Phathom™
PHARMACEUTICALS

INNOVATION IN GI MEDICINE

March 2020

Safe Harbor Statement

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success, plans and objectives of management for future operations, and future results of current and anticipated products, are forward-looking statements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “could,” “intend,” “target,” “project,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other similar expressions. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. These risks, uncertainties and other factors include, without limitation: potential delays in enrollment and completion of clinical trials; our dependence on third parties in connection with product manufacturing, research and preclinical and clinical testing; the success of our clinical trials of vonoprazan, and the results of prior clinical trials and other investigator-initiated clinical trials of vonoprazan are not necessarily predictive of our future results and the FDA and comparable foreign regulatory authorities may not accept the data from such prior trials to support approval; regulatory developments in the United States and foreign countries; unexpected adverse side effects or inadequate efficacy of vonoprazan that may limit its development, regulatory approval and/or commercialization, or may result in recalls or product liability claims; our ability to obtain and maintain intellectual property protection for vonoprazan; our ability to comply with our license agreement with Takeda; and other risks described in our filings with the Securities and Exchange Commission (SEC), including our Form S-1 and related prospectus, an any subsequent filings with the SEC. You are cautioned to place undue reliance on these forward-looking statements, which speak only as of the date hereof, and we undertake no obligation to revise or update this presentation to reflect events or circumstances after the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement, which is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions, and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

Executive leadership team

Tachi Yamada, MD
Chairman

CMO & CSO, Takeda
President Global Health, Gates Foundation
Chairman R&D, GSK
President, AGA

Terrie Curran
CEO

President I&I Franchise, Celgene
Led OTEZLA business from US launch through $13b sale
SVP Global Women's Health, Merck

Azmi Nabulsi, MD
COO

Deputy CMO & CSO, Takeda
Global Head Development, Takeda
Division VP, Abbott

Martin Gilligan
CCO

CVP Marketing, Market Access, BD, Celgene I&I Franchise
Executive Director Marketing, J&J
Global Brand Leader, Merck

Joe Hand
CAO

EVP, Global HR and Corporate Service, Celgene
Executive Committee, Celgene
Attorney at Jones Day

Tom Harris
SVP, Regulatory & Quality

SVP/Head of Global Regulatory, Takeda
VP US Regulatory, Takeda
Humira Global Project Head, Abbott

Aditya Kohli, PhD
CBO

Principal, Frazier
VP BD, Scout Bio
Engagement Manager, McKinsey

Eckhard Leifke, MD
CMO

CMO, Omeros
Global Head CVM Early Project & External Opportunities, Sanofi

Larry Miller
GC

General Counsel, Cyclerion
SVP and General Counsel, Blue Buffalo
Chief Counsel, Pfizer Consumer Healthcare

David Socks
CFO

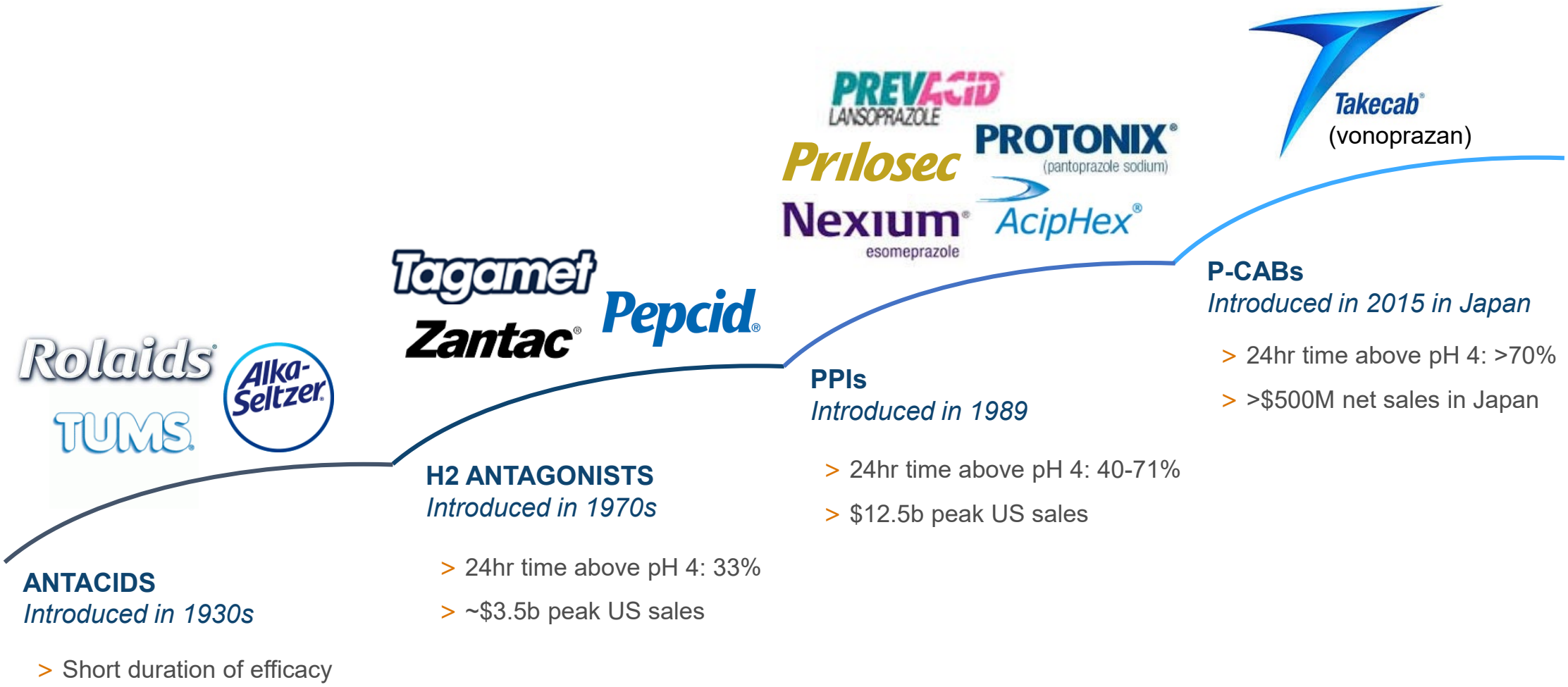
Venture Partner, Frazier
CEO, Outpost Medicine
COO, Incline Therapeutics
SVP, Cadence Pharmaceuticals

POTENTIAL BREAKTHROUGH for acid-related disorders

VONOPRAZAN

- Potassium competitive acid blocker (P-CAB)
- Potentially first-in-class in US, Europe, and Canada
- US/EU/Canada rights licensed from Takeda
- 18 Phase 3 studies completed by Takeda in >6,000 subjects
- Approved in 10 countries across Asia and Latin America
- >$500M net sales in Japan in fourth full year on the market

