup>1</sup>	\$49M
Cash & Equivalents <sup>2</sup>	\$28M
Insider Ownership FULLY DILUTED	11%

## **Analyst Coverage**

- Kemp Dolliver CFA
   BROOKLINE CAPITAL MARKETS
- Douglas Loe PhD MBA
  LEEDE JONES GABLE
- Scott McAuley PhD
   PARADIGM CAPITAL
- Jason McCarthy PhD MAXIM GROUP
- Stefan Quenneville CFA
   ECHELON WEALTH PARTNERSZ

Antibe generated a 98% return in calendar 2023, making it a top healthcare performer on the TSX.

<sup>&</sup>lt;sup>1</sup> At market close on January 26, 2024.

<sup>&</sup>lt;sup>2</sup> As at September 30, 2023.

# Thank you.



#### ANTIBE THERAPEUTICS INC.

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TSX: ATE
OTCQX: ATBPF

# Appendix



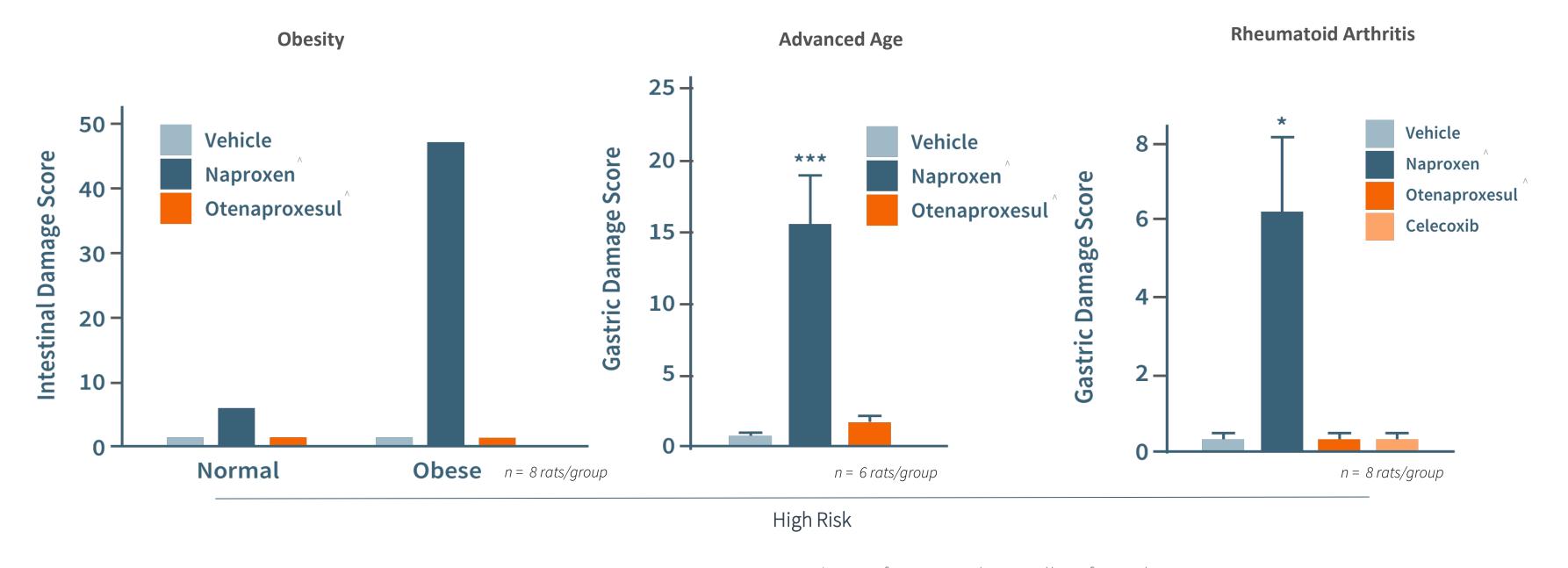


43

# **Extensive Data in Animal Comorbidity Models**

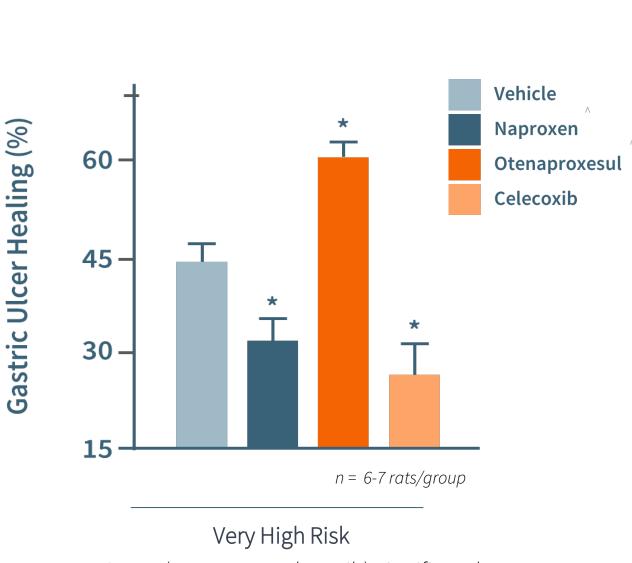
- Otenaproxesul exhibited a superior GI safety profile in animal models that simulate human comorbidities where the
  incidence and severity of NSAID-induced GI damage increases markedly
  - Extensive gastric damage observed following treatment with equimolar dose of naproxen

