PULMATRIX
Corporate Overview

PULMATRIX

NASDAQ: PULM

Safe Harbor

This presentation contains forward-looking statements. All statements other than statements of historical fact contained herein, including statements regarding our business plans or strategies, projected or anticipated benefits or other consequences of our plans or strategies, projected or anticipated benefits from acquisitions to be made by us, or projections involving anticipated revenues, earnings or other aspects of our operating results, are forward-looking statements. Words such as "anticipates," "assumes," "believes," "can," "could," "estimates," "expects," "forecasts," "guides," "intends," "is confident that," "may," "plans," "seeks," "projects," "targets," and "would," and their opposites and similar expressions, as well as statements in future tense, are intended to identify forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results and may not be accurate indications of when such performance or results will actually be achieved. Forward-looking statements are based on information we have when those statements are made or our management's good faith belief as of that time with respect to future events and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. A discussion of these and other factors, including risks and uncertainties with respect to Pulmatrix, Inc. (the "Company"), as set forth in the Company's filings with the Securities and Exchange Commission ("SEC"), including the Company's most recently filed Annual Report on Form 10-K, as may be supplemented or amended by the company's Quarterly Reports on Form-10Q. Investors and security holders are urged to read these documents free of charge on the SEC's website at http://www.sec.gov. Forward-looking statements contained in this presentation are made as of this date, and the Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise.

This presentation contains statistical and market data that we obtained from industry publications, reports generated by third parties, third-party studies and public filings. Although we believe that the publications, reports, studies and filings are reliable as of the date of this presentation, we have not independently verified such statistical or market data.

CAUTION: We have not received approval from the FDA, or any other regulatory entity, to market our therapeutic candidates in the United States or in any other jurisdictions. Our therapeutic candidates, including PUR1900, PUR1800, and PUR3100 are classified by the FDA as investigational drugs and are limited by Federal (or United States) law to investigational use only and will require additional studies to make definitive conclusions and claims about such candidates' safety or efficacy.

PULMATRIX

Pulmatrix Overview

PUR3100 Overview

Clinical Data

Attractive Market Opportunity

Low Risk Profile

Other Clinical Programs for Partnership or Monetization

PULMATRIX

PULM (NASDAQ) Pursuing Strategic Alternatives that Leverage the Company's Pipeline, iSPERSE Technology and Cash on Hand

Enabling iSPERSE™ Technology

- Proprietary iSPERSE™ platform technology that seeks to optimize pharmacokinetics and pharmacology in respiratory and non-respiratory therapeutics
- A scalable platform with applicability across drug classes and dry-powder delivery devices to support pipeline development

PUR3100

Powered by iSPERSE™

- iSPERSE mitigates the manufacturing and device issues that resulted in the MAP0004 FDA complete response
- ~$575M U.S. peak net revenue, a 1% total Rx share, is a conservative forecast[1]
- Ph1 results: Safe, well tolerated, 5-minute Tmax and Cmax within the targeted therapeutic range at all doses tested
- IND application accepted by FDA to initiate a Phase 2 trial of PUR3100 to treat acute migraine

Strong Financial Position

- Approximately $19M cash on hand as on 12/31/2023 with cash runway into Q1 2026 and no debt
- Track record of funding operations through both public capital markets and business development

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PUR3100 is an investigational drug, the safety and efficacy of which have not been established.

1. Physician Interviews and Payer Interviews; ClearView Health Partners Analysis; net revenues at loss of exclusivity

Management Team

Deep expertise in respiratory diseases & drug delivery technology across all stages of development

Ted Raad – *CEO & Director*

- Previously Chief Business Officer of Pulmatrix
- 20 years of commercial healthcare and life sciences leadership experience
- Former Chief Commercial Officer at Option Care

Margaret Wasilewski, MD – *Chief Medical Officer*

- 25 years in pharmaceutical drug development
- Development experience in infectious disease, sepsis, neurology and rare disease
- Trained in Internal Medicine and Infectious Diseases with active board certification in Internal Medicine.

Peter Ludlum – *Interim Chief Financial Officer*

- Currently Senior Director at Danforth Advisors
- Extensive finance and accounting leadership experience with 17 years as a C-level executive in public, private, international, manufacturing, clean tech and life science companies

Jason Perry – *CMC & Pharmaceutical Development*

- 15 years of experience developing pharmaceutical products
- Prior formulation and process development roles at Alkermes advancing oral and inhaled dosage products

Steven Kramer – *Quality*

- 11+ years with Pulmatrix holding numerous roles
- Previously held positions at Alkermes and AMAG Pharmaceutical
- 15+ years experience in quality assurance & control

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Credentialed Board of Directors

Board of directors with extensive experience in public and private life sciences companies

Michael J. Higgins – *Chairman*

- Entrepreneur-in-residence at Polaris Partners and Board Member of Voyager, Kindex, Madauder and Sea Pharmaceuticals
- Former SVP, COO, and CFO at Ironwood

Ted Raad – *CEO & Director*

- Previously Chief Business Officer of Pulmatrix
- 20 years of commercial healthcare and life sciences leadership experience
- Former Chief Commercial Officer at Option Care

Chris Cabell, MD, MHS, FACC – *Director*

- Current Chief Medical Officer at Zura Bio Limited
- Former SVP and Head of Clinical Development at Emergent BioSolutions and former head of R&D at Arena Pharmaceuticals

Todd Bazemore – *Director*

- COO of Kala Pharmaceuticals
- Former EVP and COO of Santhera Pharmaceuticals and EVP and CCO of Dyax Corp.

Anand Varadan – *Director*

- Current President at Ignition Insights LLC
- Former Chief Commercial Officer at Chiasma and former Chief Commercial Officer at Karyopharm Therapeutics, Inc.

Rick Batycky – *Director*

- CEO of Nocion Therapeutics
- Former Chief Scientific Officer and founder of Civitas Therapeutics

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iSPERSE Enabled Pipeline

Product Pipeline	Indication	Phase 1	Phase 2	Status
PUR3100 *DHE*	Acute Migraine			**Ph2 Ready (IND Accepted)**
PUR1800 *Kinase Inhibitor (NSKI)*	Acute Exacerbations in Chronic Obstructive Pulmonary Disease (AECOPD)			***Pursuing Partnership***
PUR1900 *Anti-fungal (Cipla Partnership)*	Allergic Bronchopulmonary Aspergillosis (ABPA) in Patients with Asthma	• **Closing Ph2b at 8 subjects with CSR estimated 07/2024** • **Cipla continuing PUR1900 development outside the United States** • **Pulmatrix receives 2% net revenue royalties on potential sales outside the United States** • **Pulmatrix and Cipla seeking to monetize PUR1900 in United States**		

- **PUR3100 Potential CNS Development** – migraine, status migrainosis, cluster headache, post traumatic brain injury headache disorder
- **PUR1800** – completed Phase 1b study in stable COPD subjects. Seeking partnership to further development.
- **PUR1900 Potential Development** – ABPA Asthma ex-U.S., ABPA cystic fibrosis, fungal pneumonia, non-small cell lung cancer, lung transplant fungal infections

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PUR1900, PUR3100 and PUR1800 are investigational drugs, the safety and efficacy of which have not been established.