P-CABs: next generation of acid-control therapeutics



ANTACIDS
Introduced in 1930s

> Short duration of efficacy

H2 ANTAGONISTS
Introduced in 1970s

> 24hr time above pH 4: 33%
> ~$3.5b peak US sales

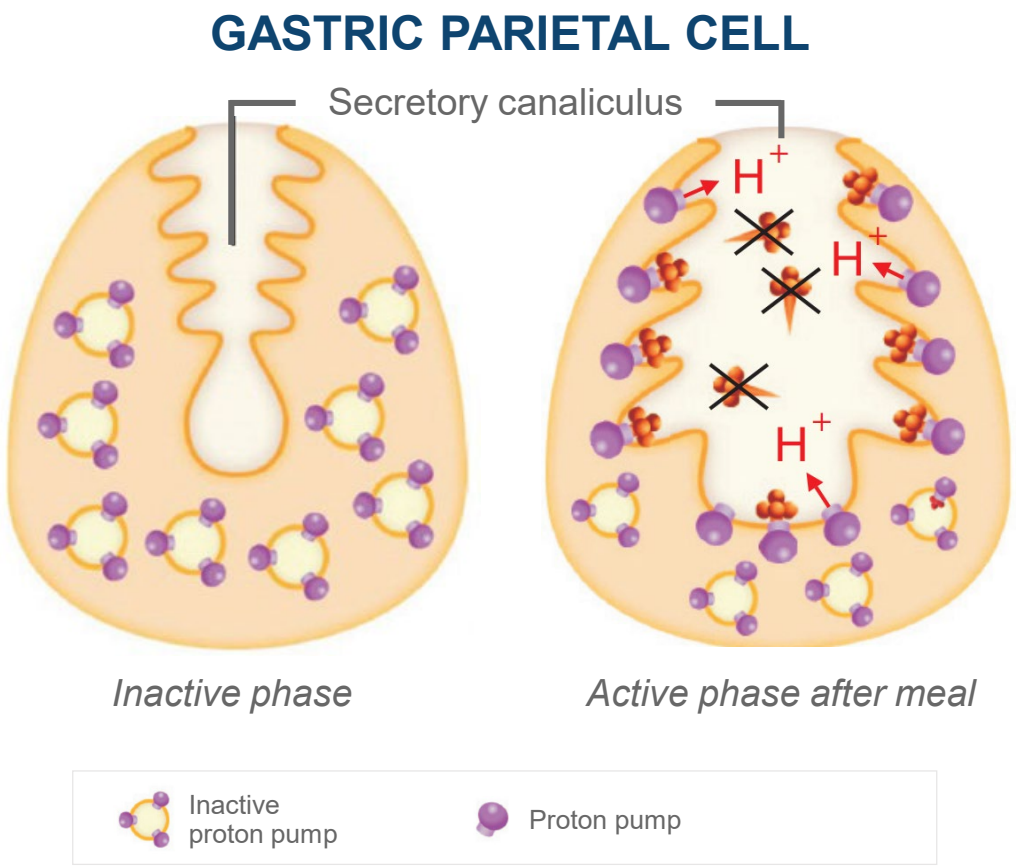
PPIs
Introduced in 1989

> 24hr time above pH 4: 40-71%
> $12.5b peak US sales

P-CABs
Introduced in 2015 in Japan

> 24hr time above pH 4: >70%
> >$500M net sales in Japan

PPIs: mechanism limits effectiveness



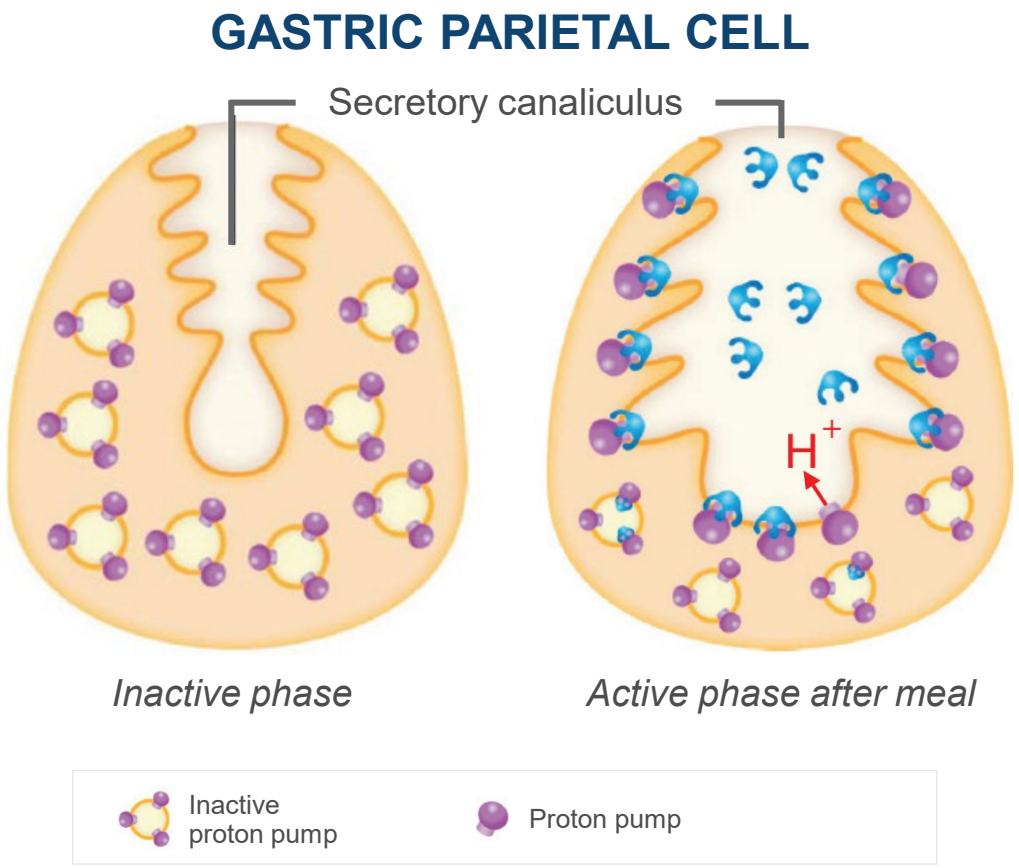
PPI: COVALENTLY BINDING PRODRUG

- Acid needed for activation but unstable in presence of acid
- Meal required to stimulate pumps
- Short plasma half-life of 1 to 2 hours
- Primarily metabolized via CYP2C19

- ✕ Slow onset of action
- ✕ Limited potency
- ✕ Limited duration of activity

Oshima et al, J Neuogastroenterol Motil, 2018

Vonoprazan: distinct mechanism designed to address PPI shortcomings



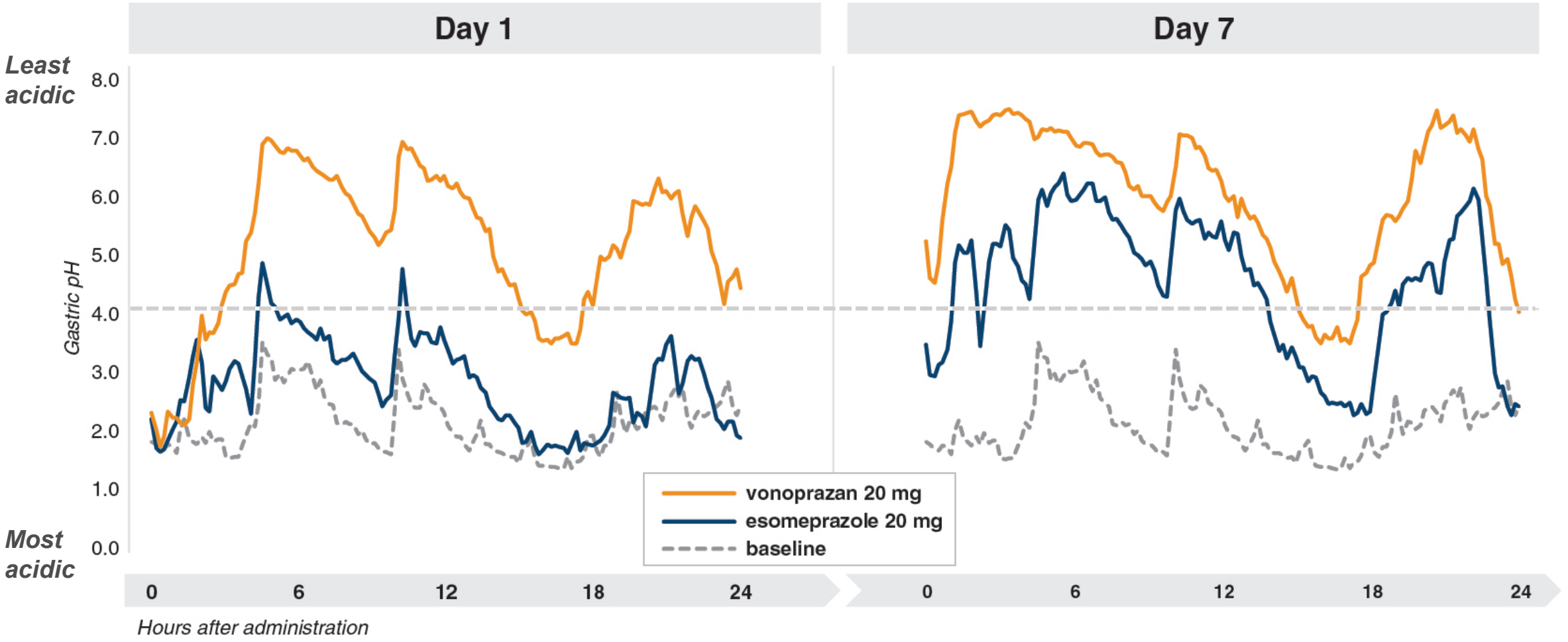
VONOPRAZAN: COMPETITIVE ENZYME INHIBITOR

- Stable in acid
- Binds with slow dissociation rate
- Long plasma half-life of 7 hours
- Primarily metabolized via CYP3A4/5

