# Palatin Technologies, Inc.

## NYSE American: PTN

## CORPORATE PRESENTATION

January 2025

Carl Spana, Ph.D.
President & CEO

Stephen T. Wills, CPA/MST
CFO / COO

# Forward Looking Statements

The statements in this presentation that relate to future plans, events or performance are forward-looking statements, which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended. Such forward-looking statements involve significant risks and uncertainties, and actual results, events and performance may differ materially from those expressed or implied in this presentation. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements include, but are not limited to, statements concerning the following: (i) estimates of our expenses, future revenue and capital requirements; (ii) our ability to obtain additional funding on terms acceptable to us, or at all; (iii) our ability to advance product candidates into, and successfully complete, clinical trials; (iv) the initiation, timing, progress and results of future preclinical studies and clinical trials, and our research and development programs; (v) the timing or likelihood of regulatory filings and approvals; (vi) our expectation regarding timelines for development of our other product candidates; (vii) the potential for commercialization of our other product candidates, if approved for commercial use; (viii) our ability and the ability of our licensees to compete with other products and technologies similar to our product candidates; (ix) the ability of third party collaborators to timely carry out their duties under their agreements with us and our licensees; (x) the ability of contract manufactures to perform their manufacturing activities in compliance with applicable regulations; (xi) our ability to recognize the potential value of our licensing arrangements with third parties; (xii) the potential to achieve revenues from the sale of our product candidates; (xiii) our ability to maintain product liability insurance at a reasonable cost or in sufficient amounts, if at all; (xiv) the retention of key management, employees and third-party contractors; (xv) the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology; (xvi) our compliance with federal and state laws and regulations; (xvii) the timing and costs associated with obtaining regulatory approval for our product candidates; (xviii) the impact of legislative or regulatory healthcare reforms in the United States; and (xix) other risks disclosed in our SEC filings. The forward-looking statements in this presentation do not constitute guarantees of future performance. We undertake no obligation to publicly update these forward-looking statements to reflect events or circumstances that occur after the date of this presentation.



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# Company Profile

*Technology platform – validated drug development based on the melanocortin system*

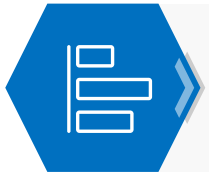
**Therapeutics for Obesity, Inflammatory & Autoimmune Diseases, and Sexual Dysfunctions**

Demonstrated expertise moving programs from discovery to FDA approval

Expertise in the biology and chemistry of melanocortin system (MCS)

1st company to gain FDA approval for a melanocortin agent (Vyleesi®)

MOA with potential to modify underlying disease pathologies – not just treat symptoms



Strategy leverages our expertise across multiple therapeutic opportunities



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# Palatin Leadership – Strong Team with Broad / Extensive Biopharma Experience

**Carl Spana, PhD**
*President and Chief Executive Officer*

Co-founder with 25-plus years in drug research, development, approval and board directorships

**Stephen T. Wills, CPA/MST**
*Chief Financial Officer and Chief Operating Officer*

25-plus years in finance, operations, M&A, licensing, capital markets and board directorships

**John Dodd, PhD**
*Senior Vice President Research / Development*

40-plus years in drug discovery and development

**Paul Kayne, PhD**
*Vice President Biological Sciences*

25-plus years in drug discovery and development

**J. Don Wang, PhD**
*Vice President Product Development*

30-plus years in CMC and supply chain

**Stephen A. Slusher**
*Chief Legal Officer*

30-plus years of legal leadership with a focus on Intellectual property

**Robert Jordan**
*Senior Vice President Program Operations*

20-plus years in drug development and clinical operations

**James Hattersley**
*Senior Vice President Business Development*

25-plus years of identifying and executing deals

Bristol Myers Squibb™ · SB · AR · SUN PHARMA · DERMASCIENCES A TISSUE REGENERATION COMPANY · NEKTAR · Santen · Johnson&Johnson · tolmar · Caltech · Abbott



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# Commercial Product and Development Programs

## Commercial Product

**Vyleesi® (bremelanotide)**
Hypoactive Sexual Desire Disorder

**Asset Sale for FSD Rights to Cosette December 2023**

**Up to $159 million in potential sales milestones**

| Pipeline Development Programs | Preclinical | Phase 1 | Phase 2 | Phase 3 | NDA | Status/Next Steps |
|---|---|---|---|---|---|---|
| ***Obesity*** | | | | | | |
| **Bremelanotide**<br>Obesity - GLP-1 adjunct therapy | | | | | | Phase 2 MC4R agonist + GLP-1 in obese patients initiated<br>**Patient enrollment completed / Data 1Q 2025** |
| **Novel Once-Weekly Peptide MC4R Agonist**<br>Multiple obesity indications | | | | | | IND enabling activities 1Q 2025 – 3Q 2025<br>**IND filing / Phase 1 SAD/MAD 4Q 2025** |
| **PL7737 Oral Small Molecule MC4R Agonist**<br>Multiple obesity indications | | | | | | IND enabling activities 1Q 2025 – 3Q 2025<br>**IND filing / Phase 1 SAD/MAD 4Q 2025** |
| **Spin-Out / Out-License Product Candidates - Seeking Development & Commercial Partnerships (investment bank engaged to support process)** | | | | | | |
| ***Ocular*** | | | | | | |
| **PL9643 MCR Agonist**<br>Dry eye disease (DED) | | | | | | Phase 3 MELODY-1 completed, positive data<br>**Phase 3 Melody-2 & -3 start targeted for 1Q 2025**<br>FDA confirmation on protocols and endpoints |
| **PL9588 MCR Agonist**<br>Glaucoma | | | | | | **IND-enabling tox program initiation 4Q 2024**<br>Clinical program initiation 2H 2025 |
| **PL9654 MCR Agonist**<br>Retinal diseases | | | | | | IVT delivery activities advancing / **Topical delivery planned** |
| ***Gastroenterology, Men's Health, Renal*** | | | | | | |
| **PL8177 Oral MC1R Agonist**<br>Ulcerative colitis (UC) | | | | | | Phase 2 Proof-of-Concept / Patient enrollment completed<br>**Topline data readout 1Q 2025** |
| **Male Sexual Dysfunction**<br>**Bremelanotide + PDE5i**<br>PDE5i non-responders | | | | | | Clinical co-formulation program initiated<br>PK Study data 2H 2025<br>**Phase 2/3 initiation 2H 2025** |
| **MCR Agonist**<br>Diabetic nephropathy | | | | | | Phase 2 Open Label Trial / Patient enrollment completed<br>**Positive topline data reported 4Q 2024** |



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# Melanocortin-4 Receptor Obesity Management

- Co-administration of Bremelanotide & Tirzepatide (GLP-1/GIP)
  - Bremelanotide (BMT) MC4R Agonist
    - ✓ FDA Approved (Vyleesi® for Female HSDD)
- Novel “Next Generation” MC4R Selective Agonists
  - MC4R Selective Peptides Once Weekly Dosing
  - Oral MC4R Selective Small Molecules

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# Emerging Obesity Treatment Landscape

*U.S. market value – obesity/metabolic over $5 billion (2023) growing to $44 Billion (2030)*

**Two treatment objectives will define the market**

- Safe, tolerable weight loss for all patients
- Long-term maintenance of a healthy weight range

**Incretin based therapeutics will be standard of care**

- Can drive substantial rapid weight loss
- Issues are tolerability, safety and rebound
- New mechanisms are needed to meet long term treatment goals

**The Opportunity**

- 2nd line monotherapy
- Co-administration with incretin therapeutics
- Weight loss maintenance

- Central Leptin-Melanocortin pathway is a critical pathway that regulates feeding and body weight to maintain energy homoeostasis
- MC4R agonist is a validated drug target for treating obesity
- MC4R agonists are additive to incretin therapeutics
- MC4R agonists counter the negative pathology which drives weight regain

**MC4R agonists will be a highly valuable addition to the emerging obesity treatment landscape.**



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# Review of Weight Loss Maintenance

*Realizing the long-term benefits of obesity treatment*

Excess body weight and fat is associated with negative health conditions

*Including cardiovascular disease, diabetes, fatty liver disease, musculoskeletal disorders and some cancers*

Current and next “generation” incretin based anti-obesity treatments result in significant weight loss and improved health outcomes but for most patients, weight loss stops after 1st year

Current research indicates that persistent long-term intervention will be required to maintain a “healthy” weight reduced state and realize the benefits of anti-obesity treatment

MC4R agonism counter acts many of the metabolic, autonomic, neuroendocrine and behavioral adaptations that strongly favor weight regain



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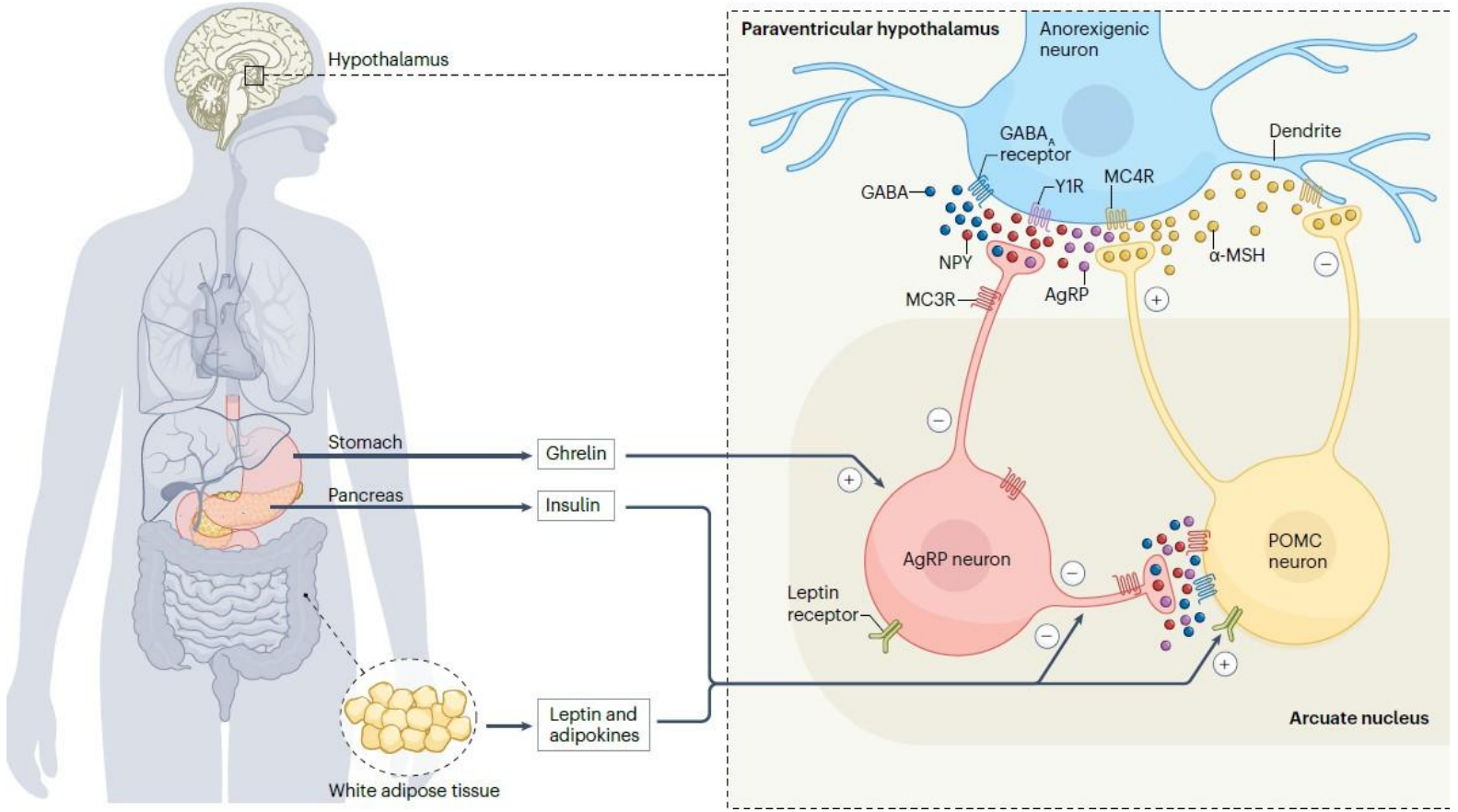
# The Melanocortin Receptor System

## *Obesity and energy management*




Central leptin-melanocortin pathway is a critical pathway that regulates feeding and body weight to maintain energy homoeostasis



Sweeney, P et.al. Nature Reviews Endocrinology 2023 Sep;10(9):507-519

# Value of Palatin's MC4R Agonist Portfolio

| New mechanisms will be required for obesity therapy and weight loss maintenance | Clinically validated treatment for obesity | Bremelanotide | Novel improved "Next Gen" Selective MC4R agonists |
|---|---|---|---|
| Obesity therapy will require combination therapy to achieve consistent, robust weight loss and for the long-term maintenance of healthy weight | Central mechanism of action | FDA approved | Long duration SC peptide agonists |
| There are multiple high value intervention points for an MC4R agonist | Low clinical risk | Extensive efficacy and safety data | Oral small molecule agonists PL7737 lead identified |
| MC4R agonism is additive to GLP-1 treatments | Defined development pathways | Evaluated in obesity clinical studies | Improved safety |
| | Potential for high returns | Can rapidly be expanded into additional indications | Address unmet need and chronic administration |
| | | | Could be additive to current treatments |



