# Palatin Technologies, Inc.

## Corporate Presentation

## September 2018

*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 expectations regarding the results of our Phase 3 clinical trials of bremelanotide for hypoactive sexual desire disorder (HSDD), a type of female sexual dysfunction (FSD); (vii) our expectation regarding the timing of regulatory submissions for approval of bremelanotide for HSDD in the United States and other jurisdictions; (viii) the potential for commercialization of bremelanotide for HSDD and our other product candidates, the potential market size and market acceptance for bremelanotide for HSDD for FSD and our other product candidates, if approved for commercial use; (ix) our expectations regarding performance of our exclusive licensee of bremelanotide for North America, AMAG Pharmaceuticals, Inc. (AMAG), and our licensees in other jurisdictions; (x) our ability and the ability of our licensees, including AMAG, to compete with other products and technologies similar to our product candidates; (xi) the ability of third party collaborators to timely carry out their duties under their agreements with us and our licensees, including AMAG; (xii) the ability of contract manufactures to perform their manufacturing activities in compliance with applicable regulations; (xiii) our ability to recognize the potential value of our licensing arrangements with third parties; (xiv) the potential to achieve revenues from the sale of our product candidates; (xv) our ability to maintain product liability insurance at a reasonable cost or in sufficient amounts, if at all; (xvi) the retention of key management, employees and third-party contractors; (xvii) the scope of protection we are able to establish and maintain for intellectual property rights covering our product candidates and technology; (xviii) our compliance with federal and state laws and regulations; (xix) the timing and costs associated with obtaining regulatory approval for our product candidates; (xx) the impact of legislative or regulatory healthcare reforms in the United States; and (xxi) 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.

# Company Profile

Palatin Technologies, Inc. (NYSE MKT: PTN) is a biopharmaceutical company developing targeted, receptor-specific peptide therapeutics for the treatment of diseases with significant unmet medical need and commercial potential.