- ✔ **Rapid** onset of action
- ✔ **Potent** acid control
- ✔ **Durable** 24-hr activity

Oshima et al, J Neuogastroenterol Motil, 2018

Vonoprazan demonstrated faster and more potent acid control vs. PPI in healthy volunteers

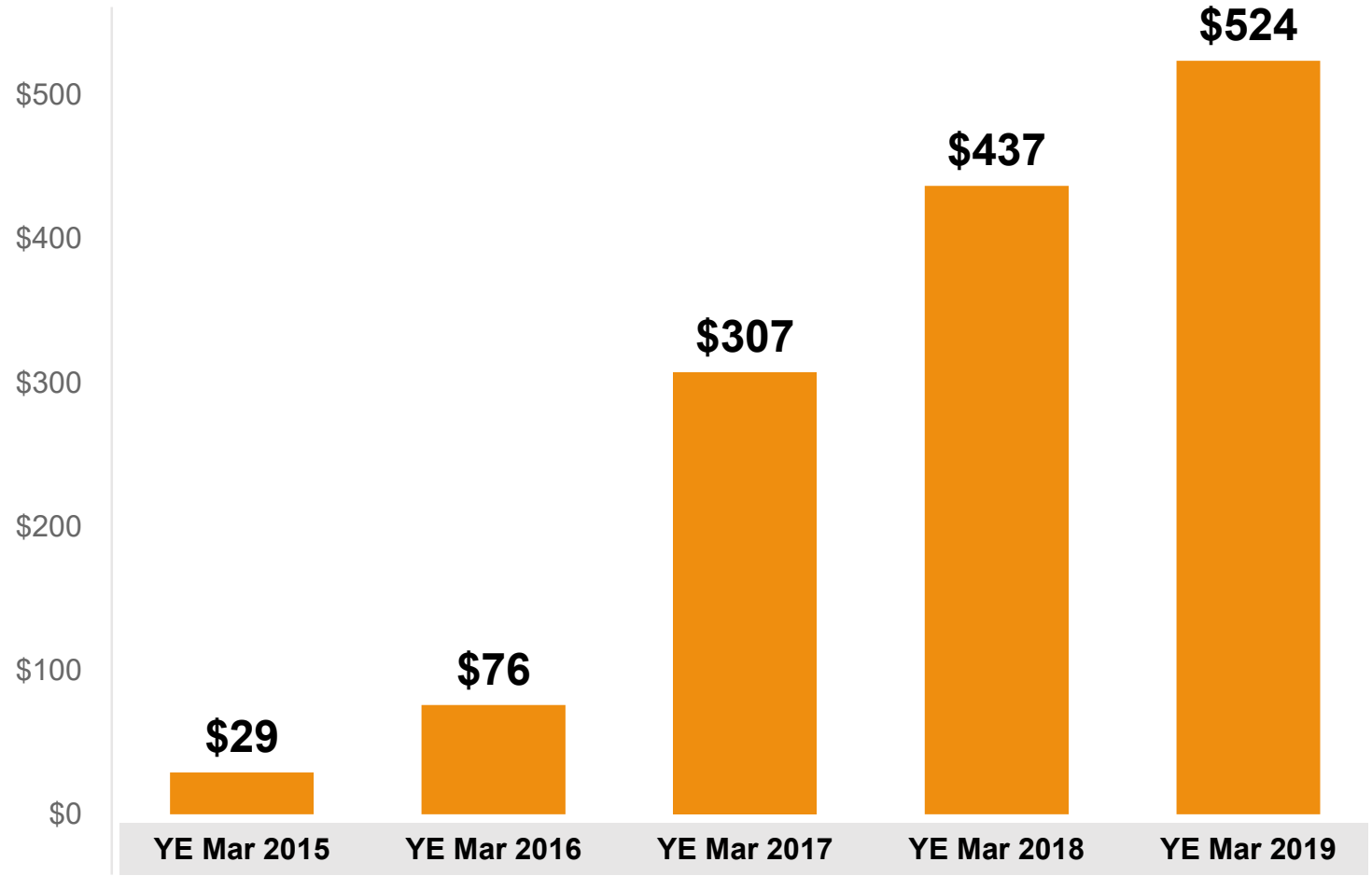


Sakurai et al, Alimentary Pharmacology and Therapeutics, 2015

Vonoprazan achieved RAPID ADOPTION and strong sales growth in Japan

TAKECAB® (VONOPRAZAN) JAPAN LAUNCH FEBRUARY 2015

VONOPRAZAN NET SALES, US$ MILLION*



Note: vonoprazan net sales of approximately $323M for the six months ended September 30, 2019

*U.S. dollars based on the June 30, 2019 conversion rate of 0.009 dollar to one yen

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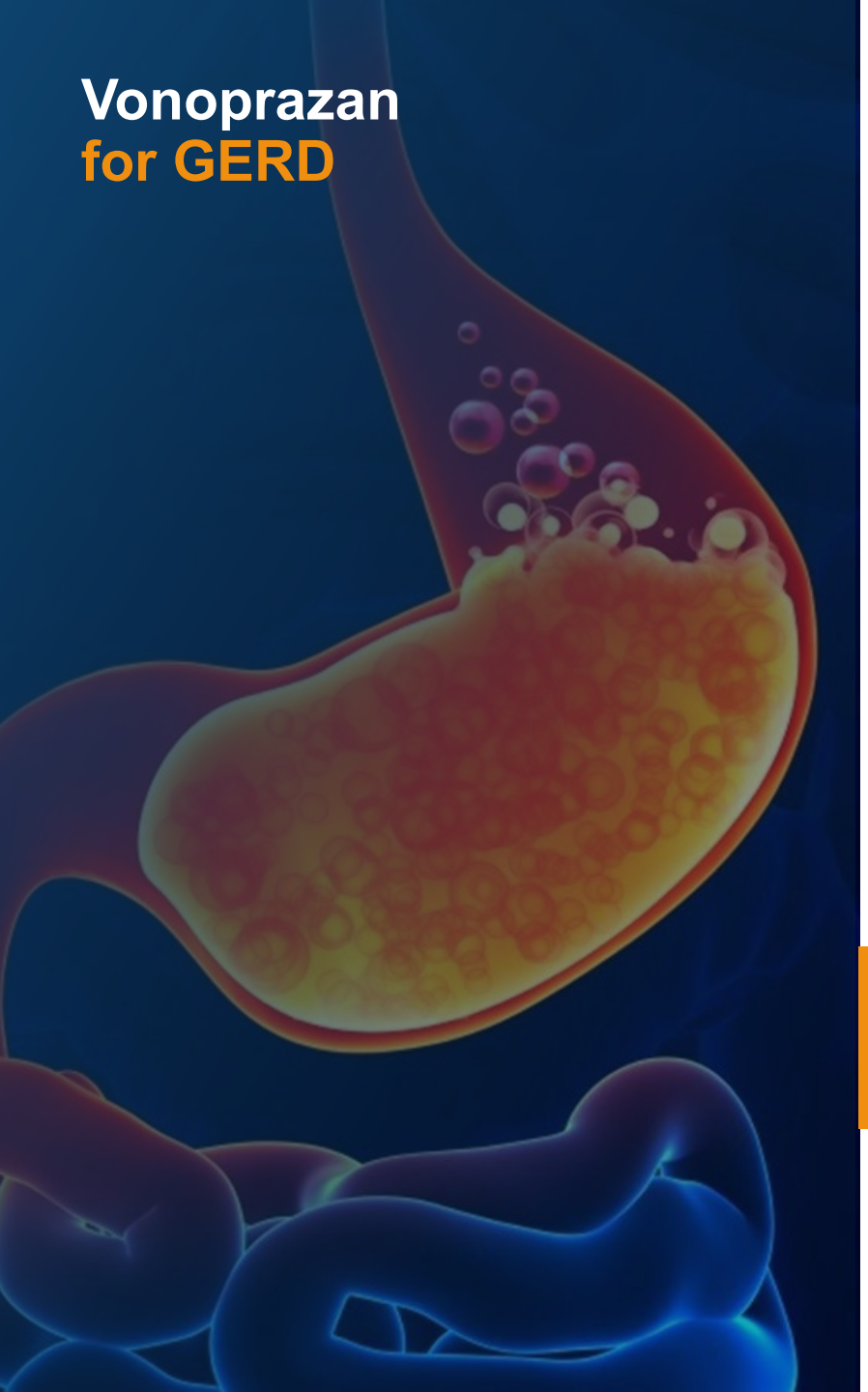
Phathom pipeline