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Strategic Rationale for PUR3100

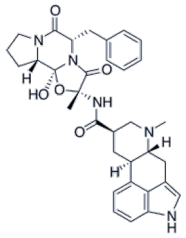
MAP0004 – Basis for Optimization

- Oral Inhaled formulation of DHE to treat acute migraines
- Developed by MAP Pharma and subsequently acquired by Allergan
- T_{max} = 12 minutes
- Mean C_{max} = 3,648pg/mL (2 mg); 1,145pg/mL (1 mg)
- Demonstrated a significant increase in pain freedom over placebo of **18%** in randomized controlled Phase 3 trial
- In Phase 2 trial, demonstrated significant increase in pain freedom over placebo of 12% at 30 minutes
- Strong safety profile
- *3 Complete Response Letters received from FDA due to CMC issues and content uniformity/standards for device actuation*

The Solution – PUR3100

Product

DHE



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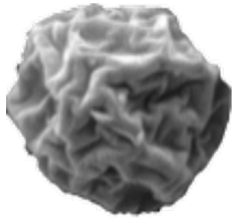
iSPERSE



1µm

Result

- ✓ **Content uniformity achieved through iSPERSE particle engineering technology and dry powder inhalation (DPI) formulation – eliminating device related CMC issues with MAP0004**
- ✓ **T_{max} in 5 minutes**
- ✓ **Mean C_{max} = 5,190 pg/mL (1.0 mg); 3,620 pg/mL (0.5 mg)**
- ✓ **Maintained strong safety profile with low incidence of nausea and no vomiting**

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PUR3100 is an investigational drug, the safety and efficacy of which has not been established.

PUR3100 Highlights

Product

- Inhaled Dihydroergotamine (DHE) for the Treatment of Acute Migraine
- Utilizes Pulmatrix's proprietary iSPERSE™ drug delivery technology
- Commercially available off the shelf dry powder inhaler (RS01) used for patient dosing
- Optimal exposure and PK profile, ease of use and uniform dosing across patient

Differentiated from Other DHE Products for Acute Migraine

- Pharmacokinetic (PK) profile optimized to mimic IV DHE with a rapid T_{max}
- Greater DHE exposure that could lead to rapid and sustained pain relief
- Novel formulation along with controlled PK resulted in an attractive safety profile
- iSPERSE™ technology overcomes manufacturing challenges experienced by MAP Pharma

Attractive Market Opportunity in the Underserved Migraine Market

- Large unmet medical need with >50% of patients on preventative medications require acute pain relief
- 40% of patients on triptans experience a suboptimal response
- ~$575M US peak revenue if just 1% of the market is captured

Low Risk Opportunity

- IV, intranasal and oral inhaled formulations validate DHE as an effective acute migraine treatment
- Phase II ready asset with a clear regulatory path to market
- Strong IP position, offering protection into 2040's

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iSPERSE™ Technology

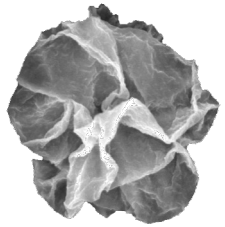
Small, dense and dispersible particles designed for highly efficient respiratory delivery

iSPERSE Enables Sick Patients to Get More Effective Doses

Potential iSPERSE Advantages

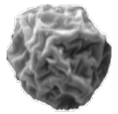
- **Can be used with a broad range of drugs**, small molecule to biologic
- **Can be used with almost any device** (e.g., metered-dose, reservoir, capsule or blister-based inhalers)
- **Requires low inspiratory flow** for penetration deep into lung, based on high dispersibility
- **Can deliver large doses into lungs (tens of milligrams)** with high delivery efficiency
- **Avoids first-pass effect and systemic side-effects** with improved pharmacokinetics profile compared to oral delivery
- **Broad IP** portfolio into 2030s

Evolution of Engineered Dry Powder Drug Delivery



Large
Porous Particle
(ARCUS®)

Small
Porous Particle
(PulmoSphere™)



~
1µm
iSPERSE

Small Molecule APIs with Challenging Physical/ Chemical Attributes
Amorphous or Crystalline API

APIs Limited by Predicted Efficacious Dose
Inhaled Antibiotics > 30mg; Small Molecules > 1mg

Control of Pulmonary and Systemic Exposure
Manipulation of PK Through Changes in Solid State

Dry Powder Formulation of Biologics and Macromolecules
Proteins, Peptides and Nucleic Acids for Lung Delivery