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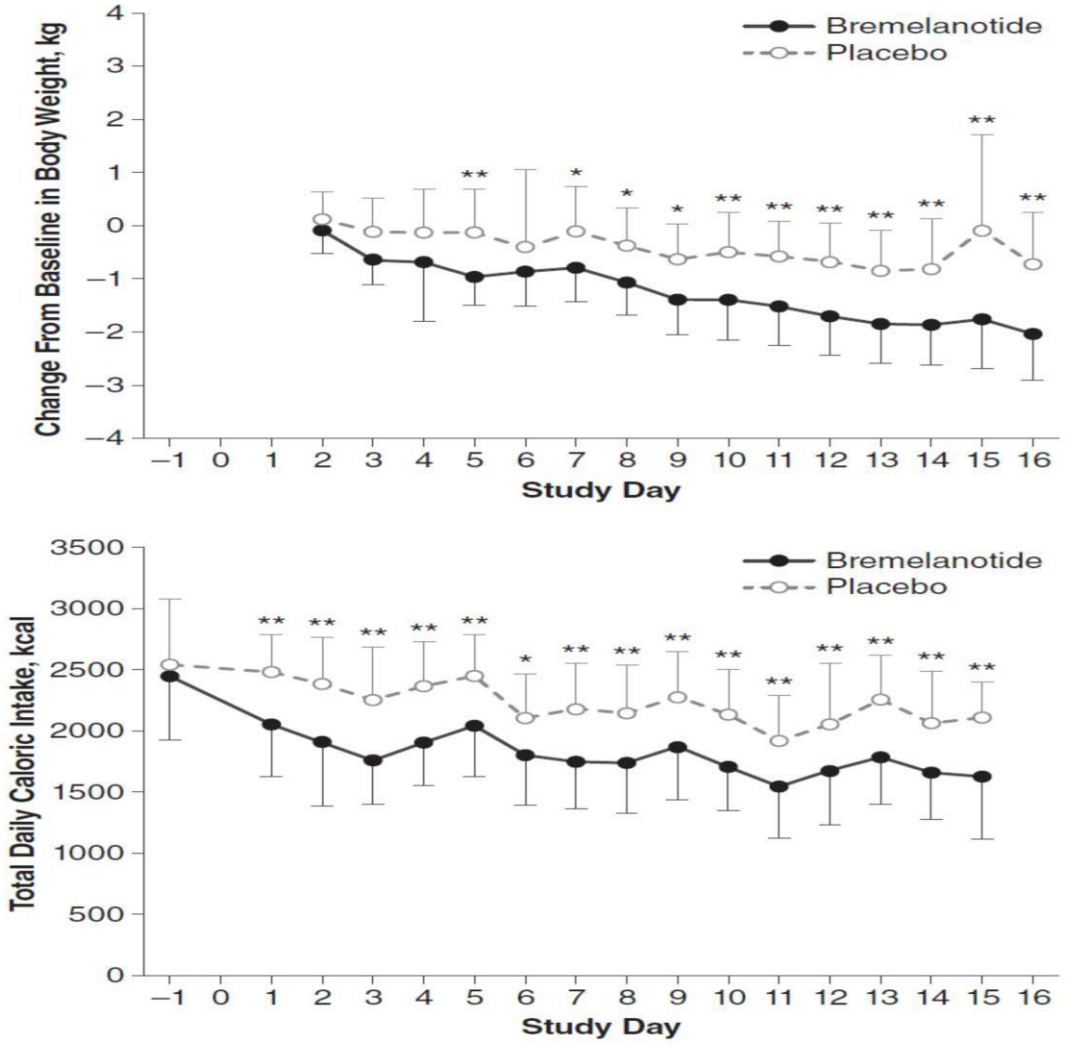
# The Melanocortin Receptor System

*Bremelanotide MC4R obesity management program and Phase 1b clinical weight loss study*




**2-Week Study**

- Weight loss:
  - Placebo -0.7kg;
    Bremelanotide: -2.2kg $p<0.001$
- Bremelanotide reduction daily caloric intake ~400kcal $p<0.01$
- Steady weight loss over the duration of treatment

**A second 1x & 2x day dosing study also demonstrated efficacy**

# GLP-1/GIP Agonist + MC4R Agonist: Co-Administration

*Clinical data**

- No prospective studies have been done with combination pharmacotherapy
- Previously published combination of setmelanotide plus 2.5mg of tirzepatide for obesity in BBS
- 2 patients lost 26% in 34 weeks and 30% TBW at 52 weeks never moving past 2.5mg dose

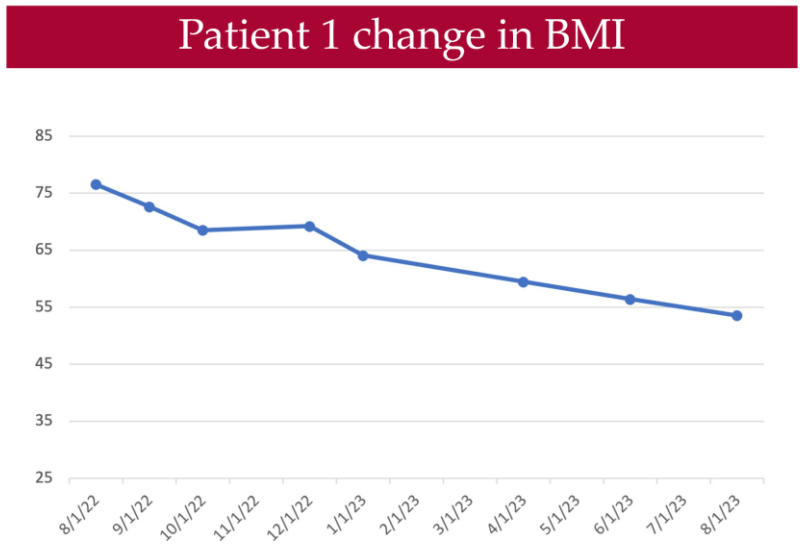



Image 1: Rate of change of BMI in Patient 1 taking combination therapy over a 52-week period.

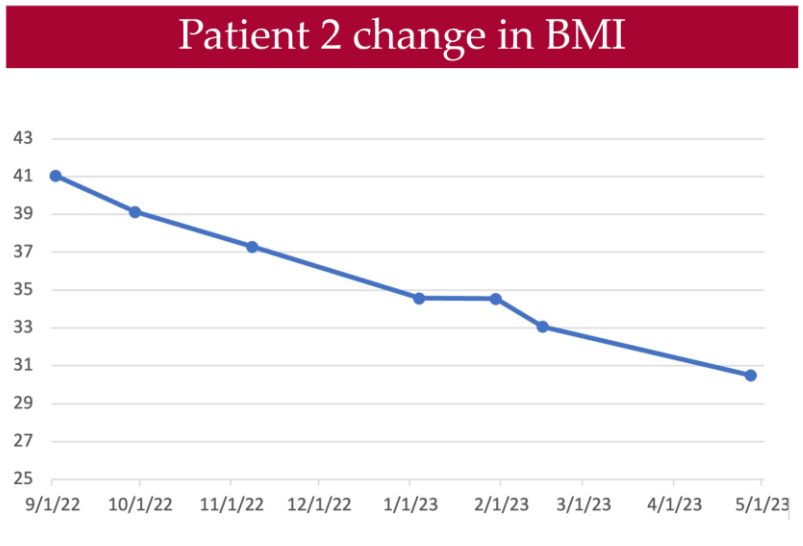



Image 2: Rate of change of BMI in Patient 2 taking combination therapy over a 34-week period.



*McCorkle, C. et. al. Poster Obesity Week 2024 Dallas, TX

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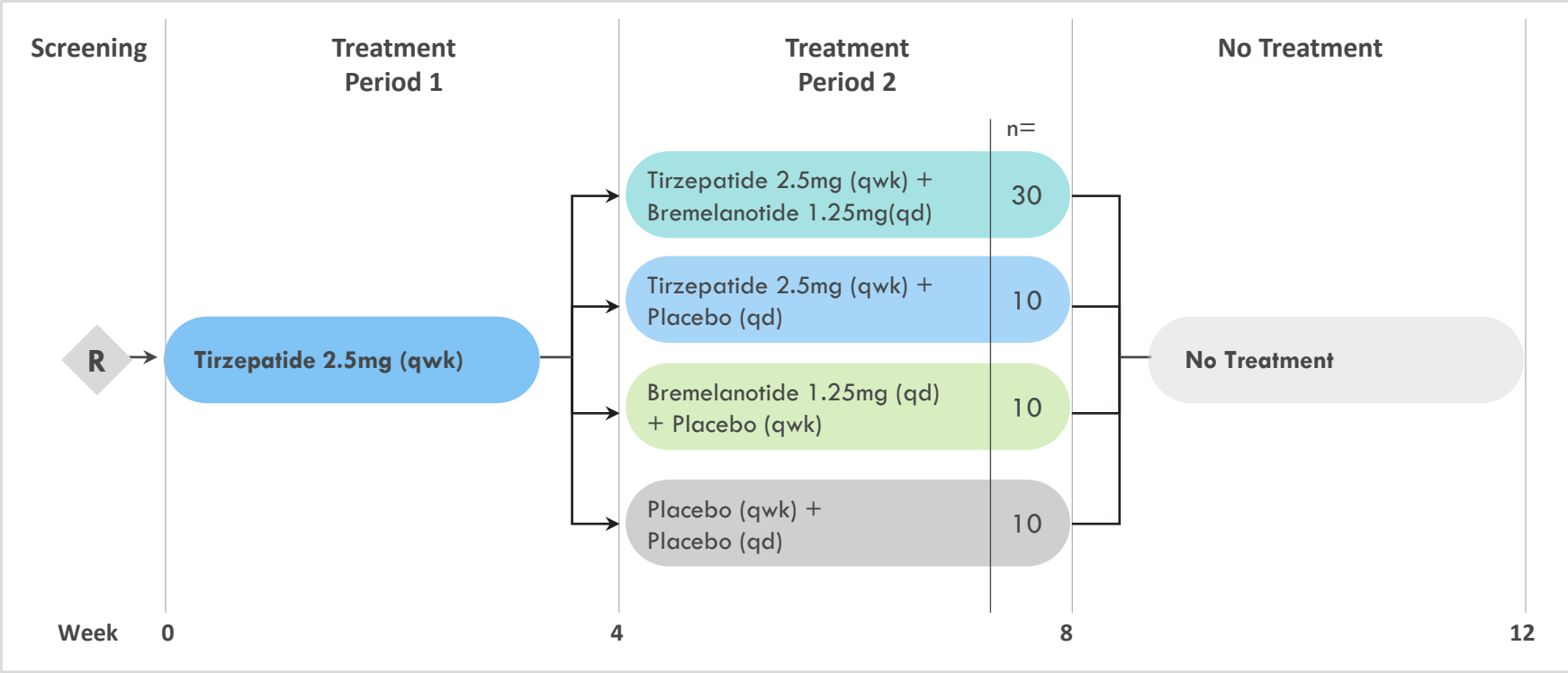
# GLP-1/GIP Agonist + MC4R Agonist: Co-Administration

*Phase 2 co-administration of tirzepatide and bremelanotide (BMT-801)*

## Study Design

Randomized, double-blind, placebo-controlled trial evaluating the safety and efficacy of the addition of an MC4R agonist (BMT) to tirzepatide in obese subjects




**Enrollment Completed**

**Primary Endpoint**

Change in body weight: tirzepatide + bremelanotide vs. placebo at week 8

**Secondary Endpoints (evaluated at week 8)**

- Weight loss maintenance bremelanotide + placebo compared to placebo
- Appetite suppression measured by visual analog scale (VAS)
- Lean muscle mass
- Cardiometabolic laboratory values
- Neck and waist measurements

Possible greater weight loss with combined dosing than either drug separately



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# Novel “Next Generation” MC4R Selective Agonists

- MC4R selective peptides once weekly dosing
- Oral MC4R selective small molecules

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# The Melanocortin Receptor System

*Legacy challenges of MC4R agonist have been solved*

| Current Therapy Challenges | Palatin Achieved Solutions |
| --- | --- |
| Injection Frequency | Palatin's compounds with high potency coupled with structural elements, extend drug residency time (≥ 1 week) |
| Skin Pigmentation | Multiple structural elements have been identified by Palatin and demonstrate reduced MC1R agonism (a known contributor to hyperpigmentation) |
| Nausea / Vomiting | Palatin research has identified multiple approaches to reduce gastrointestinal AE's |
| Cardiovascular Effects | Palatin structure-function studies have identified achievable modifications which eliminate cardiovascular effects |





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# Novel "Next Generation" Selective MC4R Agonists

## First series of 'next generation' MC4R peptide agonists for obesity:

- Palatin studies in MC4R knock-out model confirm weight loss is dependent on a functional MC4R
- PL8905 lead development candidate
  - Selective MC4R agonist: Significant multiples of binding selectivity for MC4R over MC1R
  - Protein binding tail for extended duration
  - Efficacy in weight loss and food intake at doses that do not have blood pressure effects
  - Confirms validity of structure/function relationships, new compounds are extending the selectivity for MC4R over MC1R

## Second series of 'next generation' MC4R peptide agonists for obesity:

- Palatin has generated novel structures/compounds that bias for MC4R selectivity over MC1R
  - Extended *in vivo* stability allows for 1x weekly dosing

# MC4R Selective Oral Small Molecule Program

*Understanding what is required for success*

Historically, MC4R small molecule programs have failed due to a lack of understanding the receptor biology and the structure/function relationship that determine weight loss versus side effects.