	TARGET INDICATION	PHASE 1*	PHASE 2*	PHASE 3	EXPECTED MILESTONES
Vonoprazan	**GERD** Healing of erosive esophagitis and relief of heartburn Maintenance of healing of erosive esophagitis and relief of heartburn			pHalcon ee A research study for *Erosive Esophagitis*	**Phase 3 ongoing** **Topline results 2021**
Vonoprazan + antibiotics	***H. pylori* treatment** Dual therapy (vonoprazan + amoxicillin) Triple therapy (vonoprazan + amoxicillin + clarithromycin)			pHalcon hp A research study for *H. pylori Infection*	**Phase 3 ongoing** **Topline results 2021**

Phathom has development and commercialization rights to vonoprazan in the United States, Europe, and Canada
**Phase 1 and 2 studies conducted by Takeda*

Vonoprazan for GERD



~65M US and ~50M EU5 patients with GERD

6.1 billion PPI doses prescribed in US for the 12 months ended May 31, 2019

~15-45% inadequately treated with PPIs

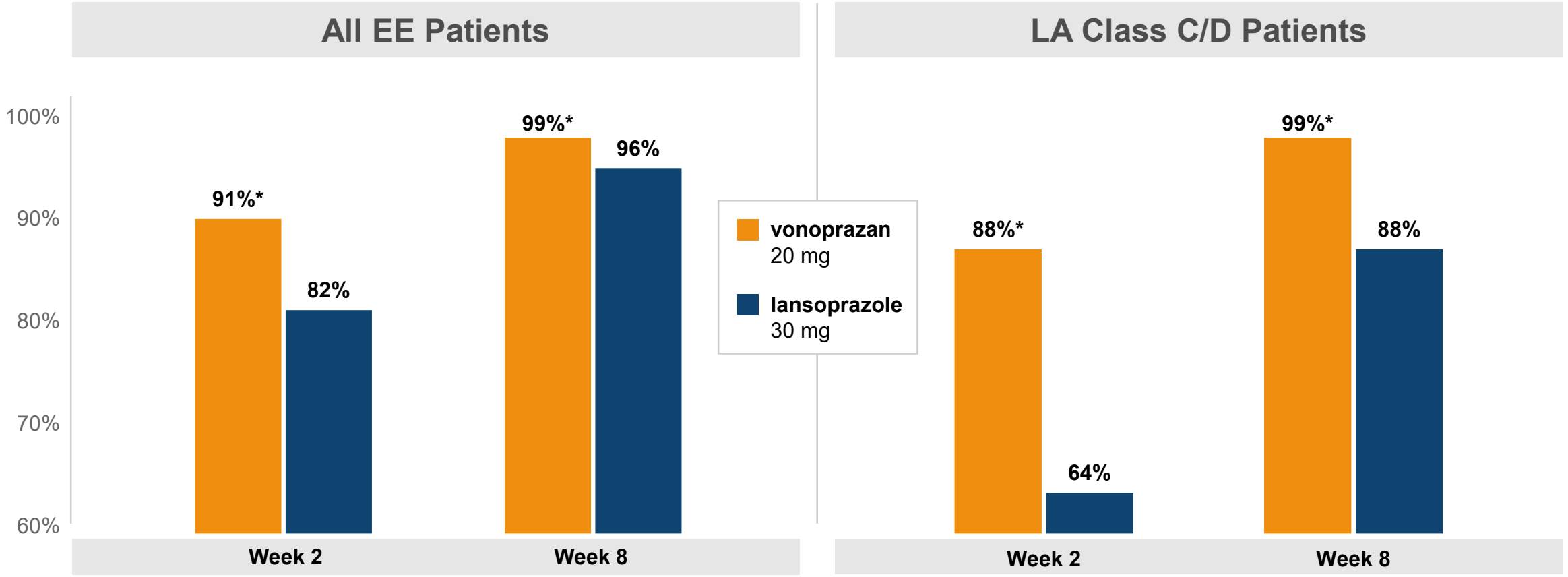
Many patients experience breakthrough heartburn and recurrence of erosions while on PPIs

Vonoprazan may offer more rapid, potent, and durable healing and symptom control

El-Serag APT 2010; El-Serag Gut 2014; IQVIA data July 2019

Japan erosive esophagitis (EE) Phase 3: demonstrated faster and improved healing vs. PPI

Patients with healed EE, %



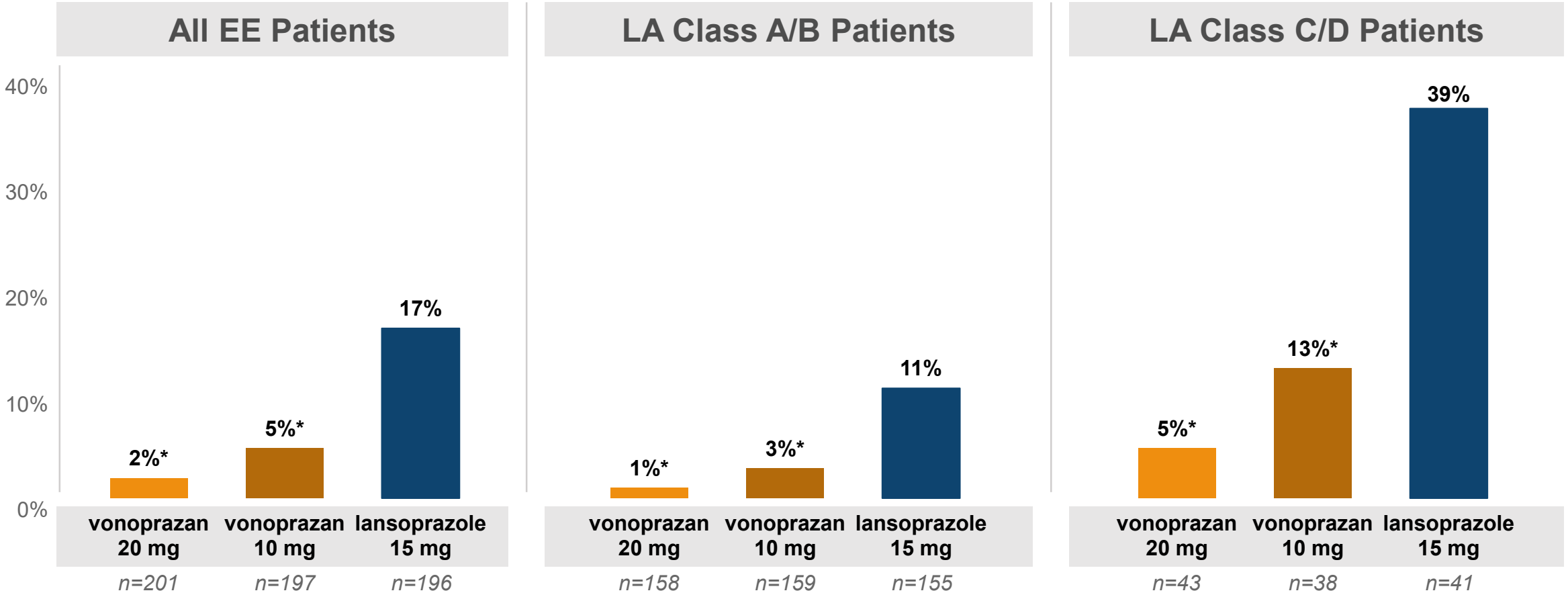
*n=404, *Statistically significant ($p < 0.05$) for superiority versus lansoprazole*

*n=147, *Statistically significant ($p < 0.05$) for superiority versus lansoprazole*

Ashida et al, Aliment Pharmacol Ther 2016
Note: clinical trial met prespecified non-inferiority endpoint and post hoc superiority test

Japan erosive esophagitis (EE) Phase 3: demonstrated lower recurrence rates vs. PPI

Patients with recurrence of EE at 6 months, %



** p < 0.05 for superiority of vonoprazan 20 mg and vonoprazan 10 mg vs. lansoprazole*

Ashida et al, Aliment Pharmacol Ther 2018
Note: clinical trial met prespecified non-inferiority endpoint and post hoc superiority test