## In vivo Models of Human Characteristics and Comorbidities with Increased Risk of GI Damage \*



<sup>\*</sup> Data for original crystalline formulation

^Equimolar doses of naproxen; Source: Blackler et al.,PLoS One (2012); 7(4):e35196 (rat study); Wallace, Br J Pharmacol (2010); 159,1236-1246 (rat study).



**Existing Ulcers** 

NSAIDs (naproxen, celecoxib) significantly hindered the process of ulcer healing, whereas otenaproxesul significantly accelerated the healing process



## Otenaproxesul: Safe With or Without Co-Treatment

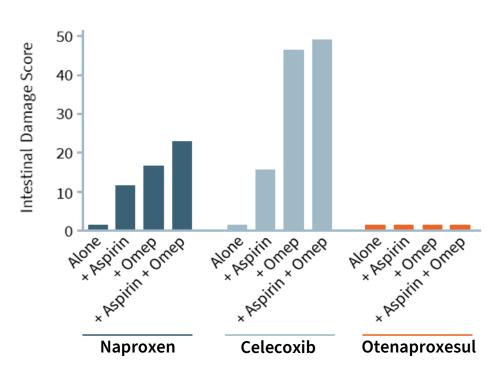
Intestinal damage caused by naproxen and celecoxib is worsened significantly when omeprazole (a common PPI), or low-dose aspirin (for CV protection), is given at the same time <sup>5</sup>

Two combination therapy strategies are commonly used to mitigate NSAID-induced toxicity:

- A. Co-treating conventional NSAID patients with proton pump inhibitors ("PPIs") to improve GI safety by reducing stomach acidity
- B. Co-treating celecoxib patients with low-dose aspirin to improve CV safety

#### A. Conventional NSAIDs + PPIs

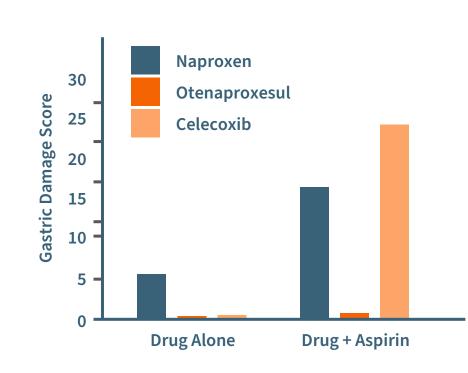
Worsens NSAID-induced damage in the small intestine <sup>1</sup>



- >80% patients have active mucosal lesions in the small bowel after 2 weeks of low-dose NSAID and PPI <sup>2</sup>
- Incidence of intestinal damage is on the rise, evident in rising hospitalization and mortality rates <sup>3,4</sup>
- When co-administered with PPIs, otenaproxesul remained safe, despite not requiring this co-treatment

### B. Celecoxib + Low-Dose Aspirin

Abolishes celecoxib's GI safety advantage – in the stomach and intestine



- Aspirin's anti-platelet effect can dissuade surgeons from coprescribing aspirin, exposing patients to celecoxib's CV risk
- When co-treated with low-dose aspirin, otenaproxesul remained GI-safe unlike naproxen or celecoxib

Source: Blackler, PLoS One (2012);7(4): e35196 (rat study). <sup>1</sup> Tian, Front Pharmacol (2023); 14:1217306; <sup>2</sup> Kuramoto, BMC Gastroenterol (2013);13:85; <sup>3</sup> Mayo Clinic Proceedings (2014). Volume 89, Issue 12:1699-1709; <sup>4</sup> Sostres, Arthritis Res Ther (2013);15(Suppl 3):S3; <sup>5</sup> (i) World J Gastroenterol (2013), 19(12):1861-1876. (ii) Curr Opin Pharmacol. (2014);19:11-16. (iii) World J Gastroenterol (2016), 22(48):10477-10481. (iv) Gastroenterology (2011),1(4):1314-1322.e1-5.

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<sup>\*</sup> Data for original crystalline formulation



## References

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