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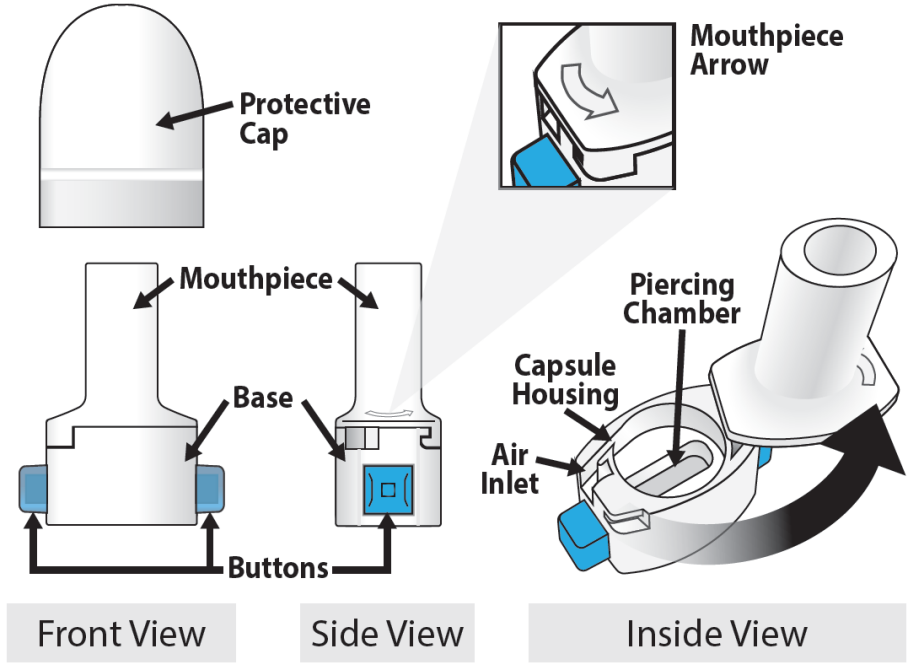
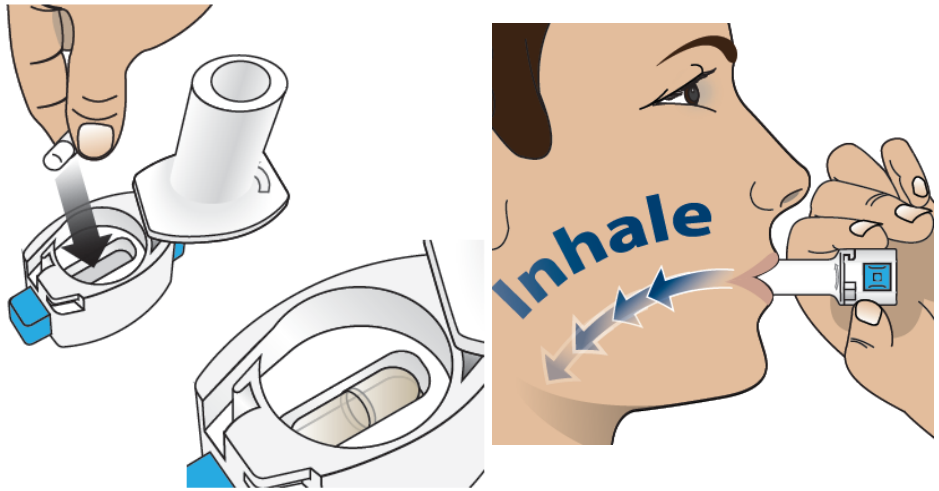
D Singh et al., *Br J Clin. Pharmacol.* 2018, 84(9):2097-2105; Perry, J, et al., *Br J Clin Pharmacol.* 2019, 85(3):580-589; Hava, D. L., et al. 2020, *Br J Clin Pharmacol*: 86(4): 723-733

RS01 Inhaler Overview

Commercially available inhaler from Plastiape™

- Pulmatrix uses the RS01 inhaler platform for delivery of all iSPERSE products currently in pipeline
  - Device uses pre-metered capsules and inspiratory effort of patient to deliver dose
  - Robust across various formulations and therapeutic modalities
  - Can leverage experience across entire pipeline
  - Variable resistances available under common DMF
- RS01 dry powder inhaler family offers several strategic advantages
  - 10+ year history of use in commercial products in several markets
  - No licensing agreement required for access/use
  - Manufactured at scale in a cGMP facility
  - Existing drug master file (DMF) on file with US FDA





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Available Published < 2-Hour Pain Freedom Data (non-Sub Q)

MAP0004 (PUR3100 proof of concept) compared to available CGRP and triptan data

Drug/Route	Class	Dose	Pain Freedom Above Placebo (%)				24h Rescue%[8]
			0.5 hour	1 hour	2 hour	24 hour	
Risatriptan Tablet/Wafer[1, 2]	Triptan	5mg	0	7	22	13	60[4]
		10mg	1	9	31	18	55[4]
Sumatriptan Nasal Spray[3]		20mg	–	10	21	–	62[4]
Sumatriptan Tablet[3]		50mg	–	3	17	10	50[4]
		100mg	–	5	21	16	44[4]
MAP0004 Inhaled[6, 7]	DHE	1mg	12[6]	15[6]	28[6]	15[6]	43[7]
Ubrelvy Oral tablet[5]	CGRP	50mg	0	0	7	4	–
		100mg	0	0	9	7	–

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– Indicates no reliable data available;

1. Ferrari, M. D., et al. (2001). "Meta-analysis of rizatriptan efficacy in randomized controlled clinical trials." Cephalalgia **21**(2): 129-136
2. Ferarri demonstrated no difference in efficacy between tablet and wafer.
3. Derry, C. J., et al. (2014). "Sumatriptan (all routes of administration) for acute migraine attacks in adults – overview of Cochrane reviews." Cochrane Database of Systematic Reviews(5).(moderate to severe pain)
4. Data taken from product package insert separate from literature data and so may not be fully in agreement (likelihood of rescue needed estimated based on Kaplan-Meier plots)
5. Dodick, D. W., et al. (2019). "Ubrogepant for the Treatment of Migraine." New England Journal of Medicine **381**(23): 2230-2241.
6. Aurora, S. K., et al. (2009). "A Randomized, Double Blind, Placebo-Controlled Study of MAP0004 in Adult Patients With Migraine." Headache: The Journal of Head and Face Pain **49**(6): 826-837.
7. Aurora, S. K., et al. (2011). "MAP0004, Orally Inhaled DHE: A Randomized, Controlled Study in the Acute Treatment of Migraine." Headache: The Journal of Head and Face Pain **51**(4): 507-517.
8. Rescue medication defined as addition dose of drug or other rescue agent

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PUR3100: Potential Novel DHE Therapy

PUR3100 displays potential advantages among other DHE products (approved & not approved)

Features/ Characteristics	PUR3100 IND Accepted – Ph2 Ready	MAP0004[1] No FDA Approval	STS101[2] No FDA Approval	Trudhesa™ FDA Approved	Migranal® FDA Approved	IV DHE FDA Approved
Significant Pain Freedom (vs placebo) at 2 Hours Post Dose	Anticipated	Yes	No	No	Significant pain relief (not pain freedom)	Anecdotal*
Dry Powder Formulation	Yes (pulmonary)	No	Yes (nasal)	No	No	No
Oral Inhalation Delivery	Yes	Yes	No	No	No	No
Some Relief Starting Within 15 Minutes	Anticipated	No	No	No	No	Yes
T_{max} < 10 minutes	Yes	No	No	No	No	Yes
Associated Vomiting	None	Common	None	Common	Common	Very Common
Associated Nausea	Common	Common	Common	Very Common	Very Common	Very Common
Associated Taste Disturbance	Unknown	Common	Common	Common	Common	None

Favorable Somewhat Favorable Unfavorable

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1. Not approved by FDA, complete response letter(s) based on lack of dose uniformity with drug / device used in Phase 3 studies
2. FDA accepted 505b2 NDA; January 2024 PDUFA date expected

*FDA finding of effectiveness not supported by results from any controlled trial for efficacy

Headache: The journal of head and face pain: STOP 301
Trudhesa®. Trudhesa Difference. https://www.trudhesa.com/trudhesa-difference/ (accessed 2023 Sep 15).
Migranal (dihydroergotamine mesylate) nasal spray package insert. Bridgewater, NJ: Bausch Health US, LLC;2022 Sep.
ClinicalTrials.gov. A Study to evaluate the safety of STS101 in the acute treatment of migraine (ASCEND): Study Results. https://classic.clinicaltrials.gov/ct2/show/results/NCT04406649 (accessed 2023 Sep 15).
Satsuma Pharmaceuticals. Our Research. https://www.satsumarx.com/our-research/sts101/ (accessed 2023 Sep 15).