Target profile for orally active selective MC4R agonist:

- Properties required for a successful oral small molecule
  - ✓ Molecular weight
  - ✓ Polar surface area
  - ✓ hERG activity
  - ✓ Human plasma protein binding
  - ✓ CYP activity
- MC4R mechanism-based weight loss
- No MC1R activity
- No sexual or blood pressure effects
- 30-day non-GLP toxicity completed

**Palatin's PL7737 has the TARGET PROFILE for a successful MC4R selective, oral small molecule entity.**





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# Obesity Focused Development Programs

*Multiple clinical trials targeted in 2025 with novel, long-acting MC4R peptide and PL7737 small molecule compound for treating general obesity, weight loss management, and rare MC4R pathway diseases such as hypothalamic obesity.*

| Product/Indication | R&D | Phase 1 | Phase 2 | Phase 3 | NDA | Status/Next Steps |
|---|---|---|---|---|---|---|
| **Bremelanotide (PoC Study)**<br>Obesity GLP-1 adjunct therapy | | | | | | Phase 2 - tirzepatide patients<br>Patient enrollment completed<br>**Data 1Q 2025** |
| **Novel Once-Weekly Peptide MC4R Agonist**<br>Multiple obesity indications | | | | | | Identify optimal compound 1H 2025<br>Daily and extended dosing formats<br>**IND enabling activities 1Q 2025 - 3Q 2025**<br>IND filing 4Q 2025<br>**Phase 1 SAD/MAD start 4Q 2025**<br>**Data 1Q 2026** |
| **PL7737 Oral Small Molecule MC4R Agonist**<br>Multiple obesity indications | | | | | | **D**aily dosing format<br>**IND enabling activities 1Q 2025 - 3Q 2025**<br>IND filing 4Q 2025<br>**Phase 1 SAD/MAD start 4Q 2025**<br>**Data 1Q 2026** |

Hypothalamic Obesity (HO) treatment being assessed



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# Summary – Palatin's MC4R Obesity Program

*Experts in the design and development of MC4R agonists*

- Clinically validated mechanism for safe, effective treatment of obesity
- Mechanism addresses the negative physiology that drives weight regain
- IP, know-how and assets for the successful development of an MC4R obesity treatment
- First company to get FDA approval for an MC4R agonist (Vyleesi® approved 2019)
- 1x weekly & oral small molecule MC4R selective agonists ready to advance into development
- Multiple near term clinical and development milestones to increase value
  - IND enabling activities target start 1Q 2025
  - IND filings target 4Q 2025
  - **SAD/MAD Phase 1 target 4Q 2025 – Topline data readout 1Q 2026**

# Spin-Out / Out-License Programs

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# Spin-Out / Out-License Programs

| Product/Indication | R&D | Phase 1 | Phase 2 | Phase 3 | NDA | Status/Next Steps |
|---|---|---|---|---|---|---|
| ***Ocular***<br>**PL9643 MCR Agonist**<br>Dry eye disease (DED) | | | | | | Phase 3 MELODY-1 completed - positive data<br>**Phase 3 Melody-2 & -3 target start 1Q 2025**<br>FDA confirmation on protocols and endpoints<br>NDA submission target 1H 2026 |
| **PL9588 MCR Agonist**<br>Glaucoma | | | | | | **IND-enabling tox program initiation 1Q 2025**<br>Clinical program initiation 2H 2025 |
| **PL9654 MCR Agonist**<br>Retinal diseases | | | | | | IVT delivery activities advancing<br>Topical delivery planned |
| ***Gastroenterology, Men's Health, Renal***<br>**PL8177 Oral MC1R Agonist**<br>Ulcerative colitis (UC) | | | | | | Phase 2 Proof-of-Concept<br>Patient enrollment completed<br>**Topline data readout 1Q 2025** |
| **Male Sexual Dysfunction**<br>**Bremelanotide + PDE5i**<br>PDE5i non-responders | | | | | | Clinical co-formulation program initiated<br>**PK Study data 2H 2025**<br>**Phase 2/3 initiation 2H 2025**<br>Topline data readout 2H 2026 |
| **MCR Agonist**<br>Diabetic nephropathy | | | | | | Phase 2 Open Label Trial<br>Patient enrollment completed<br>**Positive topline data reported 4Q 2024** |



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# Ophthalmology MCR Programs

- Dry Eye Disease – PL9643
- Glaucoma – PL9588
- Retinal Diseases – PL9654

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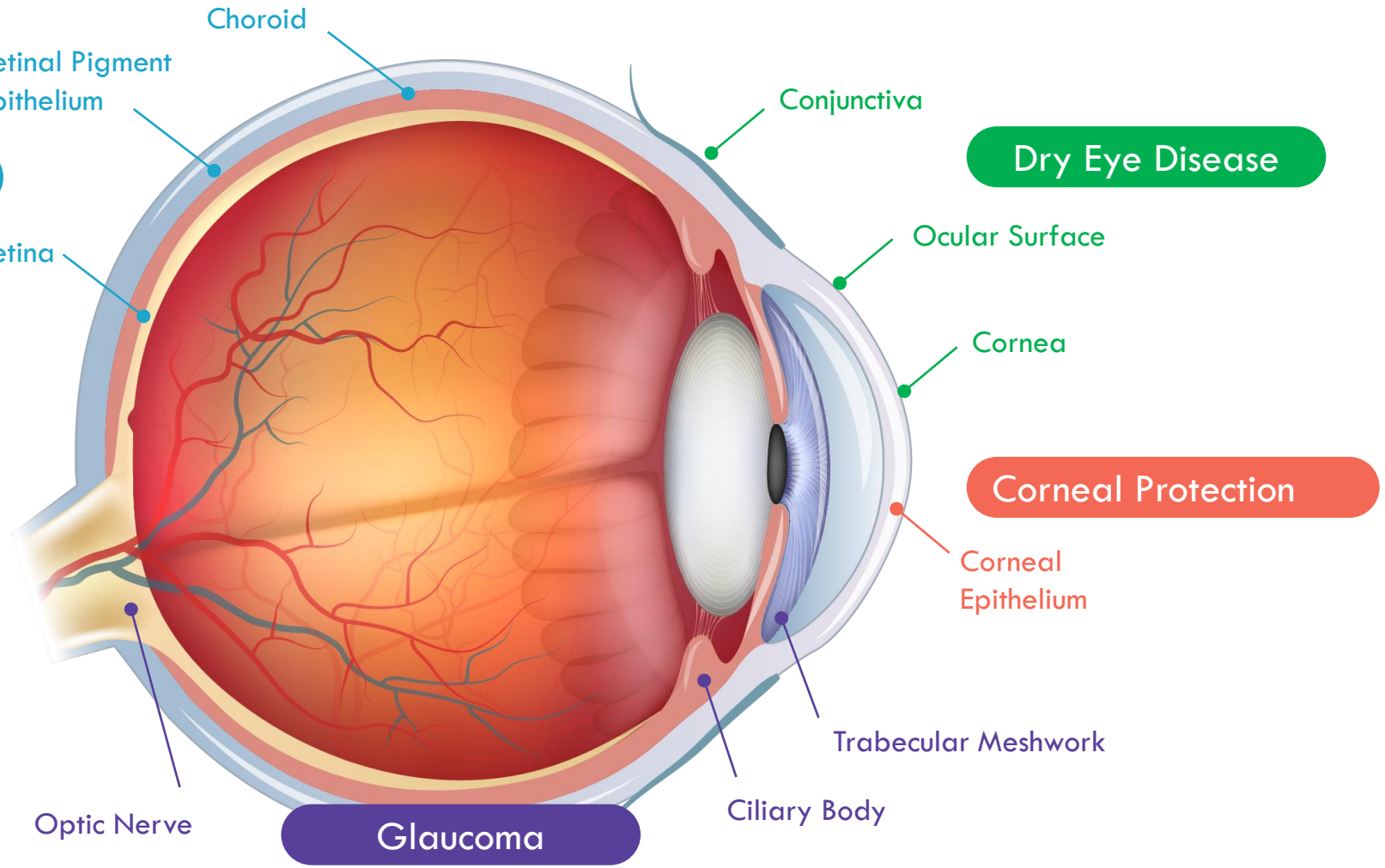
# Melanocortin Agonists for Ophthalmic Disease

**Back of the eye (BOTE)**

**Front of the eye (FOTE)**



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# Melanocortin Agonists for Ophthalmic Disease

## *Target markets and opportunities*

### Dry Eye Disease

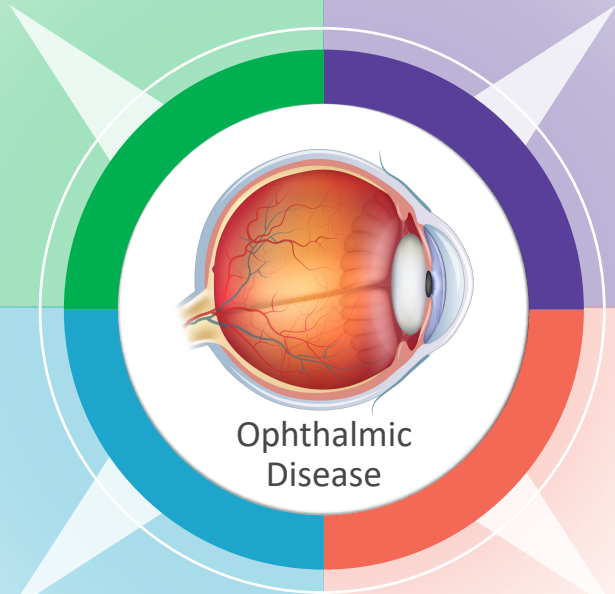
Global Market (2024 Est.) ***$7.0 Billion***
Global Market (2032 Est.) ***$12.3 Billion***

- Unsatisfied need for better tolerability, and more rapid relief of symptoms
- Current market leaders have high discontinuation rates after initial Rx's

### Glaucoma

Global Market (2022 Act.) ***$8.03 Billion***
Global Market (2030 Est.) ***$11.52 Billion***

- Important dual effects; lowers IOP and protects the optic nerve (neuroprotection)
- **No current therapy provides direct protection of the optic nerve!**




### Retinopathies

Global Mkt (2021 Act.) ***$20 Billion***
Global Mkt (2027 Est.) ***$27 Billion***
DR/DME (2023 Act.) ***$10 Billion***
DR/DME (2034 Est.) ***$17.5 Billion***

- Novel MOA expands treatment, addresses non-responders in addition to neovascularization, and treats fibrosis
- Potential for topical formulation to treat patients with early-stage disease before onset of substantial retinal damage

### Cornea Protection

**Significant Unmet Medical Need**
**Novel Indication**

- Protection against serious ocular adverse events



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# Dry Eye Overview

Dry eye disease (DED) or **keratoconjunctivitis** is a multifactorial disorder of the tears and ocular surface

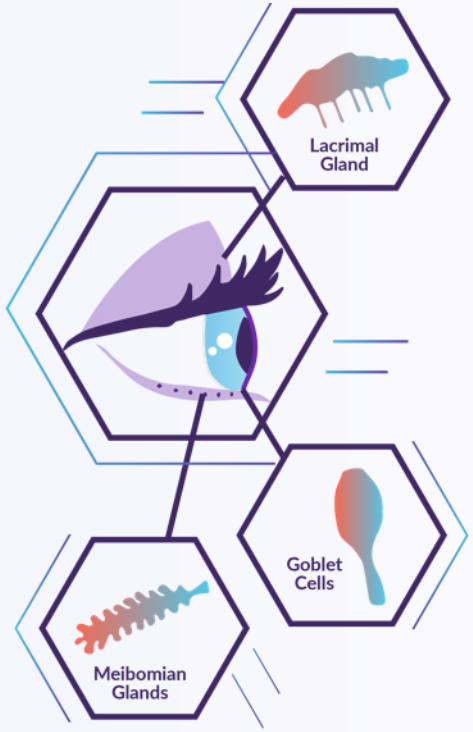
**Symptoms** include dryness, irritation, redness, discharge and blurred vision

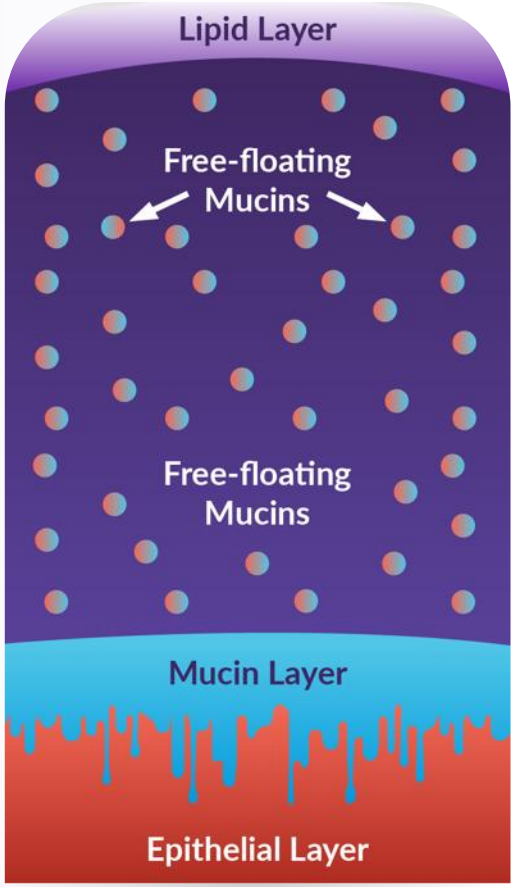
**Inflammation** plays a prominent role in the development and amplification of the signs and symptoms of DED

A few of the approved **Treatments** within the current global dry eye products market ~$6.1 billion[2024] projected to reach ~$7.46 billion[2029]

- Restasis® / Cequa® - topical cyclosporine
- Xiidra® - topical integrin inhibitor
- Tyrvaya® - nasal varenicline
- Eyesuvis® - topical steroid(s)
- Miebo – perfluorohexyloctane
- Artificial tears

Current treatments have **efficacy and tolerability issues - PL9643** addresses a high medical need for innovative treatments that treat underlying disease processes with better ocular tolerability.



