

SCIENCE ELEVATED BY INGENUITY

WHERE PASSION MEETS PURPOSE

Corporate Presentation

CONFIDENTIAL

Nasdaq: PLXP

Forward-looking Statements

This presentation includes or incorporates by reference statements that constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These statements relate to future events or to our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. These statements include, but are not limited to information or assumptions about expenses, capital and other expenditures, financing plans, capital structure, cash flow, liquidity, management's plans, goals and objectives for future operations and growth. In some cases, you can identify forward-looking statements by the use of words such as "may," "could," "expect," "intend," "plan," "seek," "anticipate," "believe," "estimate," "predict," "potential," "continue," or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements since they involve known and unknown risks, uncertainties and other factors which are, in some cases beyond our control and which could cause actual performance or results to differ materially from those expressed in or suggested by forward-looking statements.

Important factors that could cause such differences include, but are not limited to (i) our ability to maintain regulatory approval of VAZALORE 325 mg or VAZALORE 81 mg and obtain regulatory approval for any future product candidates; (ii) the benefits of the use of VAZALORE; (iii) our ability to successfully commercialize our VAZALORE products, or any future product candidates; (iv) the rate and degree of market acceptance of our VAZALORE products or any future product candidates; (v) our ability to successfully build a sales force and commercial infrastructure or collaborate with a firm that has these capabilities; (vi) our ability to compete with companies currently producing NSAIDs and other products; (vii) our reliance on third parties to conduct our clinical studies; (ix) our reliance on third-party contract manufacturers to manufacture and supply our product candidates for us; (xi) our ability to retain and recruit key personnel, including development of a sales and marketing function; and (xii) our ability to obtain and maintain intellectual property protection for our VAZALORE products or any future product candidates.

Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. We do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Confidential





PLx Pharma Management Team



Natasha Giordano, RN President & CEO









MATINAS BIOPHARMA



Rita O'Connor, CPA CFO. Head of Manufacturing & Supply Chain









LAB SYSTEMS



Steven Valentino Vice President Trade Sales



Johnson Johnson

CROSSMARK[®]



Joanne Cotignola Vice President Marketing









Mayme Lou Roettig, RN, MSN **Executive Medical** Director



Genentech A Member of the Roche Group





Nicole Godino

National Sales Director, Professional











OUR MISSION

PLx Pharma is focused on improving the performance of established therapeutic agents with its proprietary PLxGuard™ targeted drug delivery platform

We are driven to transform the standard of care for millions of patients





PLx Pharma Investment Highlights

Unique Drug Delivery Platform

PLxGuard for multiple APIs may have the potential to:

- •Enhance delivery & extend patent life by optimizing absorption, reducing acute GI injury
- •Utilize the often faster and lower cost 505(b)(2) NDA regulatory path

Commercial-Stage Lead Product VAZALORE™

VAZALORE, the first and only FDA-approved liquid-filled aspirin capsule:

- Delivers fast, reliable absorption and platelet inhibition
- Causes fewer gastric erosions/ulcers vs immediate release aspirin as shown in clinical trial*

Large Addressable Market Opportunity

\$10 billion retail market opportunity for VAZALORE:

- Over 40 million patients at risk for vascular disease
- Available in over 30,000 drug, grocery, mass retail and e-commerce sites in U.S.

Financial Position & Key Catalysts

Positioned for growth:

- \$80M in cash, sufficient to support VAZALORE into 2023
- Identify screened compounds where PLxGuard is commercially viable 2022

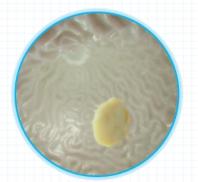
Nasdaq: PLXP





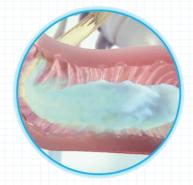
PLxGuard™ – Innovative Drug Delivery Platform

PLxGuard is intended to reliably release APIs in the duodenum and decrease exposure to the stomach, which is the most susceptible part of the GI tract to NSAID-induced acute gastric injury.



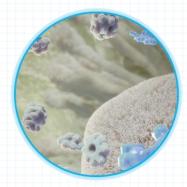
LIMITS DIRECT CONTACT

This complex remains stable in the low pH of the stomach, limiting direct contact of the API with the gastric mucosa.