Very rare: <0.01%
Rare: ≥0.01 and <0.1%
Not common: ≥0.1% and <1%

Common: ≥1% and <10%
Very common: ≥10%

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PUR3100 Phase 1 Clinical Study

Objectives

- Evaluate Safety, Tolerability, and Pharmacokinetics
- Demonstrate comparative bioavailability of PUR3100 to IV DHE

Randomized Double-blind, Double-dummy Single Dose Study in 24 Healthy Volunteers

Healthy Volunteers

24 subjects

Randomized to dose group

- **Inhaled Placebo + 1mg IV DHE** (n=6)
- **Inhaled PUR3100 0.5mg + IV Placebo** (n=6)
- **Inhaled PUR3100 1.0mg + IV Placebo** (n=6)
- **Inhaled PUR3100 1.5mg + IV Placebo** (n=6)

Initial Phase 1 Study

- IV DHE or 1 of 3 doses of PUR3100 with matching placebo
- Assessment of safety, tolerability, and PK after administration of single dose
- PK data from IV DHE allows for preliminary assessment of comparable bioavailability between IV DHE and PUR3100

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PUR3100 Achieved All Phase 1 Study Objectives

Desired Target Product Profile Characteristic	PUR3100 Phase 1 Result
T_{max} < 15 Minutes	✓ T_{max} = 5 min
Overall AUC ≤ IV DHE While Maintaining a Lower C_{max} than IV DHE	✓ ~2.5- to 4-fold lower mean $AUC_{0\text{-}inf}$ relative to IV DHE ✓ 9- to 12-fold lower mean C_{max} relative to IV DHE
Achieve Less Nausea and Vomiting Than IV DHE	✓ Significantly less nausea and no vomiting while maintaining therapeutic concentrations

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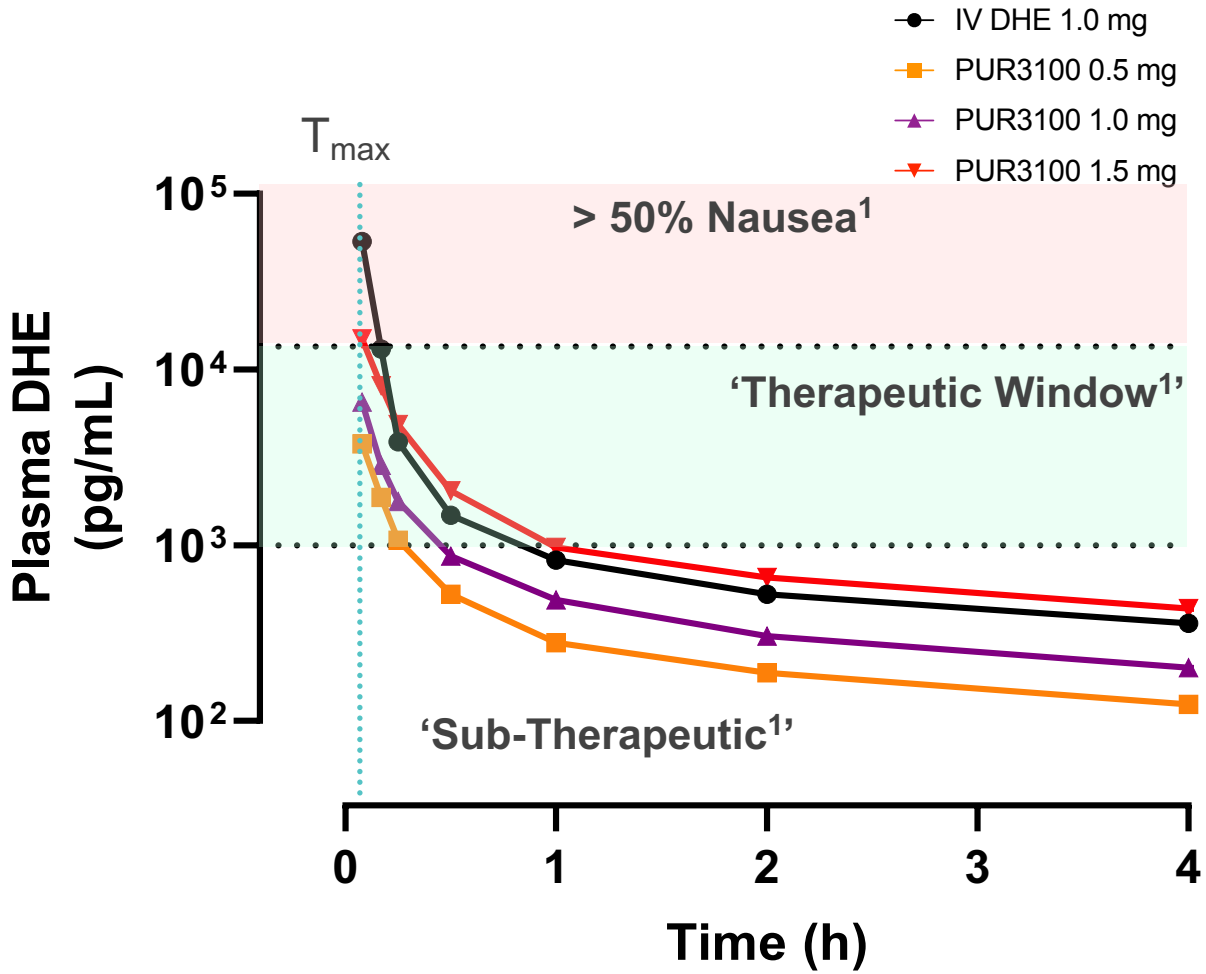
PUR3100 Four Hour Exposure Profile is Similar to IV DHE

Equivalent T_{max} with C_{max} below the range typically associated with elevated nausea risk