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# PL9643 for Dry Eye Disease

*U.S. market value $1.65 billion[1]*

## The Problem

- No effective chronic treatment that can provide rapid relief of dry eye disease symptoms without tolerability issues

## The Opportunity

- 30MM patients (18MM diagnosed)
- <10% treated by Rx

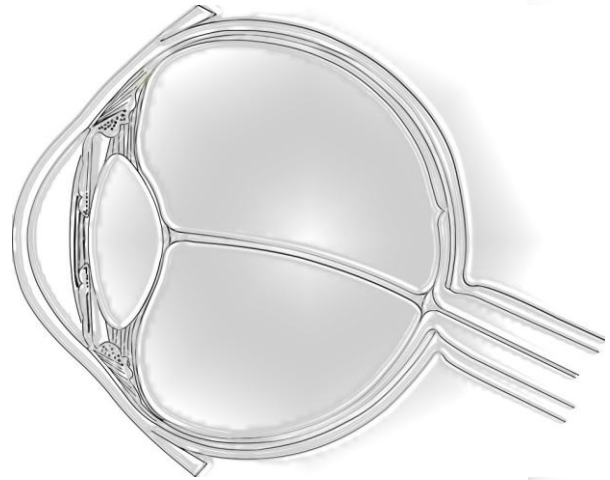
## Current Treatment

- OTC artificial tears, Rx anti-inflammatories and nasal tear stimulants
- Current Rx products are not effective in many patients
- Approved products have significant tolerability issues

## Melanocortin agonism

Resolves inflammation of corneal surface

Melanocortin Receptors present on multiple cell types of the ocular surface



**Melanocortin agonism leads to resolution of inflammation and promotes tissue repair, resulting in rapid relief of dry eye symptoms.**

**PL9643 solves 3 recognized problems with current treatments: Efficacy, Onset Time to Effect, and Tolerability.**

1. Market Scope 2021 Dry Eye Product Market Review; Does not include the over-the-counter artificial tears and other Rx anti-inflammatory and tear stimulants



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# Patient Satisfaction is an Issue with Current Therapies

*Poor tolerability leads to high discontinuation rates*

**Patients Receiving Rx for Dry Eye (48%)[7]**

**Restasis® (Cyclosporine Ophthalmic Emulsion) 0.05%**

- **Response Rate 68-80%[1-4]**
- **Discontinuation Rate 70.8%[5,6,8]**
  - Burning 72%
  - Slow onset of effect 29%
  - Altered sensation of taste 21%
  - Blurred vision 37%
  - Ineffective relief of dry eye 31%

**xiidra™**

- **Response Rate Unknown**
- **Discontinuation Rate 64.4%[5,6,8]**
  - Burning 64%
  - Slow onset of effect 11%
  - Altered sensation of taste 56%
  - Blurred vision 50%
  - Ineffective relief of dry eye 22%

**Side effects such as burning, blurry vision, and bad taste are main reasons for poor compliance, while lack of efficacy is also a main driver for discontinuation of Restasis**



*Sources:* 1. Sall K et al., (2000); 2. Schultz et al., (2014); 3. Torricelli et al., (2014); 4. Williamson et al., (2015); 5. Mah et al,. Clin Ophthalmol (2012); 6. White et al. Clin Ophthamol (2019); 7. Lum et al. Amer. Academy of Optometry (2018), 8. White et al. Clin Ophthalmol (2020)

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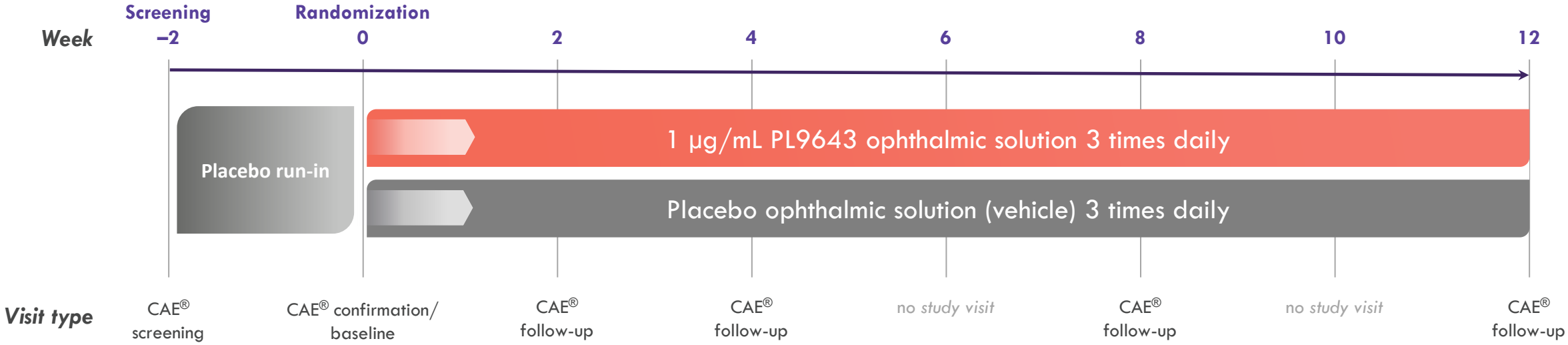
# PL9643 Melody-1 Phase 3 Study Design

*12-week, multicenter, 1:1 randomized, double-masked, vehicle-controlled adaptive design study*

**Evaluate the efficacy and safety of PL9643 (575 patients enrolled) with moderate or severe dry eye disease defined as:**
Disease duration ≥ 5 years; Inferior Corneal Staining score >1; Eye Discomfort score ≥ 25 as measured by the Visual Analog Scale (VAS)




**Co-Primary Sign Endpoint (Week 12)**
Conjunctival Sum Lissamine Green Staining

**Co-Primary Symptom Endpoint (Week 12)**
Ocular Pain

CAE®, controlled adverse environment

# PL9643 for Dry Eye Disease

*Melody-1 Phase 3 clinical trial*

**Solves 3 recognized problems with current treatments: Efficacy, Onset Time to Effect, and Tolerability**

## *Broad Efficacy Across Multiple Signs and Symptoms*

- Co-Primary symptom endpoint of pain met statistical significance ($P<0.025$)
- 7 of 11 Secondary symptom endpoints met statistical significance ($P<0.05$)

## *Rapid Onset of Efficacy in 2-weeks*

- Statistically significant efficacy for multiple signs and symptoms at 2-Weeks
- Continual improvement in symptom endpoints over the 12-week treatment period
- Fluorescein sign 2-Week evaluation all 4 fluorescein staining endpoints met statistical significance ($P<0.05$)

## *Excellent Ocular Tolerability & Safety*

- PL9643 had numerically fewer ocular AEs than artificial tears
- No discontinuations due to ocular AE's

**Symptom relief and tolerability will drive market uptake.**
**PL9643 is differentiating on both symptom relief and tolerability.**



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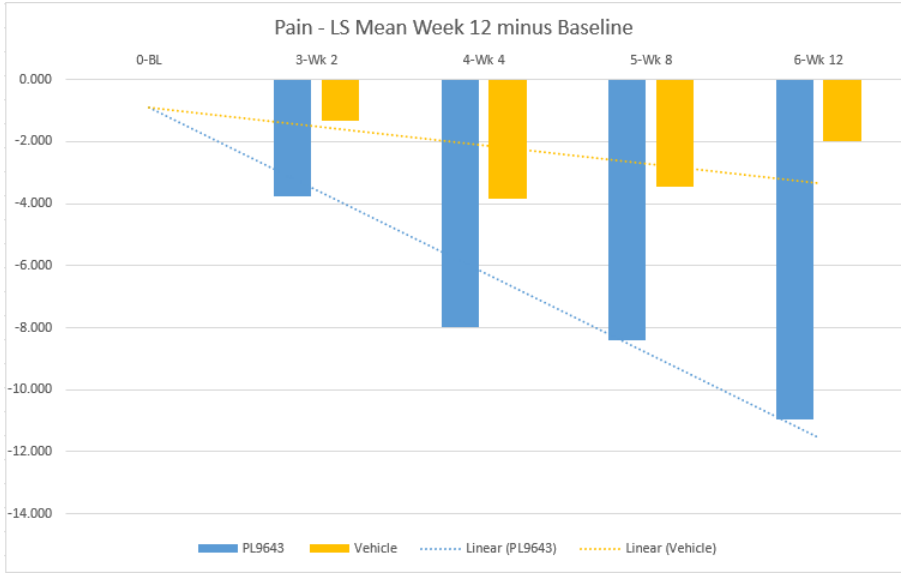
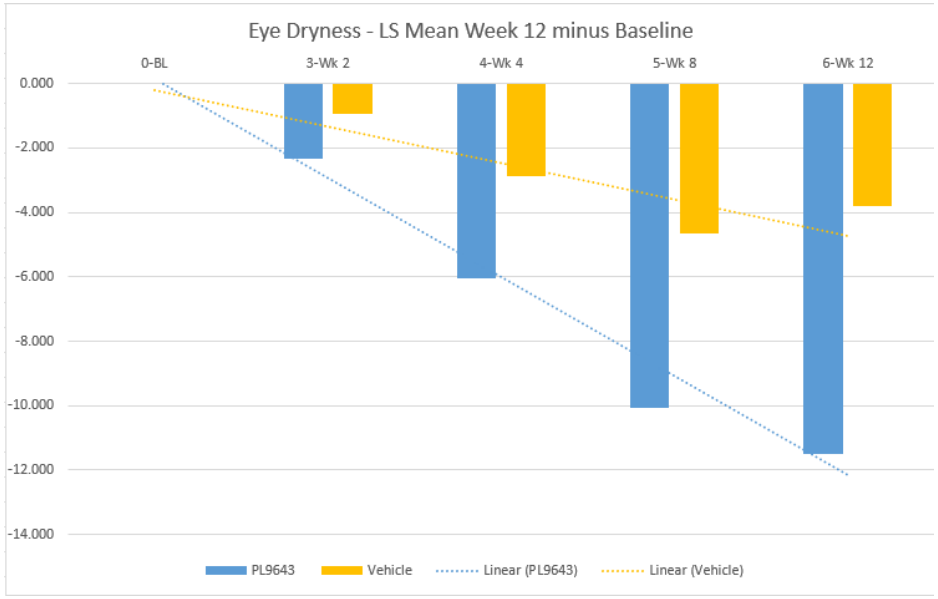
# PL9643 for Dry Eye Disease

*Pain & Eye Dryness symptoms: best-in-class symptom relief*




- Multiple symptom endpoints statistically significant including co-primary Pain endpoint
- Rapid onset of efficacy at 2-weeks (earliest time point measured)
- Continuous improvement over the 12 weeks of treatment
- DED studies enroll mainly older women (65%-80%, mean age ≥60) and response can vary by age and gender

| DED Symptom | ITT Population P-value | All Subjects Age >60 P-value |
|---|---|---|
| Burning | 0.0370 | 0.0111 |
| Burning/Stinging | 0.1792 | 0.0026 |
| Dryness | 0.0417 | 0.0136 |
| Eye Dryness | 0.0043 | 0.0119 |
| Grittiness | 0.2357 | 0.0255 |
| Ocular Discomfort | 0.0091 | 0.0077 |
| Pain | 0.0217 | 0.0017 |
| Photophobia | 0.0078 | 0.0032 |