TARGETED DELIVERY

Once the complex arrives in the duodenum, it dissociates in the higher-pH environment and the API is free to be absorbed.



FAST, PREDICTABLE ABSORPTION

This drug delivery system is intended to predictably release the API in the duodenum to optimize absorption.



REASSEMBLES DURING REFLUX

Even if reflux occurs and the API and lipidic excipients return to the stomach, they reassemble into the complex, limiting direct stomach contact, helping to reduce GI injury.





Lead Product Is FDA-approved VAZALORE™





First and only FDA-approved liquid-filled aspirin capsule for over 40 million patients at risk for vascular events with strong patent life

Fast and reliable platelet inhibition addressing the limitations of the current standard of care enteric-coated (EC) aspirin*

Fewer gastric erosions and ulcers than immediate release (IR) aspirin as seen in clinical trials**

Large OTC opportunity with a \$10 billion retail market

World-renowned Scientific Advisory Board chaired by Drs. Deepak Bhatt & Dominick Angiolillo





VAZALORE™ Unique Aspirin Delivery System



Bioequivalence to immediate release aspirin with fast, predictable antiplatelet activity



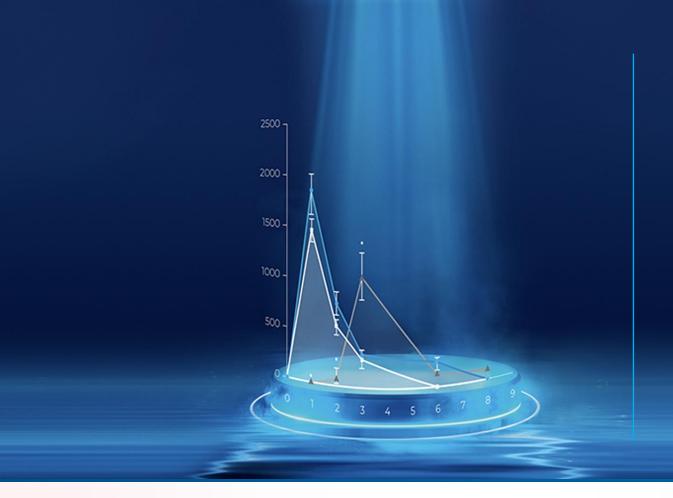
Unique, lipid-based delivery system designed to help protect the stomach



Targeted release in the duodenum to optimize absorption







VAZALORE™ 325 MG CLINICAL TRIALS





PK/PD Comparison of IR, EC & VAZALORE™1





Objectives:

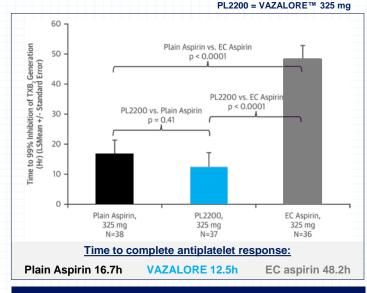
 Determine whether formulation dependent bioavailability mediates aspirin non-responsiveness

Methods:

- Randomized, blinded, triple crossover study
 40 obese diabetic patients receiving 3 daily doses of:
 - Plain aspirin 325 mg
 - VAZALORE 325 mg
 - EC aspirin 325 mg

Primary Endpoint:

• Time to >99% Thromboxane B2 (TXB2) inhibition



VAZALORE achieved 99% TXB2 inhibition significantly faster than EC aspirin

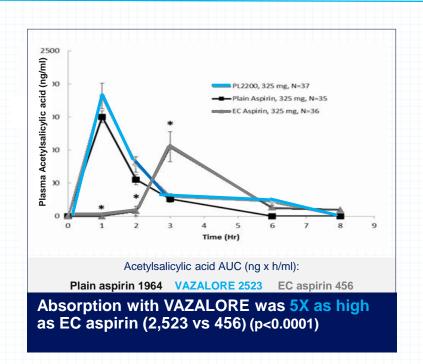


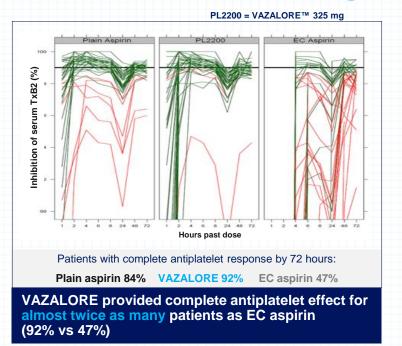




PK/PD Comparison of IR, EC & VAZALORE™1











VAZALORE™ Clinical Summary



VAZALORE achieved 99% thromboxane B2 inhibition significantly faster than enteric coated aspirin*