- T_{max} is at the first time point (5 min) for all subjects at all PUR3100 doses
- Geometric mean C_{max} at every dose is in the 'therapeutic window[1]'
- The kinetic profile is comparable to that of IV and differs from published data from all other routes of DHE administration, including MAP0004
- PK profile of primary metabolite is also similar to that of IV DHE 45



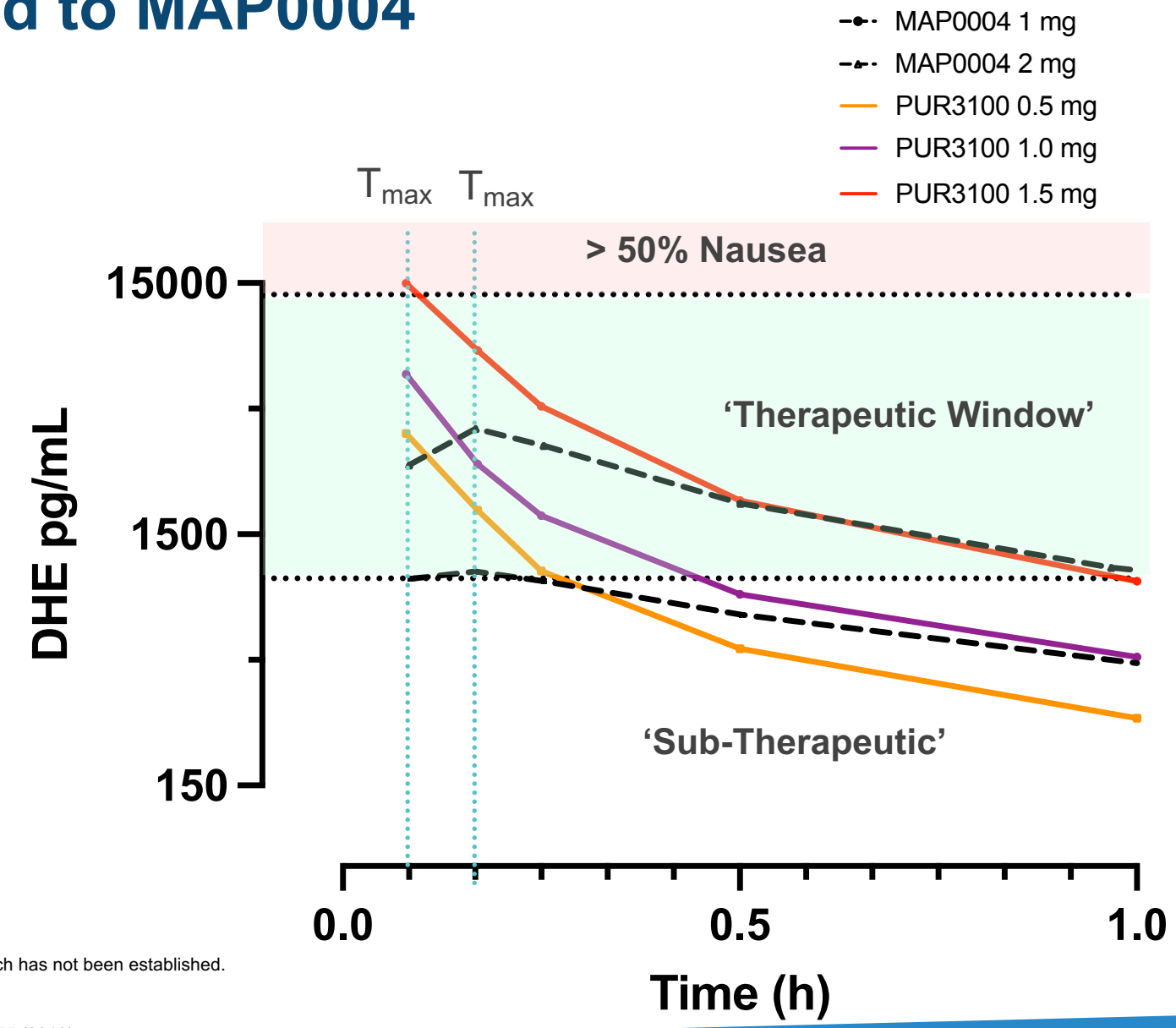
PUR3100 is an investigational drug, the safety and efficacy of which has not been established.

Data on file

1. Therapeutic Window defined as the exposure between the lowest systemic concentration required for efficacy and the concentration above which more than 50% of patients experience nausea. Silberstein, S. D., et al., *Headache J Head Face Pain* **60**, 40–57 (2019).

PUR3100 Kinetics Compared to MAP0004

- T_{max} at 5 min for all PUR3100 doses versus 12 minutes in MAP Phase 1 study[1]
- A higher C_{max} was achieved with PUR3100
- Published third-party studies suggest:
  - Higher and faster exposure may drive faster receptor binding[2]
  - DHE binds slowly but tightly, resulting in longer duration of effect[3]