**Change from baseline at 12-weeks pre-CAE PL9643 v. Vehicle**



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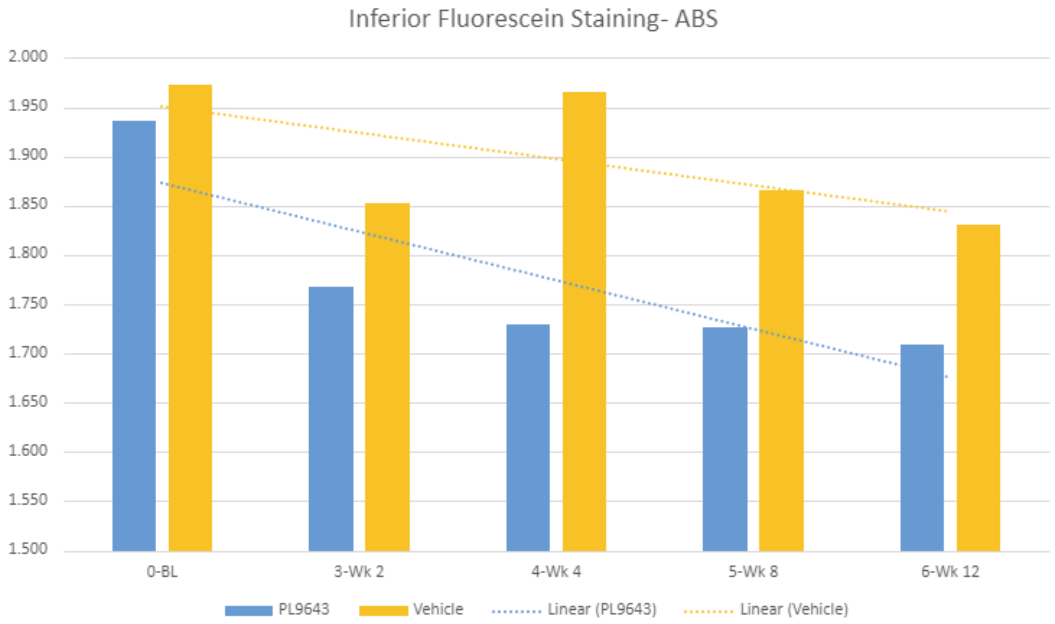
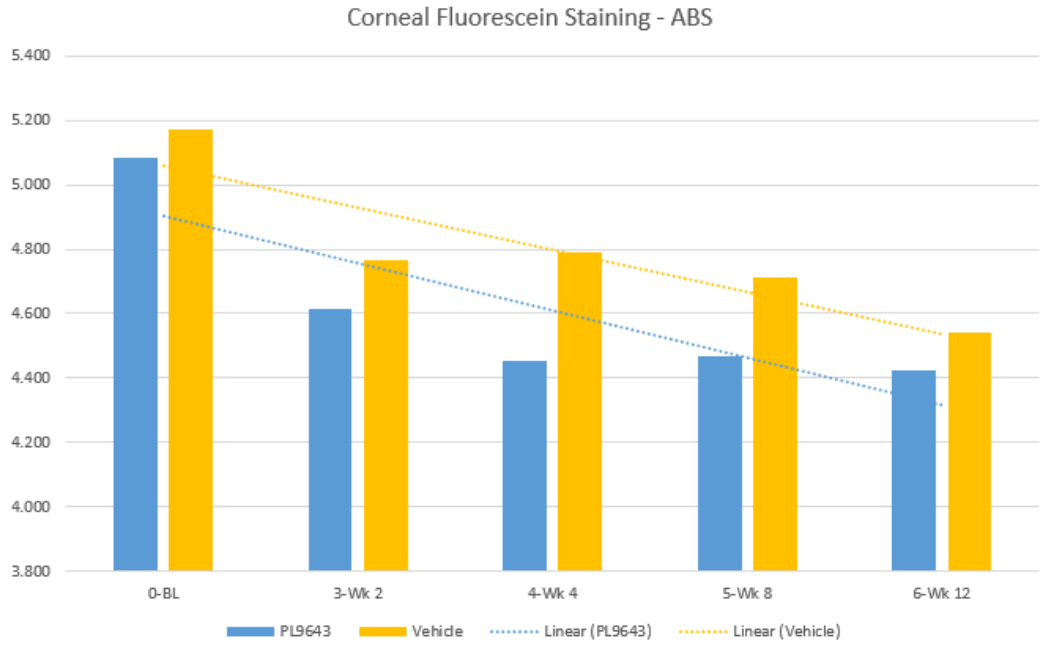
# PL9643 for Dry Eye Disease

## *MELODY-1 sign endpoint*




- PL9643 separates from Vehicle at 2-weeks (earliest time point measured) and continues to improve over 12 weeks
- Primary sign endpoint did not reach statistical significance
- Fluorescein staining endpoints statistically significant ITT population at 2-weeks post-CAE
- IFCS 2-weeks post-CAE primary sign endpoint for MELODY 2 & 3

| 2-weeks post-CAE | P-Value |
|---|---|
| Inferior Fluorescein Staining | 0.0082 |
| Corneal Fluorescein Staining | 0.0065 |
| Central Fluorescein Staining | 0.0080 |
| Total Eye Fluorescein Staining | 0.0551 |



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# PL9643 for Dry Eye Disease

*Safety and ocular tolerability*

| PL9643` | Phase 2 Study | | Phase 3 Study | |
|---|---|---|---|---|
| Ocular Adverse Events | PL9643 (N=80) | Vehicle (N=80) | PL9643 (N=287) | Vehicle (N=288) |
| Instillation Site Pain | 0% | 9% | 3.1% | 4.5% |
| Blurred Vision | 0% | 1% | 0.3% | 0.3% |
| Reduced Visual Acuity | 0% | 1% | 0.3% | 0.3% |
| Eye Redness | 0% | 0% | 0% | 0.3% |
| Conjunctival hyperemia | 0% | 0% | 0% | 0.3% |
| Instillation Site Irritation | 0% | 0% | 0% | 0% |
| Dysgeusia | 0% | 0% | 0% | 0% |
| Ocular Burning | 0% | 0% | 0% | 0% |
| Sneezing | 0% | 0% | 0% | 0% |
| Cough | 0% | 0% | 0% | 0% |
| Throat Irritation | 0% | 0% | 0% | 0% |

| PL9643` | Phase 2 Study | | Phase 3 Study | |
|---|---|---|---|---|
| Discontinuations | PL9643 (N=80) | Vehicle (N=80) | PL9643 (N=287) | Vehicle (N=288) |
| Adverse Event | 0% | 1% | 1% | 2% |
| Ocular Adverse Event | 0% | 0% | 0% | 0% |
| Lost to Follow-up | 0% | 0% | 0.7% | 2% |
| All other reasons | 1% | 2.5% | 5.6% | 7.3% |

## Phase 3 Melody-1 Study (n=575)

- PL9643 eye drop formulation was well-tolerated, similar to artificial tears
- No treatment related serious adverse events
- Ocular adverse events were mild
- Fewer ocular treatment related adverse events and discontinuations in the PL9643 arm compared to vehicle

## Phase 2 (n=160)

- No treatment-related serious AE's or ocular adverse events were observed with PL9643 treatment



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# PL9643 for Dry Eye Disease

*Program summary / next steps*

## Robust Phase 3 Program

- Three Efficacy/Long Term Safety Studies:
  - MELODY-1 (completed)
  - MELODY-2 & -3
    - FDA confirmation of protocols & endpoints
  - Long term safety study

## NDA Package & Target Filing

- NDA File: Efficacy, Safety and CMC data
- NDA File Date (Est.): 2026
- FDA Approval/Launch (Est.): 2027

## Expected Phase 3 Data Read Out

- Remaining Phase 3 pivotal trials
  - Melody-2 & -3 initiation target 1Q 2025
    - Topline data readout 4Q 2025
- MELODY-2 & MELODY-3 safety extension:
  - 6-month data in 1H 2026 /12-month data in 2H 2026

## Best Overall Product Profile

- Broad efficacy across multiple signs and symptoms
- Rapid onset of efficacy in as little as 2-weeks
  - Teats multiple symptoms and signs
- Excellent ocular safety and tolerability

**Solves 3 main problems with current treatments: Efficacy, Onset Time, and Tolerability**



PL9643 is a development stage product candidate and is not approved by any regulatory agency

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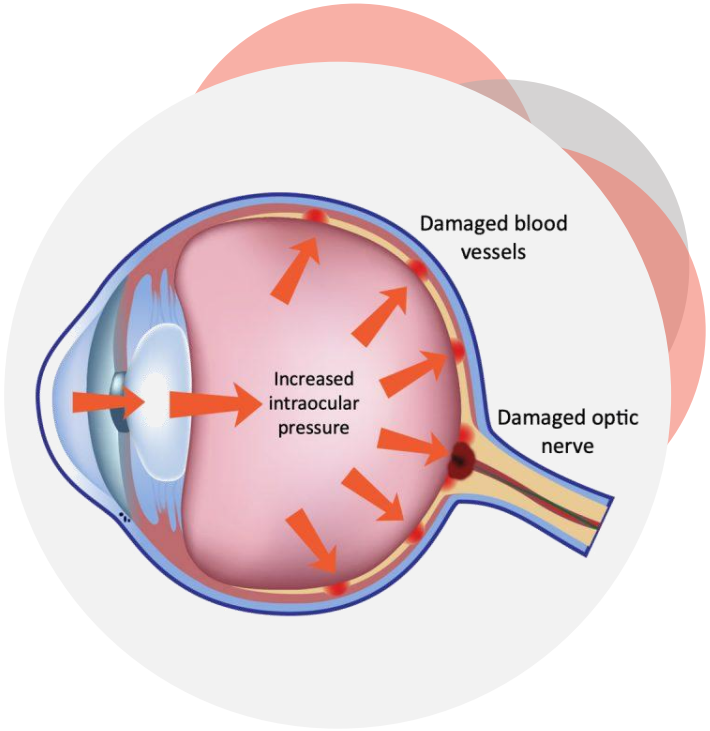
# PL9588 Treating Glaucoma

## *Lowers IOP and direct neuroprotection*

- Progressive eye diseases characterized by elevated intraocular pressure (IOP) resulting in loss of retinal ganglion cells and progressive loss of vision (open angle glaucoma), 2nd leading cause of blindness
- In U.S. ~3.4M people have open angle glaucoma*
  - ~50% diagnosed and on treatment
- Goal of drug therapy is reduction & maintenance of lower IOP
  - Prostaglandins, 1st line therapy
  - β-agonists and α-agonists, main adjunct treatments
  - ~62% of patients discontinue therapy within 18 months**

**Ocular safety & tolerability issues**




- PL9588 novel mechanism addressing unmet needs in treating glaucoma
  - Provides neuroprotection
  - Lowers IOP with improved ocular safety and tolerability
  - Treating disease progression
  - Prepared to initiate clinical development



*IQVIA 2019 (TD Cowen , March 2023, Thera DED and Glaucoma, p. 35)
**Spooner, JJ et. al. Am J Manag Care Aug:8(10suppl):S262-70

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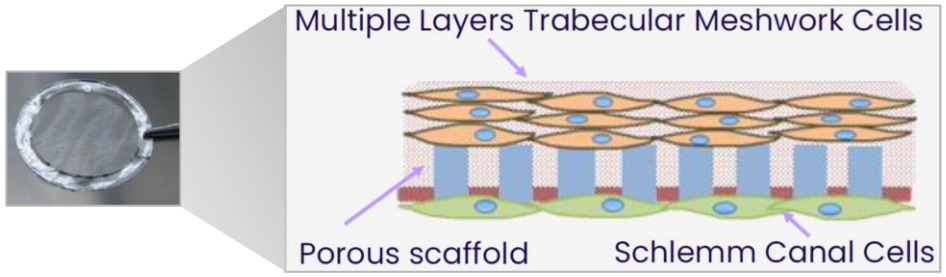
# PL9588 Treating Glaucoma