Absorption with VAZALORE was **5X as high** as enteric coated aspirin*

VAZALORE provided complete antiplatelet effect (99% TXB2) for almost twice as many patients as enteric coated aspirin*

VAZALORE caused **fewer erosions and ulcers** than immediate release aspirin**





VAZALORE™ Commercial Strategy

Healthcare Professionals (HCPs)
Top Heart/Stroke Hospitals & Affiliated
Clinical Practices





Consumers
#1 influencer is their Cardiologist/HCP
#2 influencer is BRAND familiarity

Retailers
Extensive distribution in over
30,000 retail stores









The Opportunity to Improve Aspirin Delivery

NSAIDs are known to cause acute GI injury

that often leads to ulceration or perforation of the GI mucosal lining, a factor that limits their use¹ 25%

of secondary prevention
patients with a history of GI
issues reported discontinuing
aspirin against medical
advice because of
"stomach issues"²

According to aspirin professional class labeling, enteric coated aspirin products are erratically absorbed from the GI tract³

There hasn't been innovation in the mechanism of aspirin delivery in over 50 years.







Cornerstone for Healthcare Professional Plan

- Dedicated cardiovascular care specialist field force
 - Clinical Cardiologists | Top Heart & Stroke Hospitals
- World-Class Scientific Advisory Board
 - Trials | Publications | Education | Influencers
- Thought leader development
 - Cardiovascular | Stroke | Peripheral Arterial Disease
- Medical conferences and education
 - CME Programming | Scientific Sessions | Expert Panels

Our Core Belief:

Central to everything we do is the patient!







Scientific Advisory Board



Deepak L. Bhatt, MD, MPH, FACC, FAHA, FSCAI, FESC



Dominick J. Angiolillo, MD, PhD, FACC, FESC, FSCAI



P. Gabriel Steg, MD, FESC, FACC



Roxana Mehran, MD, FACC, FACP, FCCP, FESC, FAHA, FSCAI



Byron Cryer, MD



James M. Scheiman, MD



Mark J. Alberts, MD



Jayne Prats, PhD



Efthymios Deliargyris, MD, FACC, FESC, FSCAI



Carey Kimmelstiel, MD, FACC, FACP, FSCAI



Todd K. Rosengart, MD

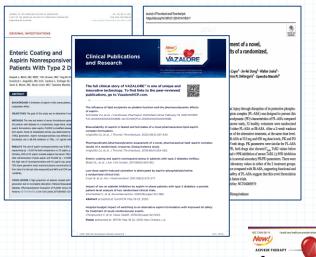




Support Pieces Keep VAZALORE™ Top of Mind









325 mg Clinical Data

Professional Labeling

Publications

FIRST LIQUID-FILLED

4 Liquid-Filled Capsules SAMPLE ONLY-NOT FOR SALE

Samples





Conversation Between HCP & Consumer

The VAZALORE consumer:

Most influenced by doctor and brand familiarity

- Concerned about impact of aspirin on one's stomach
- Fearful of having another event

Reaching the consumer:

 Generate awareness of VAZALORE as breakthrough delivery designed to help protect the stomach

 Drive trial, motivate consumers to ask doctor about VAZALORE





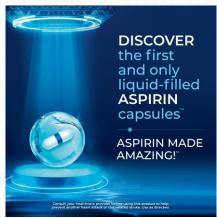




Consumer Messaging











Content for Digital/E-commerce Efforts













Cornerstone of VAZALORE™ Consumer Plan

National Television



Television plan highlights:

- National plan supports national distribution
- Focus on maximizing reach to build business
- On-air began end of August