# Palatin Technologies Overview

**Platform technology for the design of GPCR agonists**

MIDAS Technology  Diverse Compound Libraries  Rational Design

## Melanocortin Peptide Agonists

**Sexual Dysfunction Program**
- Phase 3 completed / NDA filed
- NA / select ROW partnerships

**Anti-Inflammatory Program**
MC1 & 5 selective agonists
- PL-8177 IBD
- PL-8331 ocular inflammation

**Obesity & Diabetes Program**
MC4r selective agonists
- PL-8905
- PL-9610 oral small molecule

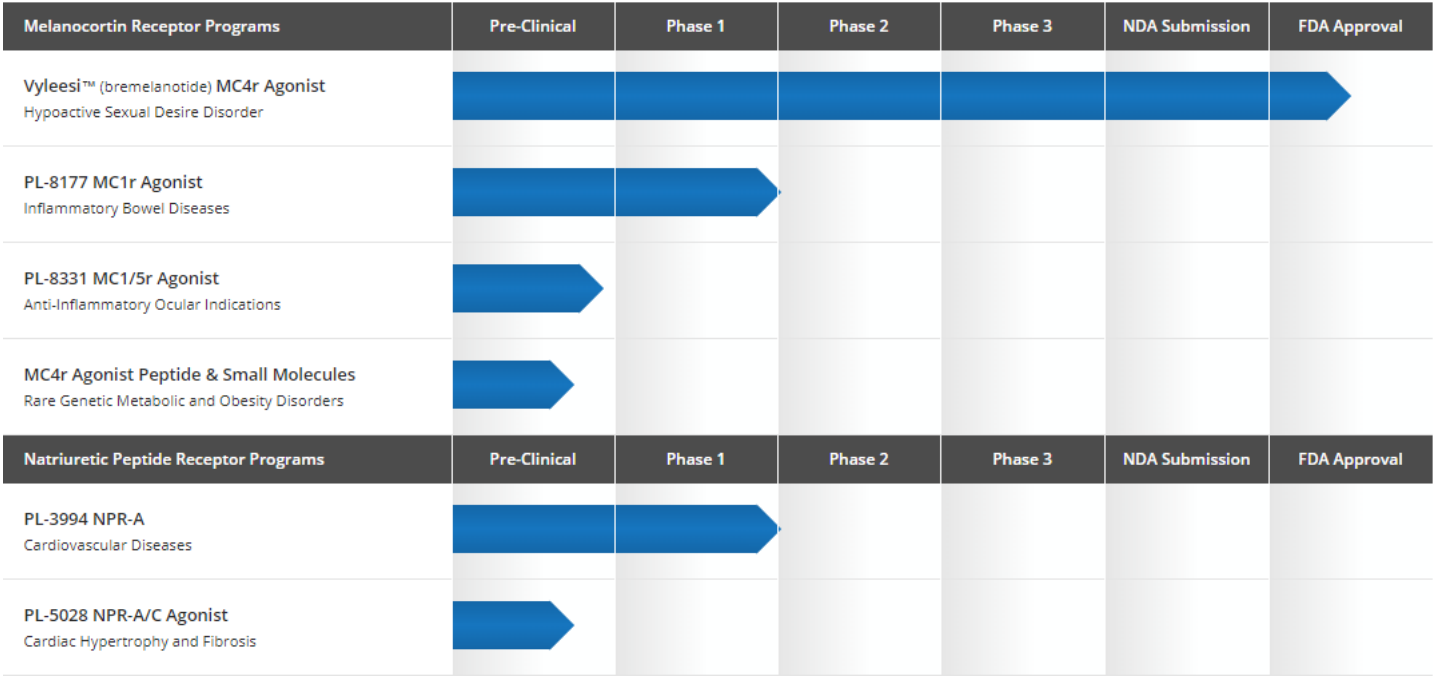
## Natriuretic Peptide Agonists

**Heart Failure Program**
NPR A & C agonists
- PL-3994
- PL-5028 preclinical

**Fibrotic Disease Program**
NPR C agonists
- PL-5028 preclinical

- Demonstrated competence to move programs from discovery to collaboration to NDA
- Strategy leverages our chemistry and biology research across multiple therapeutic opportunities
- Activating endogenous pathways known to reverse disease processes
- MOAs with the potential to modify underlying disease pathologies, not just treat symptoms
- Vyleesi™ (bremelanotide) partnerships provide the financial resources to unlock the potential of our pipeline assets

# Pipeline Overview



# Vyleesi™ (bremelanotide)

## For Premenopausal Women with Hypoactive Sexual Desire Disorder

# Female Sexual Dysfunction Overview

- Female Sexual Dysfunction (FSD) is defined as persistent or recurring problems during one or more of the stages of sexual response with associated distress
  - Hypoactive Sexual Desire Disorder (HSDD) is the most common FSD
- HSDD has a significant impact on patient self-image, relationships and general well-being
- Vyleesi™ (bremelanotide) Indication: Premenopausal women with HSDD
  - The treatment of premenopausal women with acquired generalized HSDD as characterized by low sexual desire that causes marked distress or interpersonal difficulties and is NOT due to:
    - A co-existing medical or psychiatric condition
    - Problems with the relationship, or
    - The effect of a medication or other drug substance