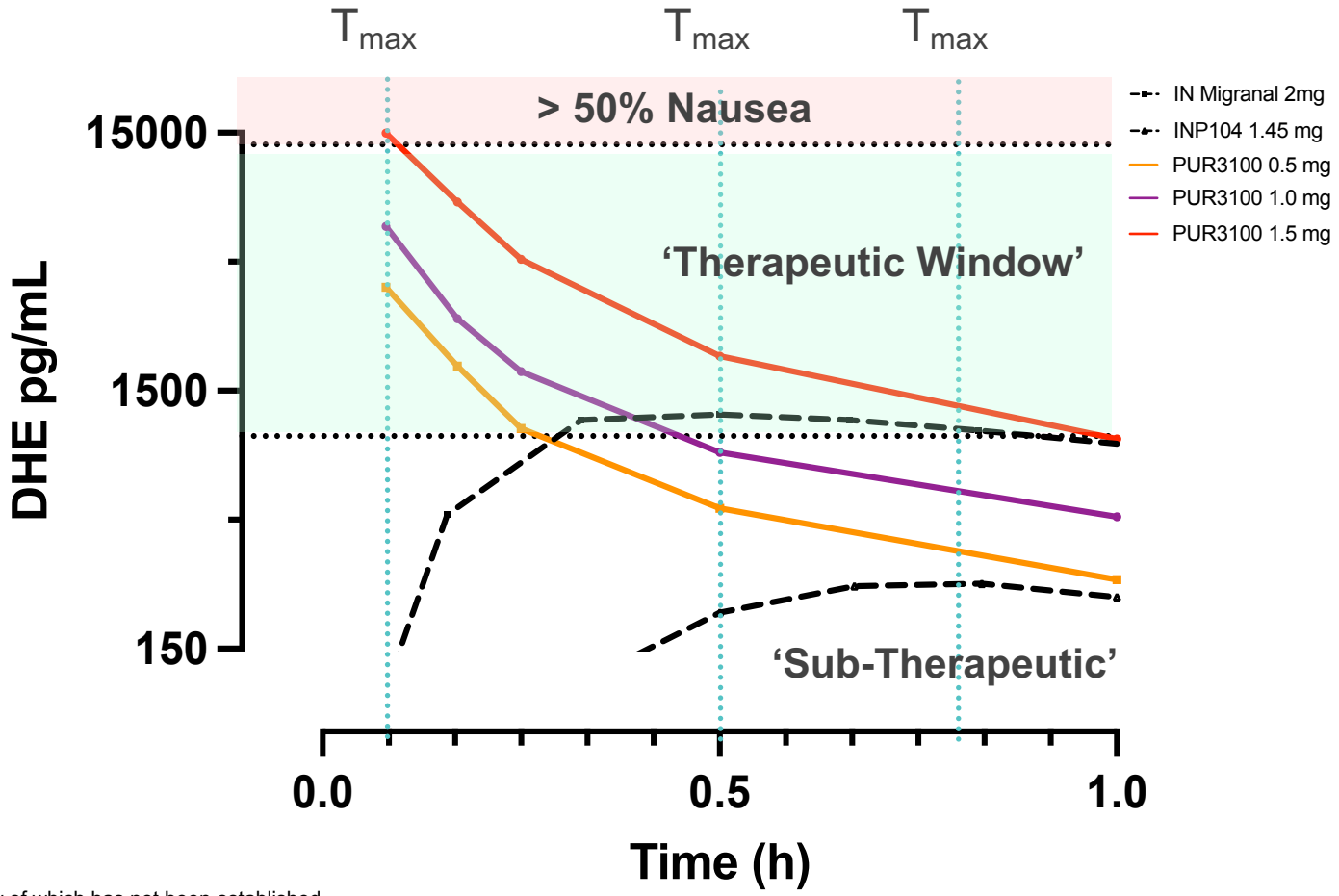


PUR3100 is an investigational drug, the safety and efficacy of which has not been established.

1. Shrewsbury, S. B., et al., *Headache* **48**, 355–67 (2008).
2. Sykes, D. A., et al.,. *Mol Cell Endocrinol* **485**, 9–19 (2019).
3. Kori, S., et al., *The Journal of Headache and Pain* **14**, P75–P75 (2013).

PUR3100 Kinetics vs. Marketed DHE Therapies

- T_{max} at 5 min for all PUR3100 doses versus 30 minutes for in INP104[1] and 47 minutes for Migranal[1]
- Higher C_{max} than published intranasal (IN) formulations' C_{max}
- T_{max} and C_{max} data could improve receptor binding kinetics and potentially translate into better treatment effects [2, 3]



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1. Shrewsbury, S. B., Jet al., *Headache J Head Face Pain* **59**, 394–409 (2019).
2. Hoare, S.. https://www.ncbi.nlm.nih.gov/books/NBK569501/.
3. Kori, S., et al., *The Journal of Headache and Pain* **14**, P75–P75 (2013).

PUR3100: No Vomiting and Less Nausea Than IV DHE

Subject number	Active medication	C_{max} (pg/mL)	Duration of Dose (min)	Time to Nausea after dose (min)			
120	IV D.H.E. 45 1 mg	SNR	4	6	Nausea		chest tightness
109	IV D.H.E. 45 1 mg	112000	3	5	Nausea		suprapubic pain
105	IV D.H.E. 45 1 mg	100000	3	30	Nausea	Vomit	
103	IV D.H.E. 45 1 mg	50800	4	4	Nausea		
123	IV D.H.E. 45 1 mg	49100	4	7	Nausea		
114	IV D.H.E. 45 1 mg	25300	5	12	Nausea	Vomit	
220	IV D.H.E. 45 1 mg	11700	4				
115	PUR3100 1.5 mg	19300	5				
108	PUR3100 1.5 mg	18800	4				
101	PUR3100 1.5 mg	17700	6	37	Nausea		
111	PUR3100 1.5 mg	14500	4				
117	PUR3100 1.5 mg	10500	4				
122	PUR3100 1.5 mg	9090	5	6	Nausea		
116	PUR3100 1.0 mg	12200	4				
107	PUR3100 1.0 mg	10700	4	3	Nausea		
102	PUR3100 1.0 mg	7270	4				
110	PUR3100 1.0 mg	4130	4				
121	PUR3100 1.0 mg	3270	4				
118	PUR3100 1.0 mg	1520	7				
119	PUR3100 0.5 mg	SNR	4	9	Nausea		
106	PUR3100 0.5 mg	5150	5				
104	PUR3100 0.5 mg	4980	4				
112	PUR3100 0.5 mg	3960	5				
124	PUR3100 0.5 mg	3490	3	67	Nausea		GI upset
113	PUR3100 0.5 mg	2680	4				
219	PUR3100 0.5 mg	2370	4				

Nausea Incidence

- Of 16 subjects with C_{max} < 14,500 pg/mL, 3 experienced nausea = 19%
- Of 8 subjects with C_{max} > 14,500 pg/m, 6 experienced nausea = 75%
- Of 10 subjects with C_{max} < 9,000 pg/mL 1 experienced nausea = 10%
- Of 14 subjects with C_{max} > 9,000 pg/mL, 8 experienced nausea = 57%

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PUR3100 is an investigational drug, the safety and efficacy of which has not been established.
*Duration of Dose = T0 - IVend. Where T0 is the start time of first inhalation and IVend is the end time of the IV administration.
*Time to Nausea after dose = AEonset – T0. Where T0 is the start time of first inhalation and AEonset is the time of Nausea onset.
SNR = sample not received – data excluded from PK analysis