"Pinball" creative celebrates VAZALORE innovation

 Metaphor of pinball experience highlights the purposeful delivery of VAZALORE – designed to help protect the stomach, delivering aspirin after it leaves the stomach where it is absorbed to deliver the full benefits of aspirin therapy







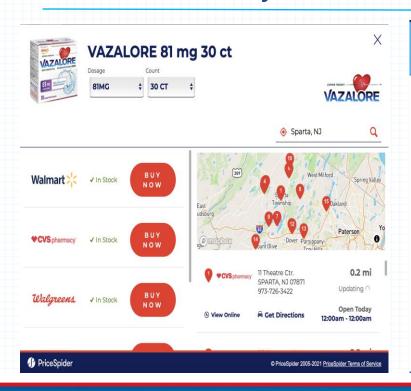








Where to Buy VAZALORE™



Available in over 30,000 retail stores & e-commerce sites in US

















meijer Winn Dixie.





Retailer Merchandising & Education Tools

Set the Shelf





Coming Soon Shelf Placeholders

Shelf Trays

Create In-Store Visibility



Displays

HCP Education that Drives Store Traffic





Retail Pharmacy Education Kits

Doctor Detailing Patient Education Pieces

Ready to Sell







Open stock units





VAZALORE™ On-Shelf & Displays













VAZALORE™ Revenue & Manufacturing

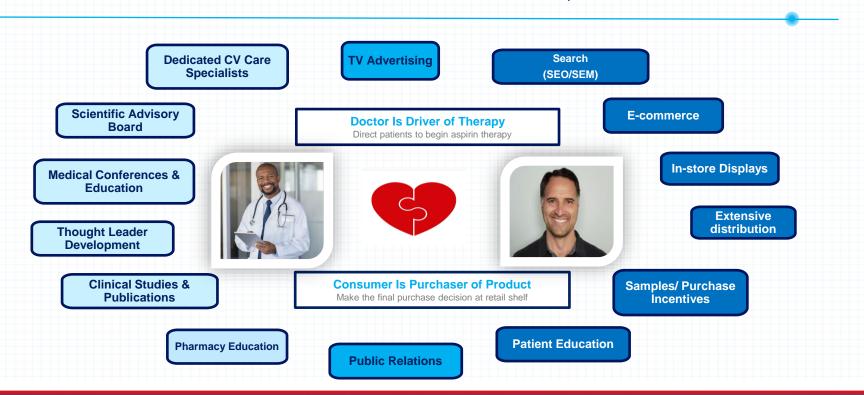


- Revenue recognized when the product is received by the retailer
- Reductions to gross revenue include provisions for retailer programs, product returns, prompt pay discounts and coupon redemptions by consumers
- Extensive distribution in over 30,000 retail stores across the U.S., many stocking all 3 SKUs as well as displays elsewhere in the store
- Product manufactured by Thermo Fisher Scientific in the U.S.





VAZALORE Commercial Plan Focused on HCPs, Consumer and Retail









VAZALORE™ U.S. Market Opportunity

	Vascular Patients	Diabetic Patients	TOTAL
Target Population ¹ (millions)	27.2	15.6	42.8
Retail Market Size (billions)	\$6.4	\$3.6	\$10.0





Market Share	Factory (millions)	Retail (millions)
1%	\$70	\$100
5%	\$350	\$500
10%	\$700	\$1,000

- Vascular Patients: Patients with Atherosclerotic Cardiovascular Disease (ASCVD) defined by having a previous event such as heart attack or stroke or a previous procedure such as cardiac stent, bypass operation, carotid operation or who have imaging evidence of significant vascular disease such as ultrasound, angiogram, etc.
- Diabetic Patients: Patients with diabetes but without evidence of ASCVD who are candidates for aspirin therapy.
- Pricing around \$0.80/day to the patient, around \$25/month.





Financial Overview as of 6/30/21

\$80.4 million

\$5.4 million

26.9 million common shares
(43.3 million fully diluted)

Cash & Cash Equivalents (Debt free)

Operating Cash
Burn
2Q'2021

Common Shares
Outstanding





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VAZALORE™

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PLxGuard[™] Drug Delivery Platform

www.plxpharma.com/our-technology/