*Mechanism of action lowering IOP*

## Humonix' Model



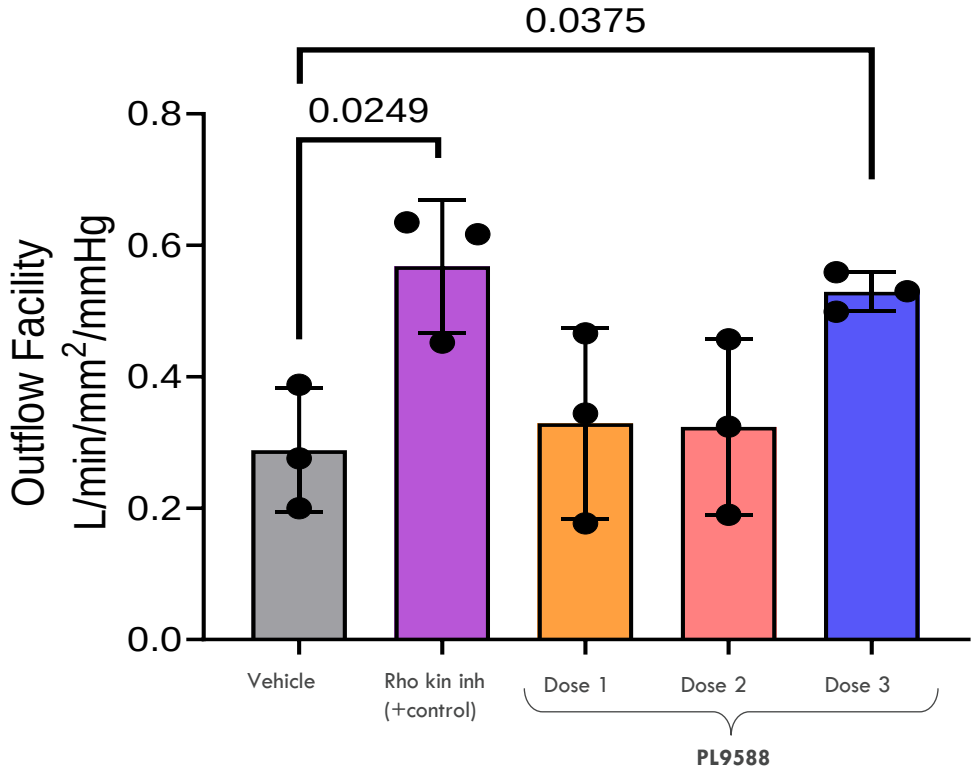

PL9588 tested in a fluid outflow model

- Human donor trabecular meshwork and Schlemm's canal cells reconstituted

PL9588 as effective as rho kinase inhibitor

- Most potent IOP lowering glaucoma treatment
- ROCKi* has poor tolerability and safety

**PL9588 mechanism of action supports monotherapy or combination therapy**




*Netarsudil approved to treat glaucoma



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# PL9588 for Glaucoma

*Program summary / next steps*

## PL9588-Lead Development Compound

- Topical eyedrops
- Ocular tox programs are short
- ~3 quarters & ~$5 million to Phase 1 safety/IOP data

## NDA Package & Target Filing

- NDA File: Efficacy, Safety and CMC data
- NDA File Date (Est.): 2028
- FDA Approval/Launch (Est.): 2029

## Efficient Development Program

- IND 1H 2025
- Phase 1 study data 2H 2025
- Phase 2 study data 2H 2026
- Phase 3 study data 2H 2027

## Overall Product Profile

- Differentiated profile that addresses unmet needs
- Lowers IOP
- Improved ocular safety and tolerability

Treatment differentiation: provides neuroprotection, lowers IOP with improved ocular safety and tolerability

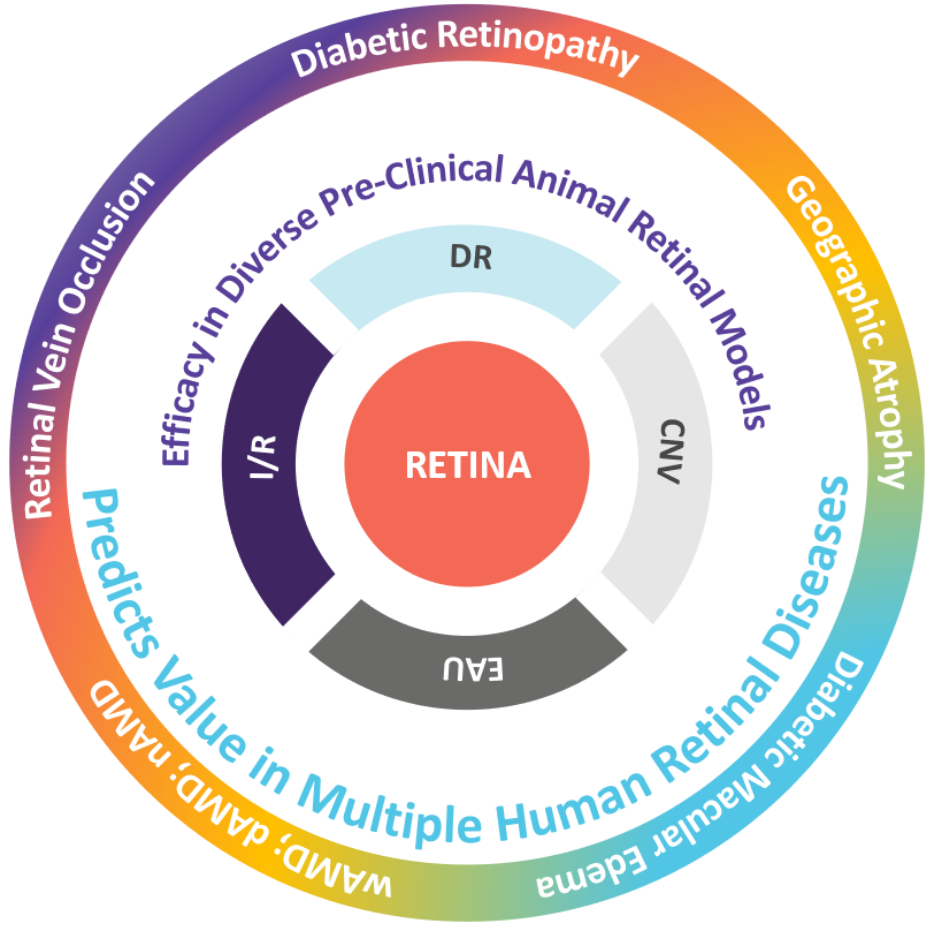


PL9588 is a development stage product candidate and is not approved by any regulatory agency

# PL9654 For Retinal Diseases

## *Executive Summary*

- Retinal disorders current drug market was USD ***$12.57B*** (2022) and is projected to be ***$25.6B*** by 2030
  - DR/DME estimated was ~***$10B*** (2023)
- IVT anti-VEGF and steroids 1st line treatments
- New treatments with novel MOA needed to expand treatment and address non-responders
- Palatin melanocortin agonists active in 4 pre-clinical retinal disease models*
  - Predictive of potential efficacy in multiple retinal diseases
- PL9654 lead candidate is prepared for clinical development






* Data available for review.
DR: Diabetic Retinopathy CNV: Choroid Neovascularization EAU: Experimental Autoimmune Uveitis I/R: Ischemia/Reperfusion

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# PL9654 For Retinal Diseases

*U.S. diabetic retinopathy market value $2.4 billion*

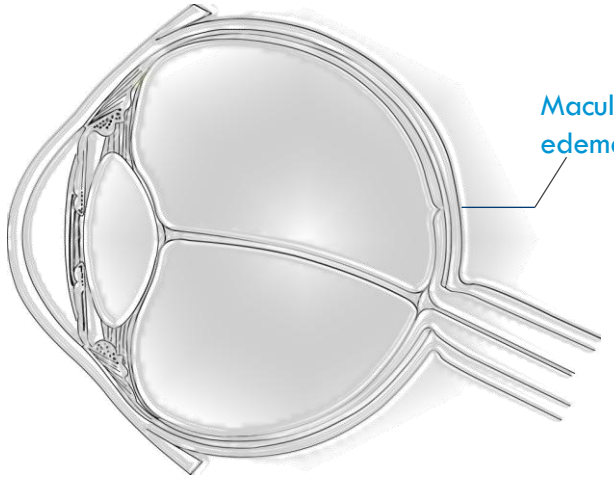
## The Problem

- Retinal diseases are associated with neurodegeneration processes and fibrosis that have a long-term impact on vision

## Current Treatment

- IVT angiogenesis inhibitors do not treat the neurodegeneration and fibrosis associated with retinal diseases
- IVT steroids have long term safety issues

## MOA: Melanocortin Agonism




PL9654 protects against neurodegeneration, resolves inflammation, reduces fibrosis, maintains retinal-blood barrier and enhances retinal cell response to stress.

**PL9654 demonstrated robust efficacy in multiple retinal disease models with the potential for topical administration**



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# PL9654 for Retinal Disease

## *Summary*

**Novel mechanism to advance the treatment of retinal diseases:**

### *PL9654 lead compound ready to advance to clinical development*

- Efficacy established in 4 models of retinal disease
- Genomic and proteomic data advances understanding of MoA
- Sustained release IVT formulation with potential for topical administration

### *Key efficacy effects*

- Preserves vision in diabetic retinopathy model
- Neuroprotective
- Anti-angiogenesis through novel mechanism
- Resolves pathological inflammation & reduces fibrosis
- Maintains Blood-Retinal-Barrier



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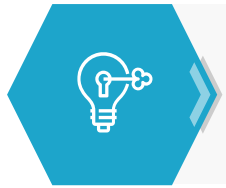
# Palatin Melanocortin Agonists for Ophthalmic Disease

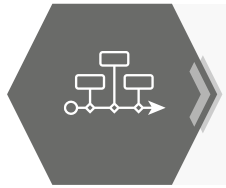
*Summary*

Novel differentiated products for ophthalmic indications

Melanocortin MoA delivers efficacy with excellent safety & tolerability



Proprietary compounds with long term IP estate



Short, well defined, clinical pathways for regulatory approval

Potential high return on investment

- Multi-billion USD portfolio with low upfront investment



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# PL8177 Oral for Ulcerative Colitis

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# PL8177 Oral Formulation for Ulcerative Colitis

Global ulcerative colitis (UC) market USD ***$5.5 billion*** 2021, projected to be ***$8 billion*** by 2026

Most treatments for UC are systemic and have ***tolerability and safety limitations***

PL8177 is a ***highly potent selective*** agonist at melanocortin receptor 1

**Why a Melanocortin Peptide for Ulcerative Colitis?**

Phase 2 study evaluating safety and efficacy of PL8177-Oral in UC patients ongoing; interim analysis 4Q 2024; final data1H 2025

MC1R ***on colon epithelial cells*** is accessible from the lumen of the colon. PL8177-Oral demonstrated robust efficacy in UC animal models

PL8177 is ***not systemically absorbed***

- Potential for excellent efficacy without safety concerns
- Phase 1 SC SAD/MAD study - no significant findings
- Oral Phase 1 study – confirms colon delivery

"Currently available therapies cannot cure IBD, but many of them target various inflammatory pathways, resulting in more or less durable remission. However, these therapies come at a high price economically and physically, with potentially life-threatening side effects."

N. ENGL J MED 385:14 September 30, 2021



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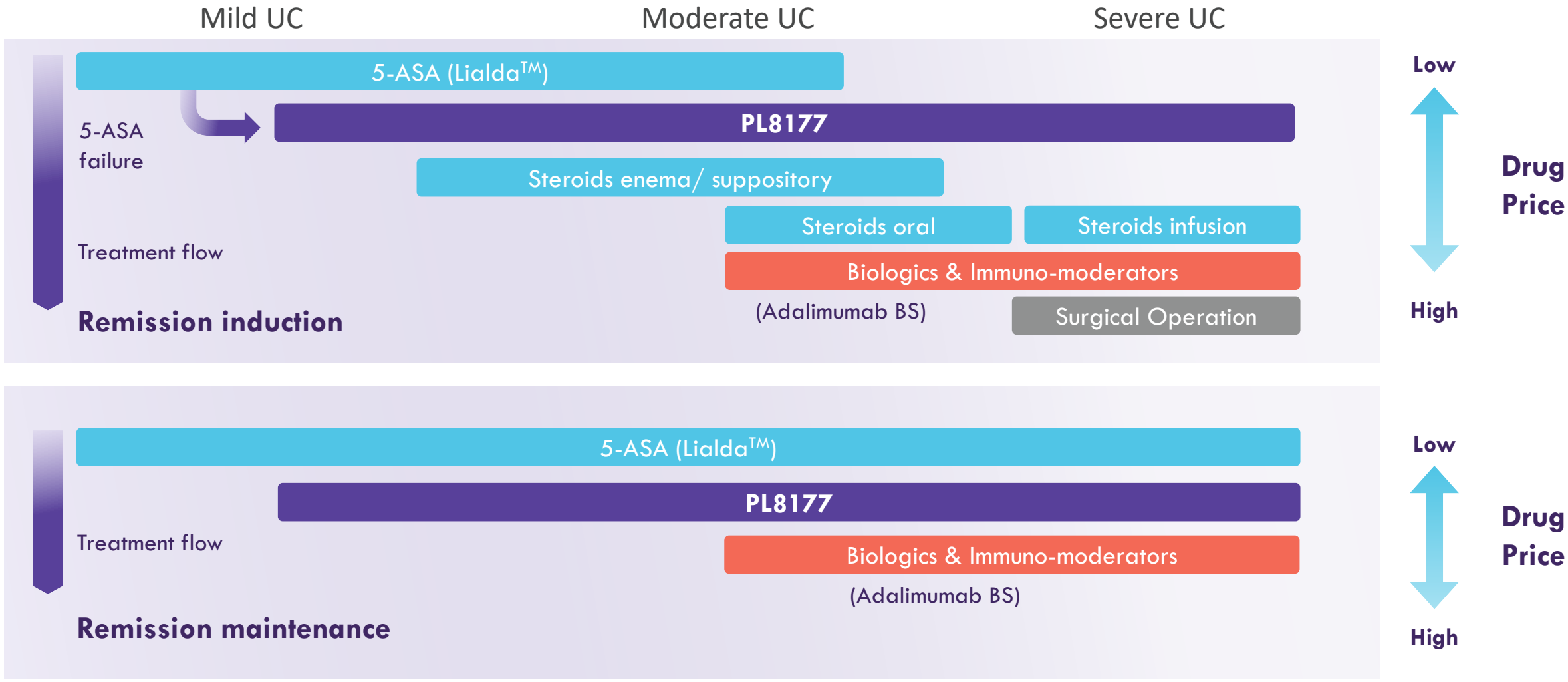
# UC Patient Treatment Paradigm