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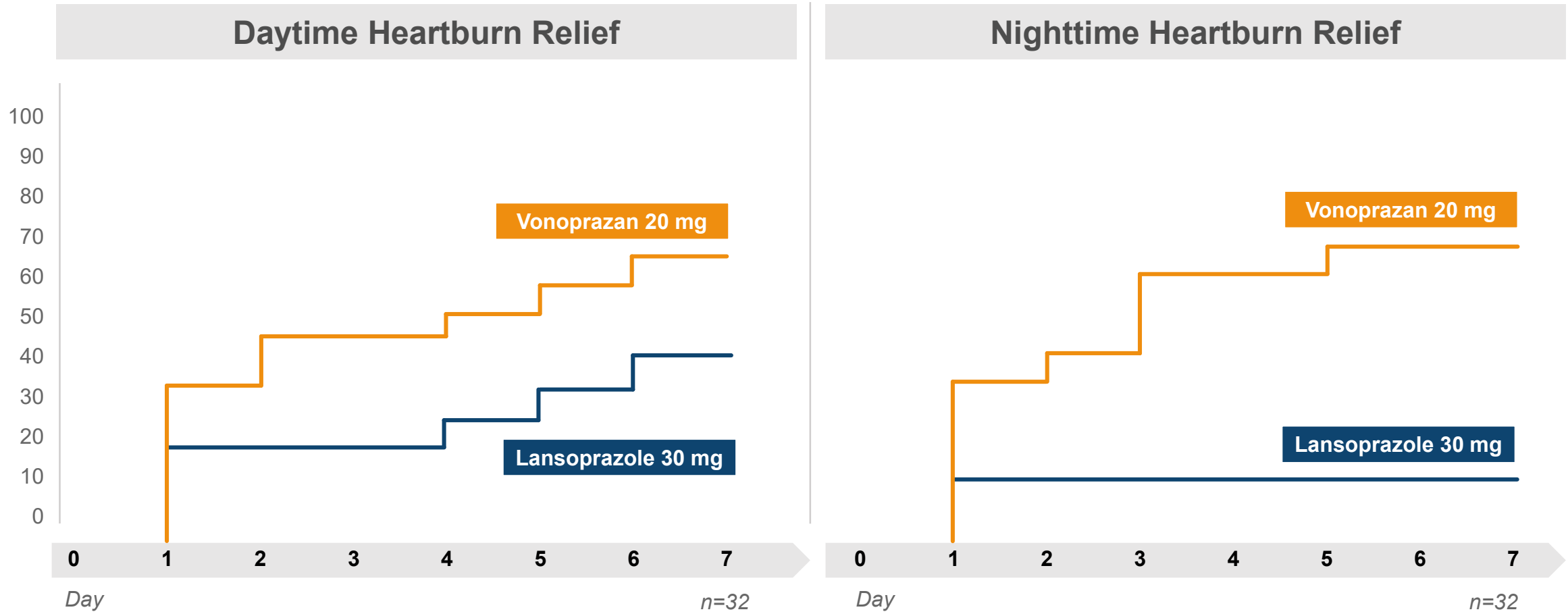
Faster and more complete heartburn relief of vonoprazan vs. PPI

Patients with complete symptom relief, %



Oshima et al, AP&T 2018

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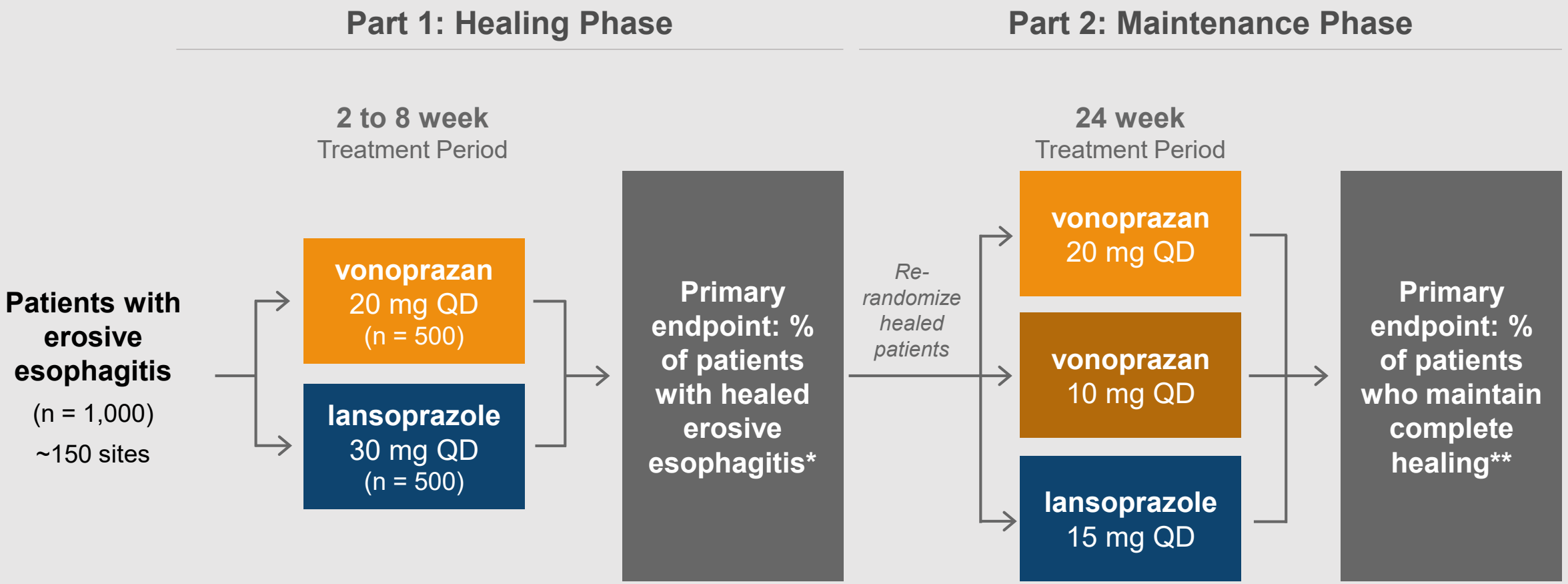
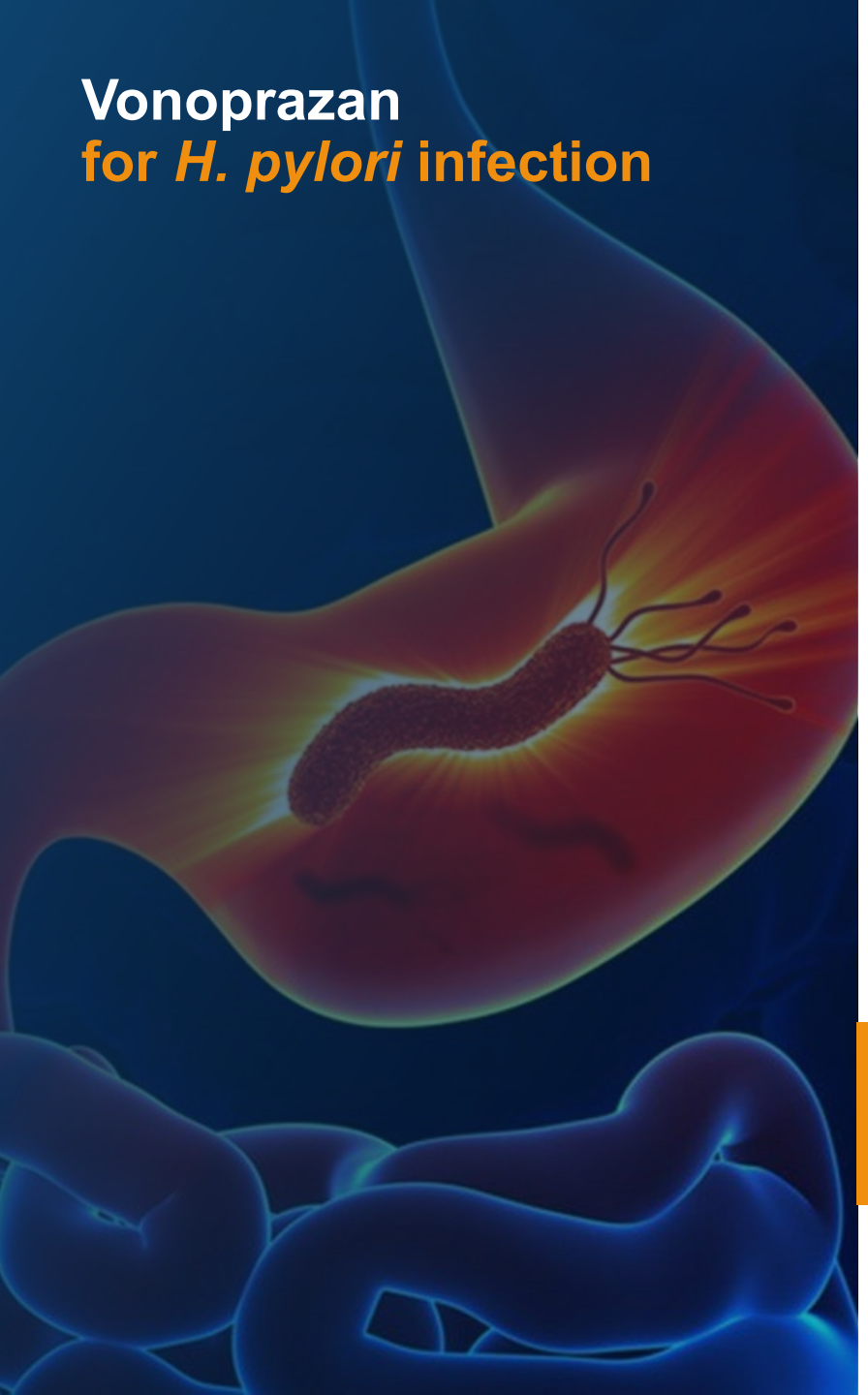
Phathom US/Europe EE Phase 3 study design