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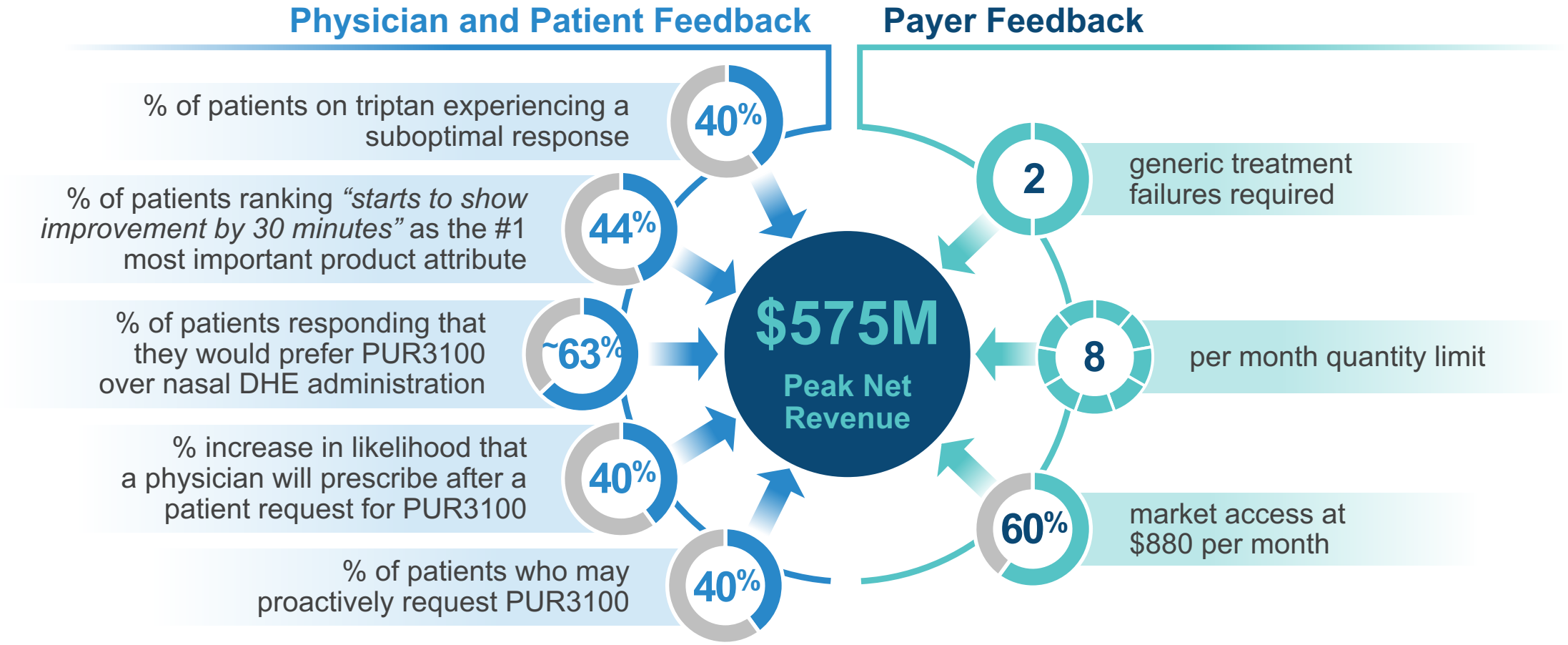
Market Opportunity

~$575M peak US revenue with approximately 1% of market capture anticipated



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Source: Physician Interviews; Payer Interviews; Patient Research: ClearView Analysis. * Also includes discount for patient compliance, patient persistence, and gross-to-net adjustment and peak revenues expected at loss of market exclusivity, ~16 years post launch; Estimate based on ClearView Analysis, which took into account uninsured patients, patients who are unwilling to pay, and projected access restrictions placed by payers

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PULMATRIX

High Confidence In Potential Efficacy

MAP0004 established safety and efficacy for inhaled DHE, but PUR3100 shows potential advantages

Met All Four Co-primary Endpoints at the 2-hour Time Point

(%)	MAP0004 (n=395)	Placebo (n=397)	P value
Proportion patients who achieved pain relief	59	35	<0.0001
Photophobia-free	47	27	<0.0001
Phonophobia-free	53	34	<0.0001
Nausea-free	67	59	0.0210

Product taste (6%), nausea (4%), cough (2%) and vomiting (2%) were the only AE that occurred more often with MAP0004 than placebo

PUR3100 Potential Advantages

- ✓ DHE pharmacokinetics (PK) are highly predictive of clinical outcomes
- ✓ PUR3100 PK profile is comparable, if not better, than the PK of MAP0004
  - ✓ PUR3100 pharmacokinetics demonstrated a C_{max} greater than MAP0004
  - ✓ PUR3100 pharmacokinetics demonstrated a T_{max} of 5 minutes compared to MAP0004 T_{max} of 12 minutes
- ✓ Device related issues associated with MAP0004 FDA CRL are completely mitigated with iSPERSE enabled dry powder lung delivery
- ✓ Regulatory path to approval is understood and relatively short
  - ✓ PUR3100 is 505(b)(2), allowing for a single Phase 3 placebo-controlled study for approval
- ✓ Following successful Phase 2 proof of concept studies, strategic / investor interest has been high as demonstrated by Impel, Satsuma and Allergan (acquirer of MAP Pharmaceuticals)

PULMATRiX

PUR3100 is an investigational drug, the safety and efficacy of which has not been established.

Aurora SK, Silberstein SD, Kori SH, et al. MAP0004, orally inhaled DHE: a randomized, controlled study in the acute treatment of migraine. *Headache.* 2011;51:507-517.

PUR3100 Potential Phase 2 Clinical Study

Randomized Double-blind, Double-dummy Single Dose Study in 24 Healthy Volunteers

Acute Migraine Sufferer

195 subjects

Randomized to dose group

- **Inhaled Placebo** (n=65)
- **Inhaled PUR3100 0.5mg** (n=65)
- **Inhaled PUR3100 1.0mg** (n=65)

Phase 2 Study Objectives

- Evaluate efficacy as measured by pain freedom and freedom from most bothersome symptom at 2 hours post-initial dose
- Assess safety and tolerability
- Evaluate onset of pain freedom post dosing
- Determine the optimal dose to take forward into a single Phase 3 study

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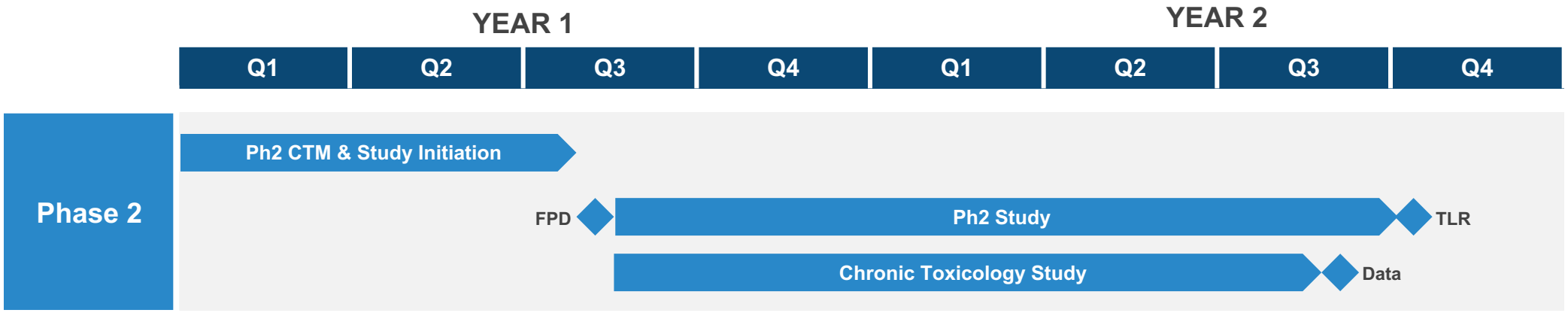
PUR3100 is an investigational drug, the safety and efficacy of which has not been established.
Phase 2 design: 80% power assuming 35% (PUR3100) vs 15% (placebo) response rate for pain freedom @2hr with 1-sided alpha of 0.05 for each comparison.