*Opportunity for PL8177 in UC Treatment throughout the treatment paradigm*



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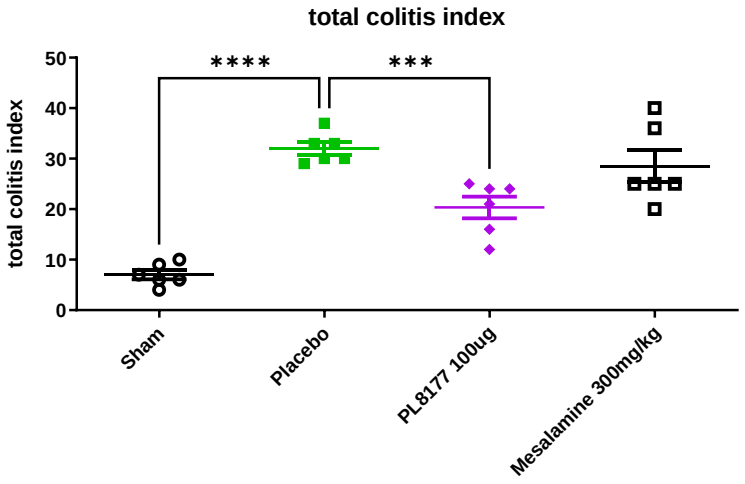
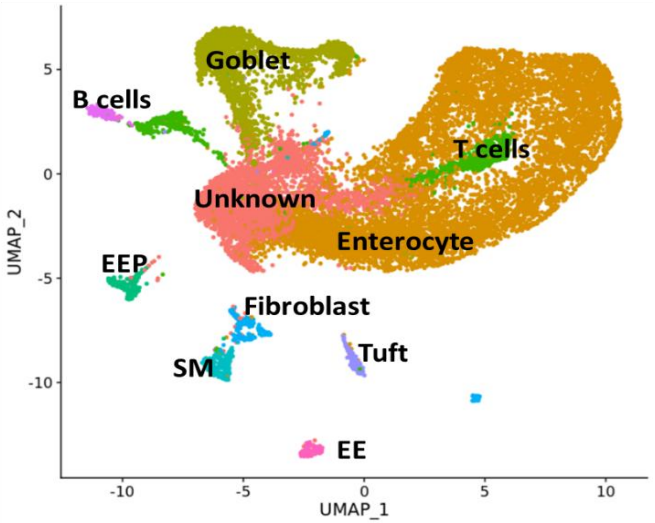
# PL8177-Oral Preclinical Data Rat DSS Model




## Total colitis index

- Abnormalities of mucosal architecture
- Extent of inflammation
- Erosion & ulceration
- Epithelial regeneration
- Percentage involvement by the disease process

## Single nuclei RNAseq of DSS rat colon

- Preserves enterocyte cell population
- Prevents increase of inflammatory T cell population
- Down regulation of multiple inflammatory pathways



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# PL8177-205 Phase 2 Study Design & Timelines

Phase 2 RCT Parallel Group Study Using an Adaptive Design to Evaluate Safety, Tolerability and Efficacy


**Patient Population**

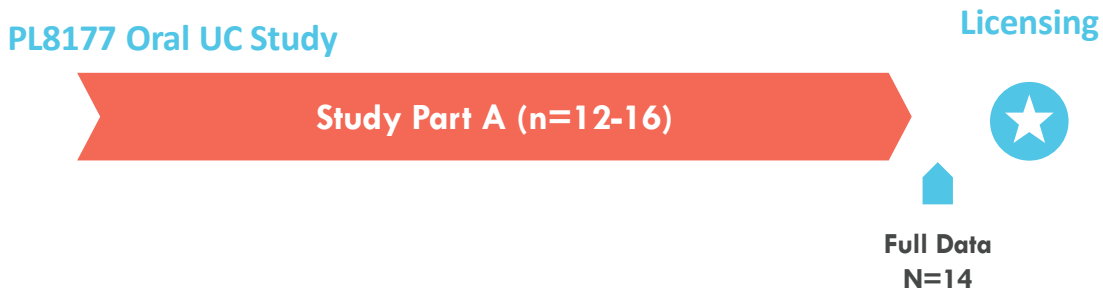
- Adult patients with active UC
- Modified Mayo endoscopic subscore ≥2

**Primary Safety Endpoint**

- The overall incidence of treatment-emergent adverse events (TEAEs)

**Primary Efficacy Endpoint**

- Proportion of patients that have MES of 0 or 1 (endoscopic improvement)




Corporate decision made to end enrollment and pursue licensing with current patient numbers (N=14)



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# Ulcerative Colitis – Target Product Profile for Commercial Success

## PL8177 Preclinical Profile

- High potency at melanocortin receptors 1
- Efficacy in multiple animal models including gold standard disease model
- Efficacy as good/better than 5-ASA and glucocorticoids in animal model data
- No toxicological findings in pre-clinical studies doses >100-fold above planned clinical doses

## PL8177 Oral Formulation PK

- Phase 1 radiolabeled micro-dose study with the oral formulation, **confirmed colonic delivery** of PL8177
- Orally dosed PL8177 remains in the colon – there is no systemic exposure

## PL8177 Clinical

- Phase 1 clinical SAD/MAD study with the systemic formulation (SC) completed, no adverse events or safety signals
- Phase 2 study UC patients
  - Enrollment completed
  - Data 1Q 2025

**PL8177 Oral Formulation – novel, non-immunosuppressive mechanism of action.**



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# Melanocortin-4 Receptor Erectile Dysfunction (ED)

- Bremelanotide (BMT) MC4R Agonist
  - FDA Approved – Vyleesi® for Female HSDD
- Co-administration (co-formulation) of BMT & Tadalafil
  - PDE5i Non-Responders

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# Value of MC4R Agonists for Sexual Dysfunction

*Low clinical risk, defined development pathways with potential for high returns*

**Bremelanotide has extensive efficacy and safety data and can be rapidly expanded to ED indication**

- Evaluated in over 45 clinical studies and 10,000 patients

**Novel co-formulation of bremelanotide with a PDE5i**

- Extend IP
- 505(b)(2) regulatory pathway
- Potential to effectively and safely treat PDE5i failures

**PDE5i failures large underserved market**

- >30 million men in US have ED
- ~35% of ED patients are inadequately treated by PDE5i therapy with limited treatment options
  - Vacuum devices
  - Direct penile injection of vasodilators
  - Surgery for installation of penile implants
- **A safe and effective non-invasive treatment is needed**



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# Bremelanotide Sexual Dysfunction Clinical Experience

*The MC4R agonist bremelanotide has been evaluated in multiple sexual dysfunction trials*

## Female sexual dysfunction studies

- Clinical studies in pre and post menopausal patients with HSDD and/or FSAD
- Statistically significant and clinically meaningful effects on improving desire, arousal and distress
- Vyleesi® - FDA approved for treating premenopausal women with HSDD

## Male sexual dysfunction studies

- Multiple clinical studies in men with erectile dysfunction (ED)
- Monotherapy in ED patients and ED patients with diabetes
- Co-administration with PDE5 inhibitor in ED patients that failed PDE5i therapy
- Statistically significant and clinically meaningful effects on improving erectile activity

## Post-approval experience in men with sexual dysfunction

- Bremelanotide is being prescribed off-label to men with ED and low sexual desire
- Re-fill rates ~70%



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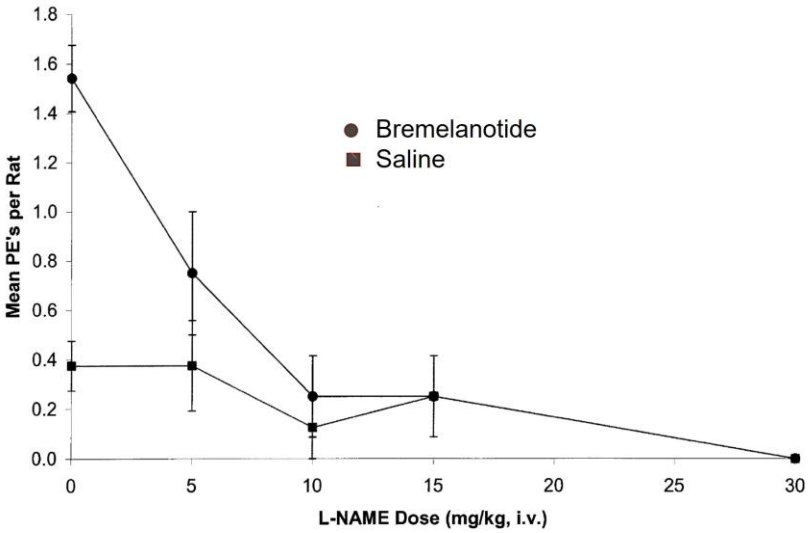
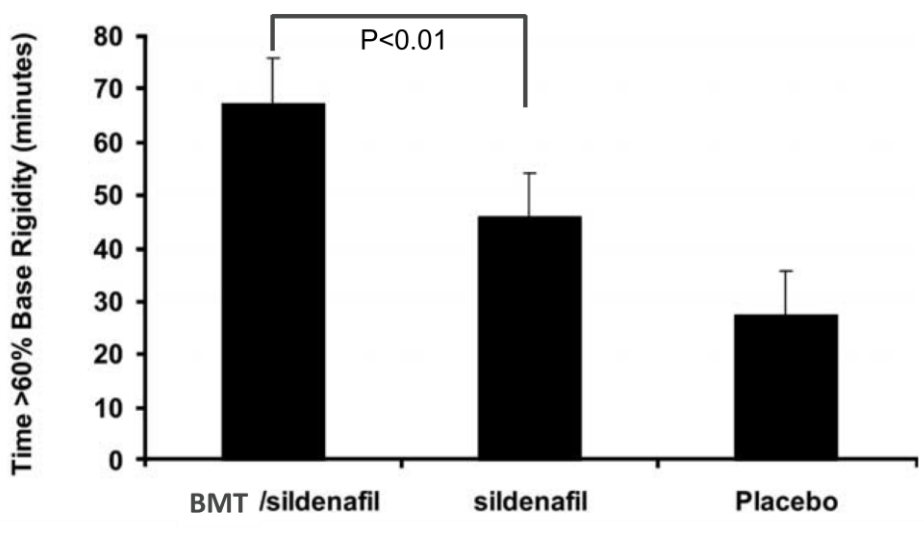
# Bremelanotide for Treating ED

*30%-40% of ED patients have an inadequate response to PDE5i therapy, there remains an unmet need for drugs to treat men in whom PDE5i treatment fails**




BMT drives erectile activity through production of NO and cGMP




IN ED patients BMT co-administered with sildenafil significantly improves rigidity of penile erections

In multiple Phase 2b clinical studies bremelanotide has demonstrated statistical and clinically significant effects on improving erectile function in a broad range of ED patients including moderate/severe and patients inadequately treated by a PDE5i



*Sex Med Rev 2019;7:430-441

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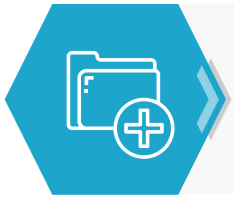
# BMT/Tadalafil Co-Formulation Development Program

Pre-IND FDA meeting 2Q 2025

IND filing 1H 2025



Phase 1 PK clinical study initiation/data 2H 2025

Phase 2/3 safety and efficacy studies initiation target 2H 2025

NDA potential target submission 2027



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# Vyleesi® - FDA Approved for Female HSDD

- Developed by Palatin
- Acquired by Cosette (December 2023)

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# FDA Approved Vyleesi® for Female HSDD

*Helping Premenopausal Women with Hypoactive Sexual Desire Disorder (HSDD)*

vyleesi
(bremelanotide injection)
1.75 mg/0.3 mL | for subcutaneous use only

**Hey, you. Meet Vyleesi.**
**...it's Now Approved**

Vyleesi is the first and only as-needed* treatment for premenopausal women with acquired, generalized hypoactive sexual desire disorder (HSDD).

**Reconnect with your desire**


*Administer subcutaneously as needed at least 45 minutes before anticipated sexual activity. The duration of its effect after each dose is unknown. Do not administer more than one dose within 24 hours or more than 8 doses per month.