Note: Diagnosis and healing of erosive esophagitis confirmed by endoscopy

*Primary analysis of non-inferiority; key secondary analysis assessing superiority at week 2 in Los Angeles class C/D patients
**Primary analysis of non-inferiority; if non-inferiority met, superiority will also be assessed

Vonoprazan
for *H. pylori* infection



~115M US and ~145M EU5 patients with *H. pylori*

~2.5M US patients treated annually

H. pylori designated as a Class I carcinogen by WHO and Qualifying Pathogen under FDA GAIN Act

Eradication rates have fallen to <80% due to increasing antibiotic resistance

Antibiotic potency increases at higher pH

Vonoprazan-based regimens may restore eradication rates above 90% in the US and Europe

Hooi Gastroenterology 2017; Graham et al 2018; Erah et al 1997

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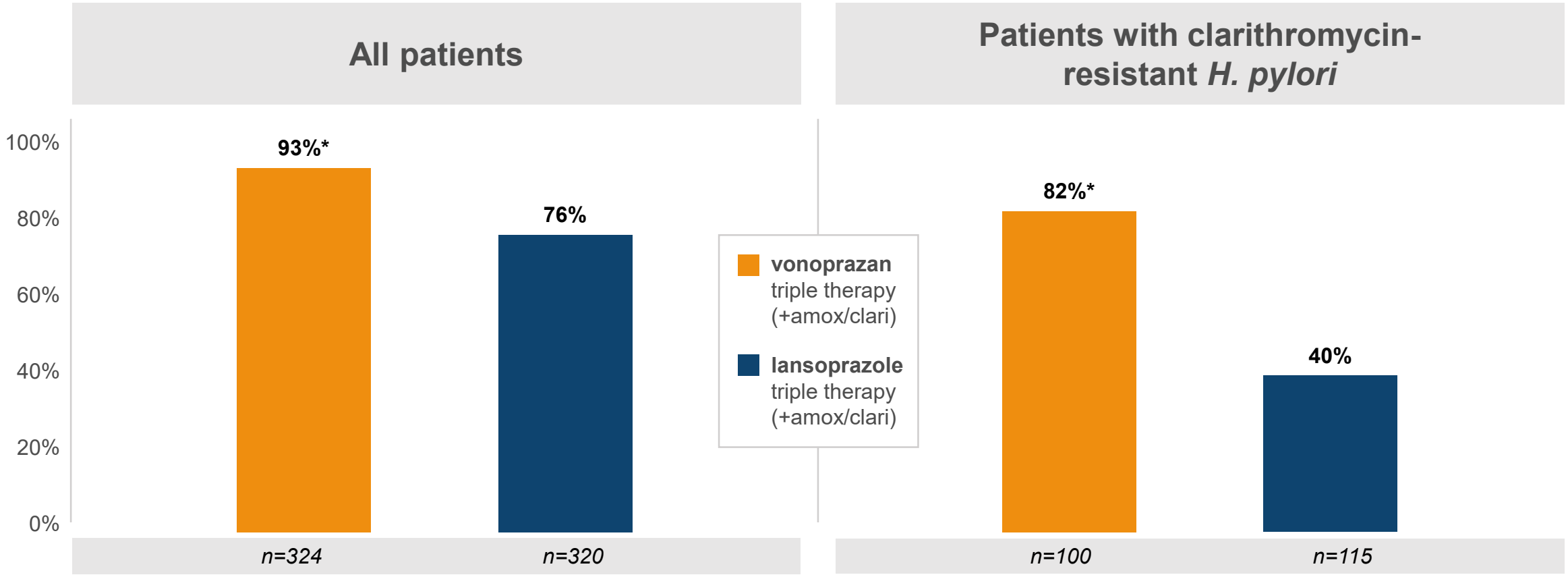
Japan *H. pylori* Phase 3: vonoprazan triple therapy demonstrated superiority to PPI therapy

First-line triple therapy eradication rates of *H. pylori*
(combo with amoxicillin/clarithromycin), **%**

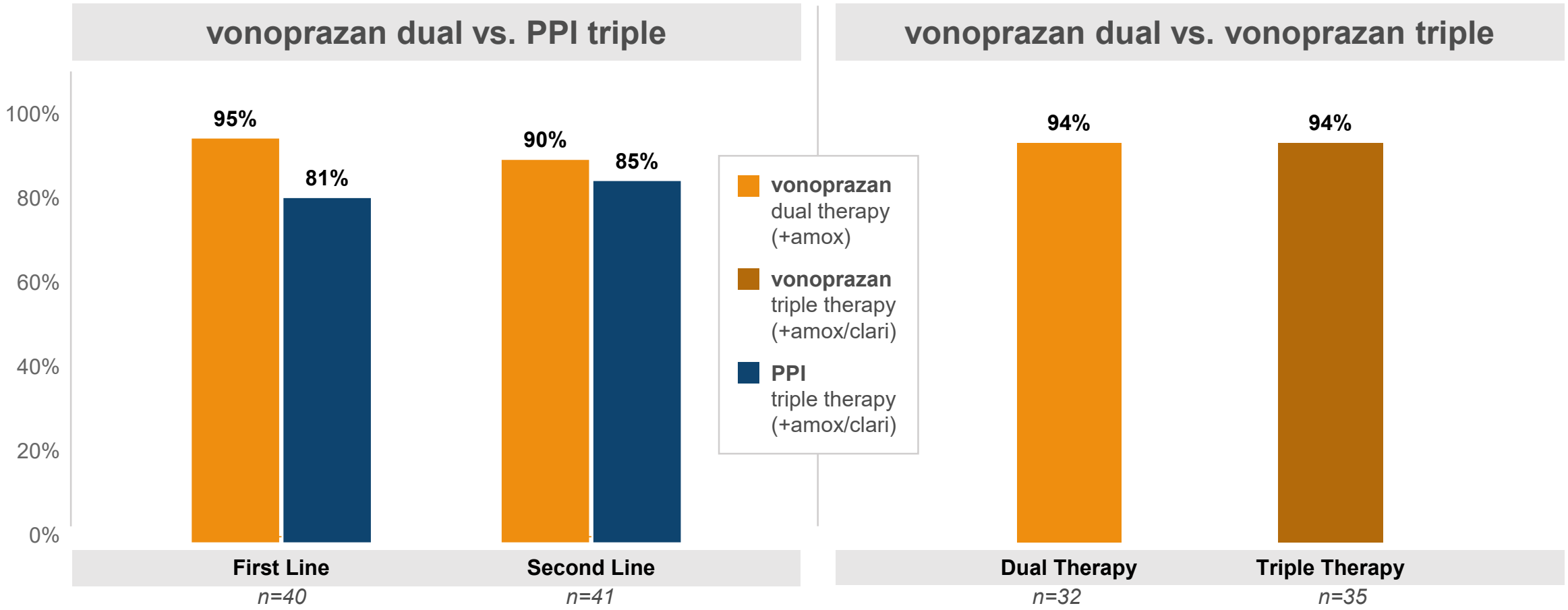


** p < 0.0001 for superiority of vonoprazan-based triple therapy to lansoprazole-based triple therapy*

Murakami et al, Gut 2016.
Note: clinical trial met prespecified non-inferiority endpoint and post hoc superiority test