Development Plan to Chronic Toxicology & Phase 2 Top Line Data



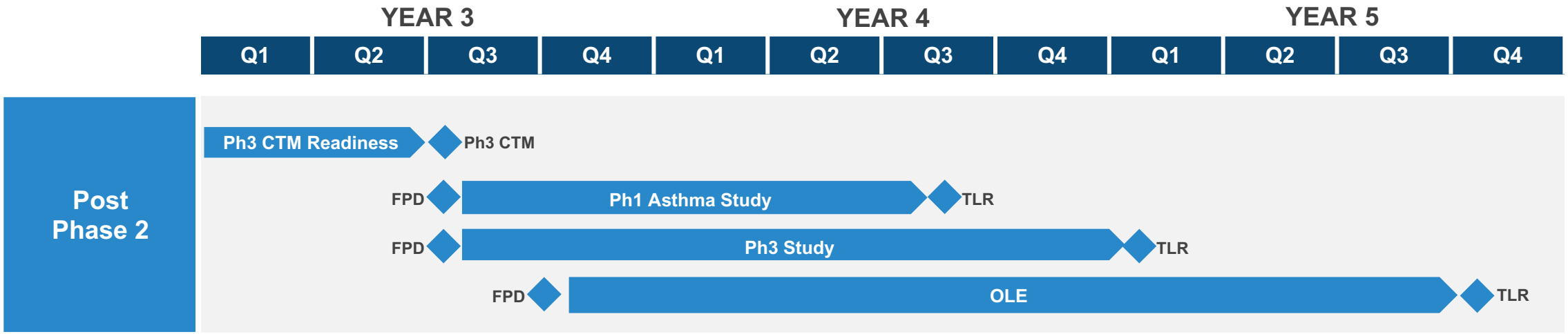
Plan	Phase 2 Study Design	Activities Through Ph2 Top-Line Data
Powered Phase 2 followed by single Phase 3 with single PUR3100 dose	Phase 2 randomized (1:1:1), double-blind, placebo- controlled proof of concept and dose setting study (N=195)[1]	• Toxicology and Clinical Trial Material (CTM) Manufacture • Phase 2 Study • Chronic Toxicology Study in Dogs, the gating item for Open Label Extension (OLE) study • Phase 2 CTM manufacture • Phase 3 CTM Readiness (ongoing)

PULMATRiX

PUR3100 is an investigational drug, the safety and efficacy of which has not been established.

1. Phase 2 design: 80% power assuming 35% (PUR3100) vs 15% (placebo) response rate for pain freedom @2hr with 2-sided alpha of 0

Post Phase 2 Development Plan for Completion of Required Studies for NDA



Plan	Phase 3 / OLE Study Design	Activities Through Ph3 and OLE Top Line Results
Complete required studies, per FDA feedback, after achievement of Ph2 milestone: • Ph1 safety study in asthmatics • Open Label Extension (OLE) • Final Ph3 CMC readiness and CMC manufacture	• Phase 3 randomized (1:1), double-blind, placebo-controlled, single attack study (N=278)[2] • Phase 3 open-label, long term safety study (N~600)[3]	• Phase 3 Readiness & CTM Manufacture • Phase 1 Safety Study in Asthmatics • Phase 3 Study • Phase 3 Open Label Extension Study

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1. Phase 3 design: 90% power assuming 35% (PUR3100) vs 15% (placebo) response rate for pain freedom @2hr AND 50% (PUR3100) vs 30% (placebo) for MBS freedom@2hr with 2-sided alpha of 0.05
2. Target safety database for the OLE is ≥300 patients on PUR3100 for 6 months and ≥100 patients on PUR3100 for 12 months. To be counted in the long-term safety database, each patient should treat, on average, a minimum of two migraine attacks per month. Patients who participate in the Phase 3 study may rollover to the OLE.

Opportunity Overview

PUR3100 Overview

Clinical Data

Attractive Market Opportunity

Low Risk Profile

Other Clinical Programs for Partnership or Monetization

PULMATRiX

PUR1800

Inhaled p38, Syk, Src Kinase Inhibitor with Potential for Treating AECOPD

NSKI Portfolio In-Licensed from Janssen, Including RV1162

RV1162 Reformulated Into iSPERSE Enabled PUR1800

PUR1800 represents up to ~$2.4B[1] peak net revenue opportunity in the U.S. as an inhaled non-steroidal treatment of AECOPD (acute exacerbations in COPD)

In pre-clinical studies, RV1162 demonstrated multifactorial efficacy in steroid-resistant inflammation

In a Ph1b clinical study, PUR1800 was safe and well tolerated with no observed adverse events.

PUR1800 is an investigational drug, the safety and efficacy of which has not been established.

1. Physician Interviews and Payer Interviews; ClearView Health Partners Analysis

PUR1900

Inhaled Antifungal

Cipla Worldwide Partnership

Inhaled Itraconazole to Treat Allergic Bronchopulmonary Aspergillosis (ABPA) in Patients with Asthma

iSPERSE enables itraconazole delivery to the lung, providing PUR1900 potential to address the underlying cause of disease while avoiding side effects of oral antifungal therapy and prolonged steroid treatment.

PUR1900 has potential to be a first line treatment for ABPA and is being developed by Cipla for commercialization outside the United States in exchange for a 2% royalty on net sales payable to Pulmatrix.

Ph2b study (NCT05667662) was terminated and the study will be closed. Cipla will continue development of PUR1900 outside the United States.

In Cipla Territory (all markets outside the United States), Cipla will bear full cost of development and commercialization.

Pulmatrix will earn 2% royalty on Cipla Territory net revenues after successful tech transfer for drug manufacture to Cipla.

PULMATRIX
Corporate Overview

PULMATRIX

NASDAQ: PULM