Visit: www.vyleesi.com / www.vyleesipro.com



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# Sale of Vyleesi® to Cosette Pharmaceuticals – December 2023

Cosette acquired Vyleesi asset and rights for FSD (HSDD)

$12 million upfront

Potential sales-based milestones of up to $159 million
Based on annual net sales ranging from $15 million to $200 million

**Palatin retained rights and use of bremelanotide (Vyleesi) for obesity and male ED treatment indications**

Palatin provided, and was reimbursed for, certain transitional services to Cosette over a defined period of time



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# Melanocortin Agonist for Diabetic Nephropathy

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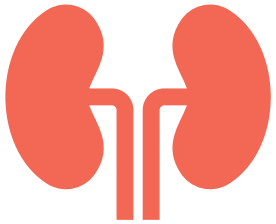
# Melanocortin Agonist for Diabetic Nephropathy

*Diabetic nephropathy*

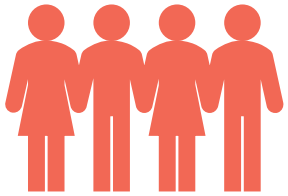


**Diabetic nephropathy (DN) is a severe microvascular complication of diabetes mellitus (DM)**

It is the most common form of chronic kidney disease (CKD)

A leading cause of renal failure in end-stage renal disease

No currently available treatment can achieve complete cure



**Diabetes and DN prevalence**

~ 30 million US patients have CKD secondary to the combination of hypertension and Type 2 diabetes mellitus

>590 million people are predicted to have diabetes worldwide by the year 2035

~50% of patients with diabetes will develop DN



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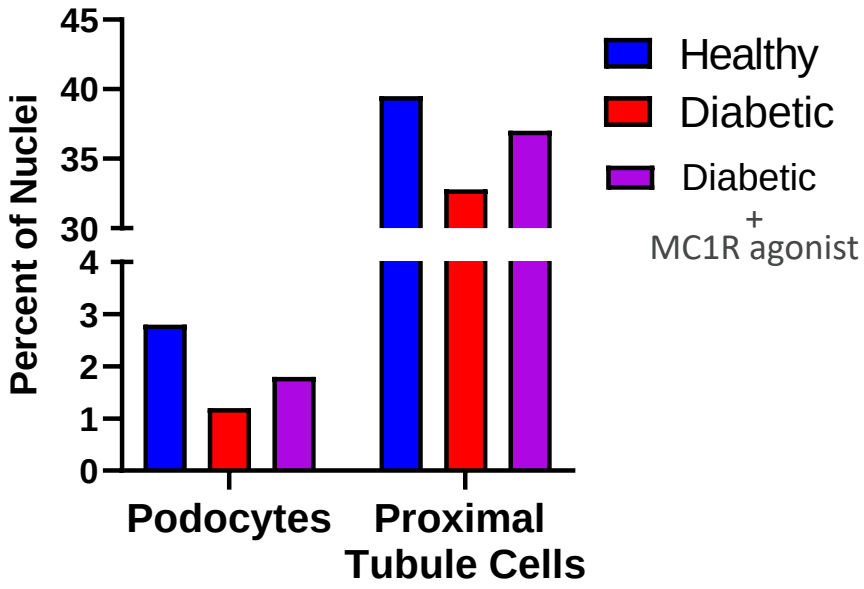
# Melanocortin Agonist for Diabetic Nephropathy

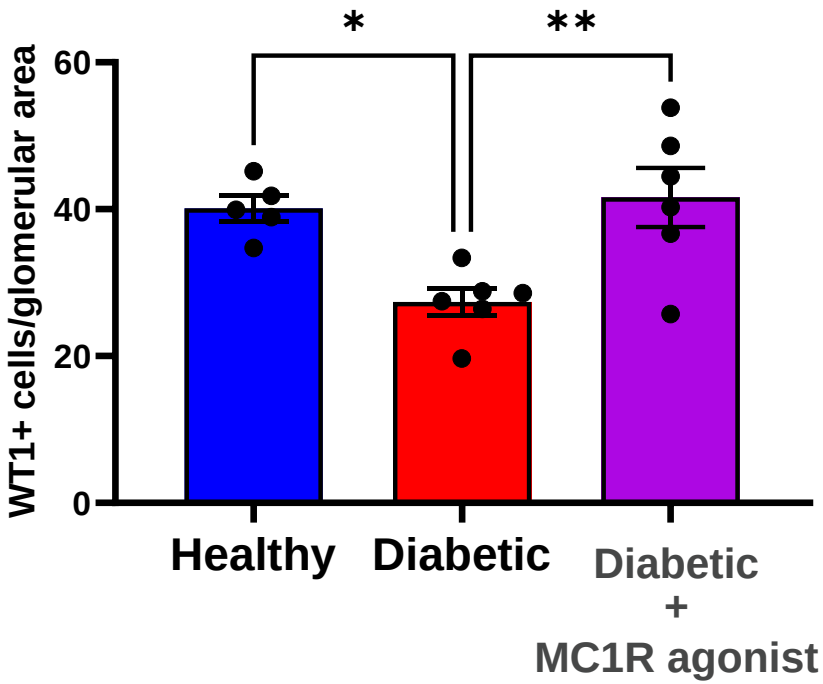
*Melanocortin agonists increase key kidney cell types in diabetic rats*

Cell Populations by snRNAseq*




Melanocortin agonist increases relative podocyte and proximal tubule cell populations in diabetic rat, essential for healthy kidney function

Podocyte Density by Histopathology




Podocyte density increases in diabetic rats when treated with a melanocortin agonist

*single nucleus RNAseq



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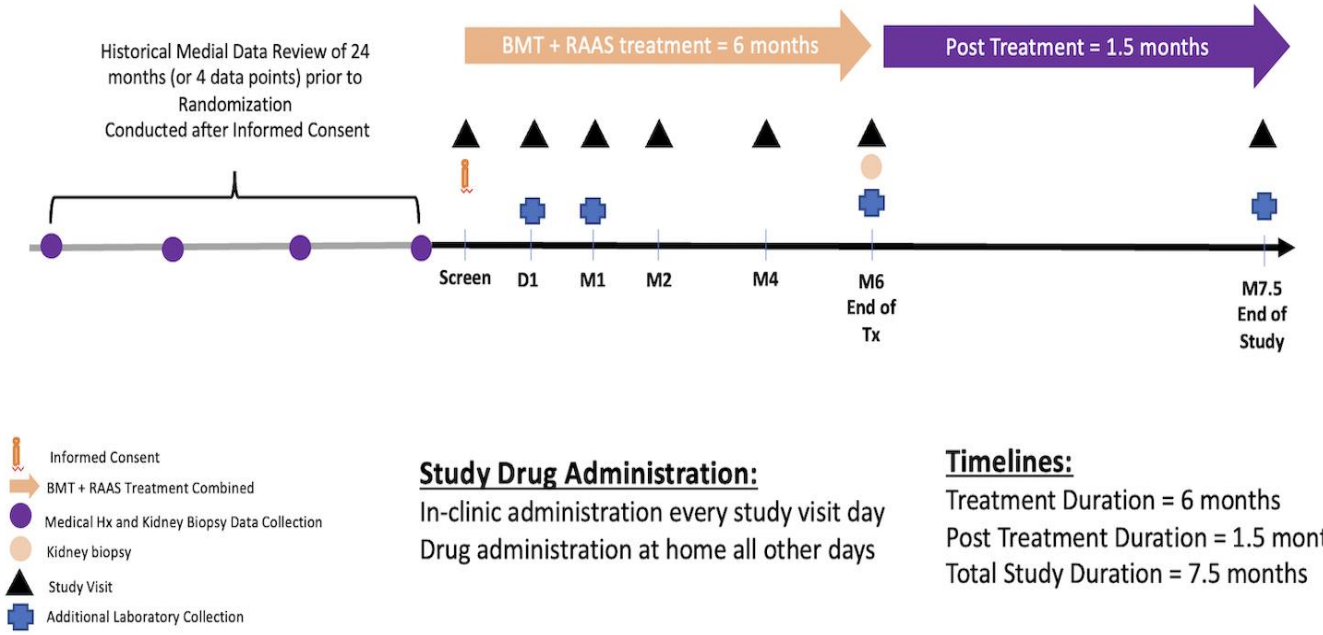
# Melanocortin Agonist for Diabetic Nephropathy

*BREAKOUT study in diabetic nephropathy*

## *BREAKOUT Study Schema*




**Study Drug Administration:**
In-clinic administration every study visit day
Drug administration at home all other days

**Timelines:**
Treatment Duration = 6 months
Post Treatment Duration = 1.5 months
Total Study Duration = 7.5 months

**Primary Research Question**

- Proportion of subjects with a ≥50% reduction in UP/Cr

**Secondary Research Questions**

- Proportion of subjects that achieve a reduction in UP/Cr ratios of ≥ 30% from baseline
- Proportion of subjects that achieve a <5.0 ml/min/year drop in eGFR
- Proportion of subjects with a ≥ 50% increase in urinary VEGF levels

All evaluated at six months in subjects on maximum tolerated RAAS inhibition therapy plus BMT

- Patients with biopsy-proven type II diabetic kidney disease and ≥1000 mg/gm UP/Cr ratio
- Enrollment concluded with N=16 (N=8 evaluable patients)
- BMT 0.5 mg SC (BID) plus maximum tolerated RAAS inhibition



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# Melanocortin Agonist for Diabetic Nephropathy

## *Topline results – BREAKOUT Study in Diabetic Nephropathy*

- Addition of Bremelanotide to maximum tolerated RAAS inhibition therapy
  - Resulted in positive and clinically beneficial improvements in kidney function and delaying disease progression
- The data from this trial is encouraging
  - Validates modulation of the melanocortin system as a potentially new therapeutic strategy
  - Potential disease-modifying treatment option for people living with this progressive kidney disease

**Results Include**

- 57% of patients achieved a clinical response >30% reduction from baseline in UP/Cr
- 14% of patients achieved partial remission >50% reduction from baseline in UP/Cr
- 71% of patients achieved improved or stabilized estimated glomerular filtration rate (eGFR)
- 37.5% of patients had a > 50% increase in urinary vascular endothelial growth factor (VEGF) levels
- 50% of evaluable patients had a >30% reduction in urinary synaptopodin



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# Financial / Cap Table Snapshot

# Milestones Recap

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# Financial Snapshot / Cap Table

## Financial Highlights as of September 30, 2024

| | |
|---|---|
| Cash and Cash Equivalents | $2.4 million |

No debt

Note: $2.5 million received November 2024 (deferred payment from Cosette for sale of Vyleesi)
$3.4 million gross proceeds received December 2024 (exercise of warrants)

## Summary Capitalization as of September 30, 2024

| | Common Shares and Equivalent |
|---|---|
| Common Stock | 19.5 million shares |
| Warrants* | 8.0 million shares |
| Options | 2.3 million shares |
| RSUs | 1.1 million shares |
| Fully Diluted Shares | 30.9 million shares |
| Total Shares Authorized | 300.0 million shares |

* Exercise prices: 2.0M at $5.46 / 1.2M at $2.12 / 4.8M at $1.88



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# Milestones

| Melanocortin System Development Programs | Date |
|---|---|
| **Obesity - MC4R Agonists – Weight Loss (Maintenance)** | |
| Phase 2 BMT-801 Clinical Study Bremelanotide + GLP-1 - Patient Enrollment Completed - **Data Readout** | **1Q 2025** |
| Novel MC4R Selective Long-Lasting Agonist – **IND Filing / SAD/MAD Start** | **4Q 2025** |
| PL7737 MC4R Oral Small Molecule Agonist – **IND Filing / SAD/MAD Start** | **4Q 2025** |
| **Spin-Out / Out-License Product Candidates Seeking Development & Commercial Partnerships (investment bank engaged to support process)** | |
| **PL9643 – Dry Eye Disease (DED)** | |
| Phase 3 Melody-1 Clinical Trial - Positive Results | Completed |
| **Melody-2 and -3 Phase 3 Pivotal Clinical Trials Initiation Target** | **1Q 2025** |
| FDA Confirmation on Protocols and Endpoints | |
| **PL8177 Oral – Ulcerative Colitis** | |
| Phase 2 Proof-of-Concept – Patient Enrollment Completed – **Topline Data Readout** | **1Q 2025** |
| **Bremelanotide/MC4R + PDE5i (Co-Formulation Single Injection) – Erectile Dysfunction (ED)** | |
| Development and Clinical Study Program in PDE5i Non-Responder ED Patients Initiated | |
| **Pharmacokinetics (PK) Study** | **2Q 2025** |
| **Phase 2/3 Clinical Study Initiation** | **2H 2025** |
| **MC4R Agonist – Diabetic Nephropathy** | |
| Phase 2 Open Label Trial – **Positive Topline Data Reported** | **4Q 2024** |
| **Vyleesi (bremelanotide) for Hypoactive Sexual Desire Disorder (HSDD)** | |
| Asset Sale for FSD Rights to Cosette Pharmaceuticals December 2023 | Completed |
| Up to $159 Million in Potential Sales Milestones | Ongoing |



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Thank You.

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