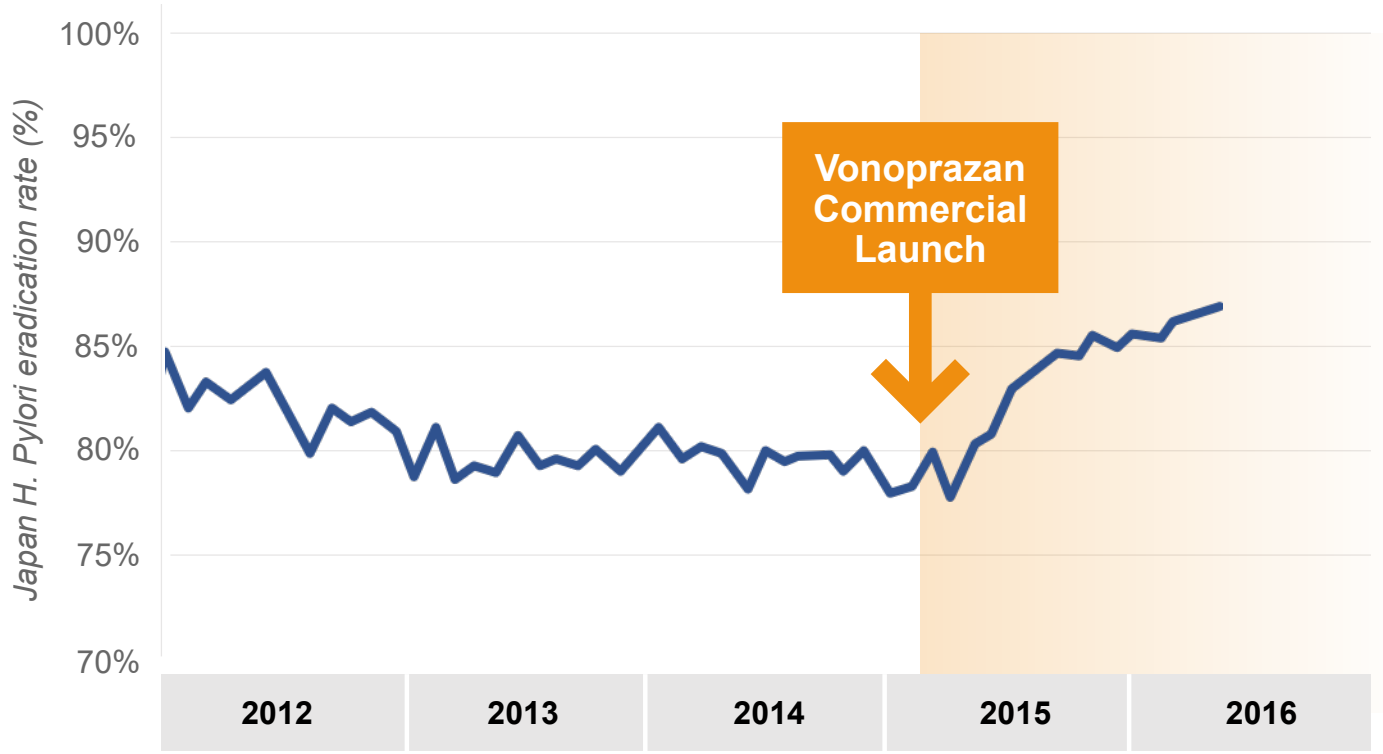
Vonoprazan dual therapy also demonstrated >90% *H. pylori* eradication

Eradication rates of *H. pylori* (dual or triple therapy)
(combo with antibiotics), **%**



Furata, DDW 2016; Furata, DDW 2018

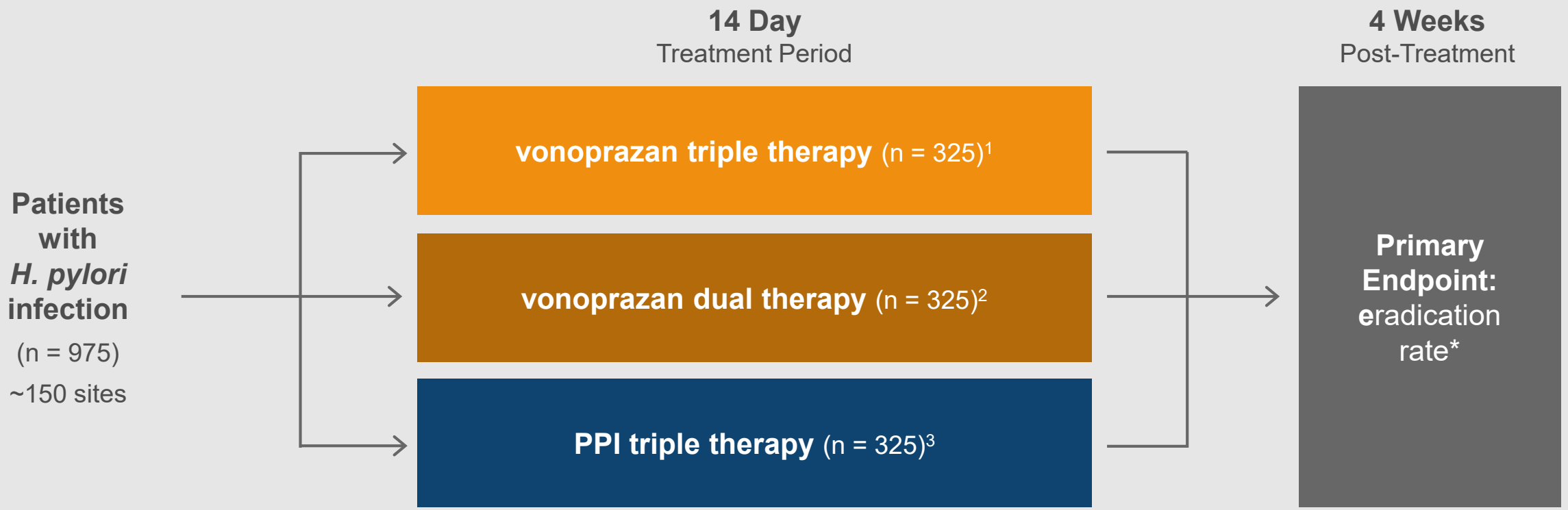
H. pylori eradication rates in Japan have increased since the launch of vonoprazan



VONOPRAZAN-BASED REGIMENS ACHIEVED ~80% SHARE IN JAPAN BY 2016

Deguchi et al Digestion 2019

Phathom US/Europe *H. pylori* Phase 3 study design



1. vonoprazan 20 mg BID + amoxicillin 1 g BID + clarithromycin 500 mg BID
2. vonoprazan 20 mg BID + amoxicillin 1 g TID (partially blinded)
3. lansoprazole 30 mg BID + amoxicillin 1 g BID + clarithromycin 500 mg BID

Note: Diagnosis of infection and test of cure confirmed by ^{13}C-urea breath test

*Primary analysis of non-inferiority excluding patients with infection resistant to clarithromycin and amoxicillin; key secondary analyses of superiority in patients with clarithromycin resistant infection and in all comers

Vonoprazan safety profile SIMILAR TO PPIs

6,683 subjects received vonoprazan in clinical studies

No dose-related increase in adverse events observed

>23 million patients received vonoprazan since launch

ADVERSE EVENTS IN CLINICAL DEVELOPMENT REFLECTED IN JAPANESE PRESCRIBING INFORMATION

Incidence of 0.1-5.0%

Diarrhea[1]	Elevated liver enzymes
Constipation	Rash
Nausea	Eosinophilia

HEPATIC EVENTS OF SPECIFIC INTEREST IN LIGHT OF FIRST-GENERATION PCABs

Pooled data across head-to-head Phase 2 and 3 studies	**vonoprazan** 10 and 20mg	**lansoprazole** 15 and 30mg
ALT or AST > 3X ULN or Bilirubin >2X ULN	1.0%	0.8%

1. 10.6% in combination with antibiotics for treatment of *H. pylori*

Ashida et al, World J Gastro 2018; Data on file

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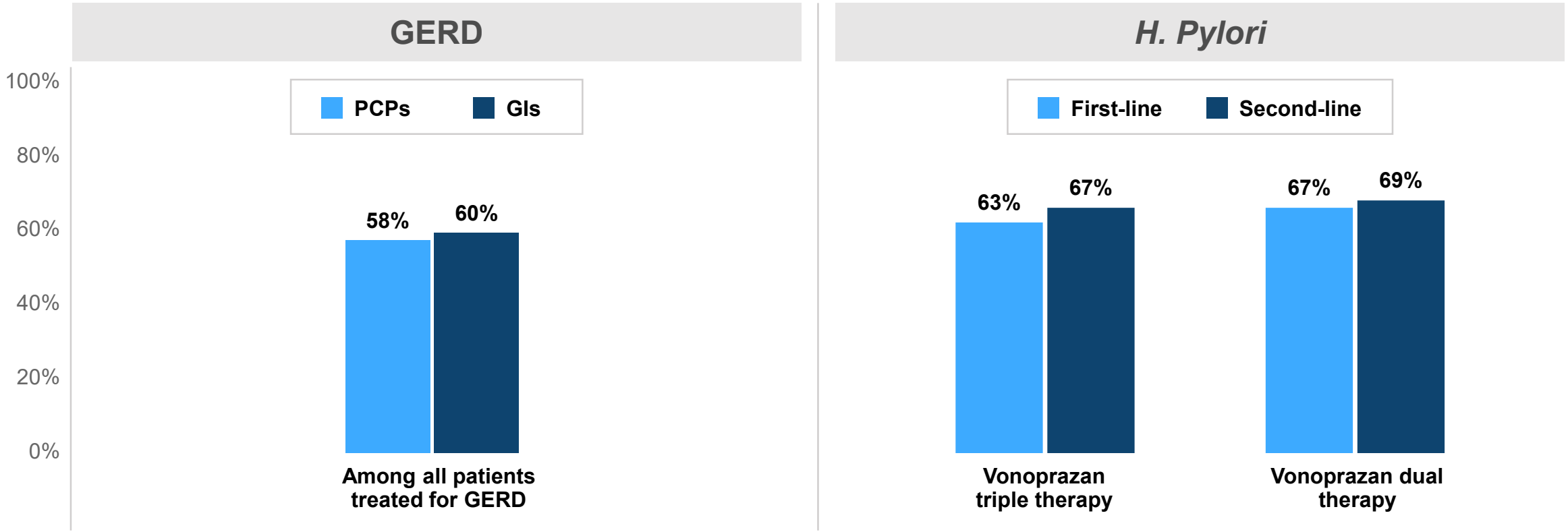
US physicians have strong preference to prescribe vonoprazan

US physician preference share, %

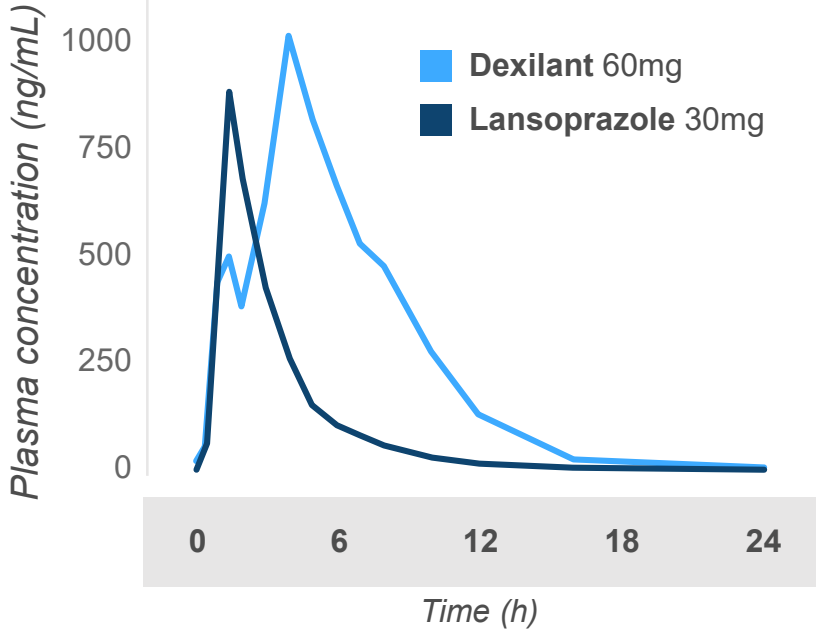


2019 US survey of 100 gastroenterologists and 100 primary care physicians

Dexilant case study: last of the branded PPIs

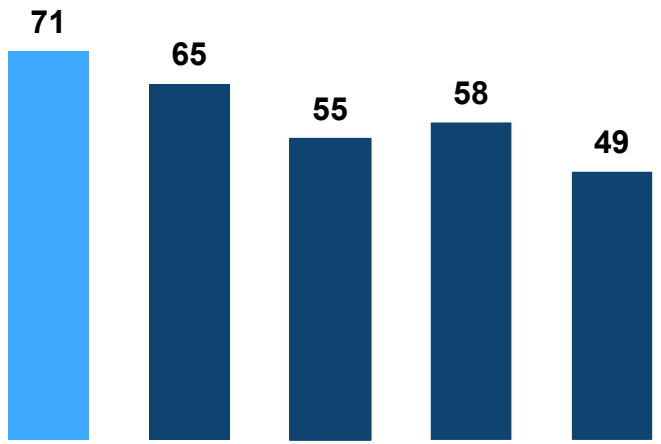
1 Launched in 2009 as an extended release therapy

Mean Plasma Concentration (Day 5)



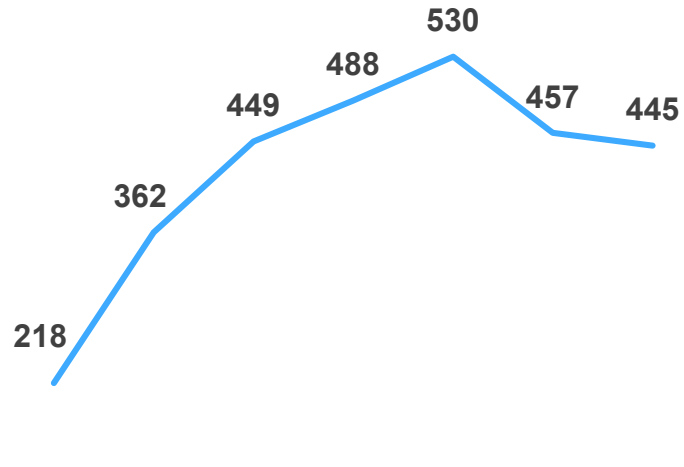
2 Minimal differentiation vs PPIs

pH >4 24 hr hold time after multiple doses, %



3 Drove meaningful sales in a genericized market

Dexilant US sales, $M



Dexilant website (https://www.dexilant.com/), Takeda annual reports 2010-2017, Sugano et al 2018, Dexilant FDA label

Dexilant case study: market access

$9.42/dose US WAC[1]

~90% of commercial and ~80% of Medicare covered lives have access to Dexilant[2]

65% of commercial covered lives have unrestricted access without step edits or prior authorization[2]

35% of commercial covered lives have access at the lowest branded cost tier[2]

FORMULARY STATUS AMONG TOP 5 PLANS

By covered lives[3]

HEALTH PLAN	COVERAGE
Aetna Self-Insured	Tier 2 Preferred
Cigna Standard 3-Tier (National)	Tier 2 Preferred
CVS Caremark Advanced Control Specialty	Tier 2 Preferred
Express Scripts National Preferred	Tier 3 Non-Preferred
UnitedHealthcare Advantage 3-Tier	Tier 3 Non-Preferred

NO STEP-EDITS OR PRIOR AUTHORIZATION

1 Dexilant Colorado Prescribing Information
2 MMIT formulary lookup tool as of June 25, 2019
3 Fingertip Formulary Accessed 4Q18

Financial highlights

Cash and Cash Equivalents (as of 9/30/2019)[1] *Note: excludes net proceeds from IPO of **$191.5M** on October 29, 2019*	**~$75M**
Debt[2]	**$25M**
Common Shares Outstanding (as of 11/12/2019)	**24,526,537**

[1] Form 10-Q 3Q 2019
[2] Silicon Valley Bank Term Loan. $25M drawn as of 9/30/19. Additional $25M will be available through 3/31/20 subject to certain conditions.

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NASDAQ: PHAT

- Significant unmet medical need
- Established safety and efficacy in Japan
- Late-stage US/EU program
- Large commercial opportunity
- Seasoned team and investors