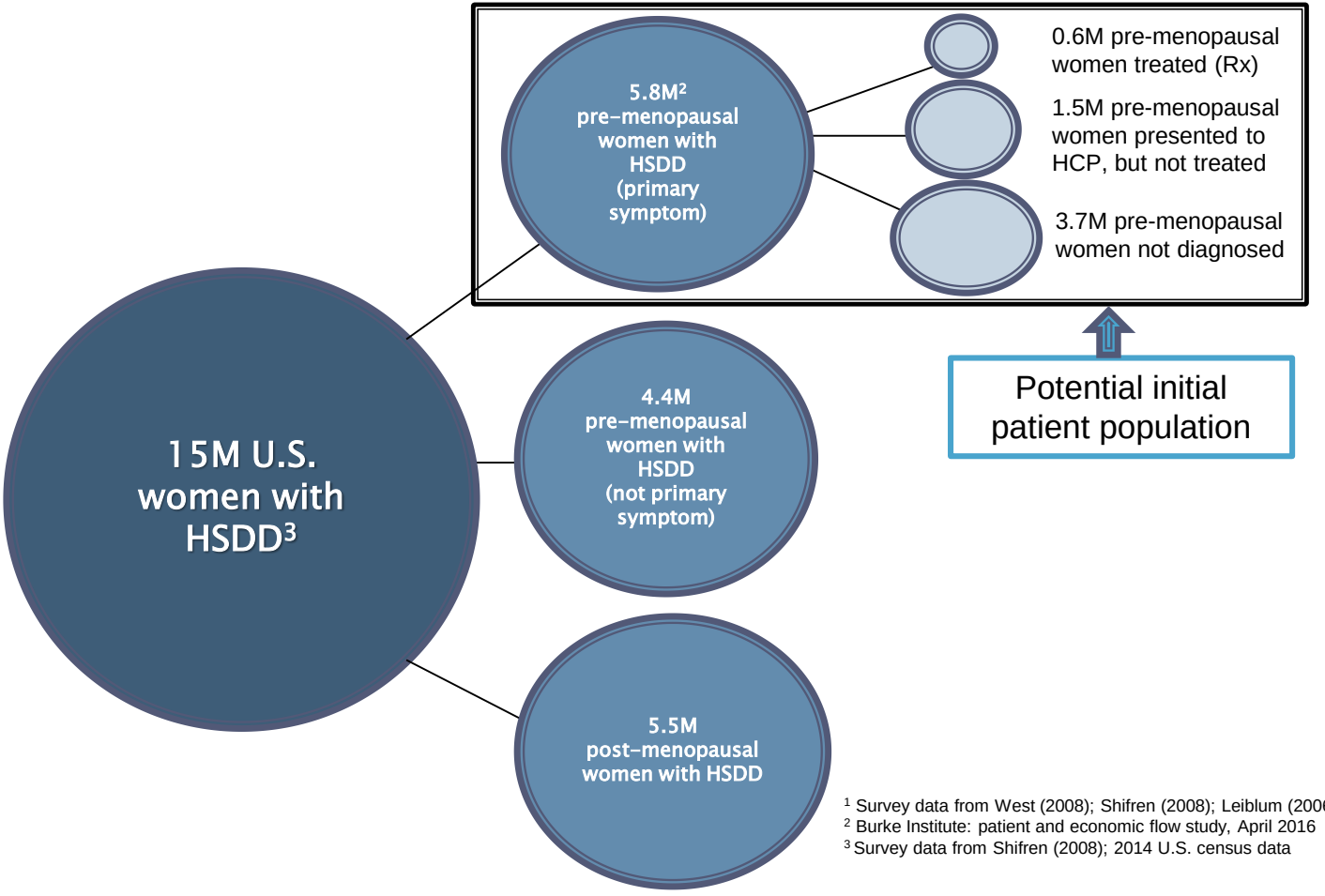
# Vyleesi™ (bremelanotide) Overview

- Self-administered auto-injector, taken on-demand ~30 min. before sexual activity
- Treatment effect up to 8-10 hours
- Activates endogenous pathways involved in sexual desire and arousal
- Does not interact with alcohol (alcohol interaction study completed)
- No Box Warning or restrictive REMS program anticipated
- Two successful Phase 3 studies completed
  - Randomized 1,267 pre-menopausal women with acquired HSDD
  - Includes 12 month open label safety extension study
  - Co-primary efficacy endpoints met
    - Statistically & clinically significant improvements in sexual desire and decrease in distress associated with low sexual desire
- NDA filed and accepted for review by FDA 1H2018
- FDA advisory Panel early 2019
- **PDUFA date March 23, 2019**

# Phase 3 Top-Line Results

- Safety population (1,247 patients)
  - Generally well tolerated and the most frequent adverse events were nausea, headache and flushing (generally mild/moderate)
  - Safety profile of bremelanotide was consistent with prior clinical experience and no new safety issues were identified
- Co-primary endpoints showed statistically significant and clinically meaningful improvement when compared to placebo
  - Female Sexual Function Index: Desire Domain (FSFI-D)
    - Study 301: Mean change of 0.54 vs. 0.24, median change of 0.60 vs. 0.00, p=0.0002; and,
    - Study 302: Mean change of 0.63 vs. 0.21, median change of 0.60 vs. 0.00, p<0.0001
    - Clinically meaningful effect defined as a median change from baseline of 0.6 on the FSFI-D
  - Female Sexual Distress Scale - Desires/Arousal/Orgasm (FSDS-DAO) Item 13
    - Study 301: Mean change of -0.73 vs. -0.36, median change of -1.0 vs. 0.0, p<0.0001; and,
    - Study 302: Mean change of -0.71 vs. -0.42, median change of -1.0 vs. 0.0, p=0.0053
    - Clinically meaningful effect defined as a median change from baseline of -1.0 on the FSDS Question 13
- Detailed results on Palatin website www.palatin.com

# Significant Market Opportunity
## ~10M pre-menopausal women in U.S. with HSDD[1]




[1] Survey data from West (2008); Shifren (2008); Leiblum (2006)
[2] Burke Institute: patient and economic flow study, April 2016
[3] Survey data from Shifren (2008); 2014 U.S. census data

# North American Vyleesi™ (bremelanotide) Licensing Agreement

- AMAG Pharmaceuticals - specialty pharmaceutical company focused on developing and commercializing innovative healthcare solutions
  - Annual sales > $600M
- Dedicated sales, marketing and commercial teams focused on female health
- Committed and capable partner to commercialize Vyleesi™ (bremelanotide)
- Exclusive licensing agreement covers NA market – February 2017
  - $60M upfront payment
  - $25M in cost reimbursements
  - $80M upon regulatory milestones
    - $20M FDA NDA acceptance
    - $60M FDA approval
  - Up to $300M in sales milestones and tiered royalties from high single to low double digits
  - AMAG responsible for pre-launch, launch and commercial activities

amag PHARMACEUTICALS

PALATIN TECHNOLOGIES, INC.

# ROW Vyleesi™ (bremelanotide) Licensing Agreements

- Fosun Pharma – Chinese pharmaceutical company focused on developing and commercializing innovative healthcare solutions with >$2B in annual sales
  - Exclusive licensing agreement covers China, Hong Kong, Taiwan and Macau markets – September 2017
  - $5M upfront payment, $7.5M regulatory milestone
  - Up to $92.5M in sales milestones plus tiered royalties from high single digits to low double digits
  - Fosun responsible for all development, regulatory and commercial activities
- Kwangdong Pharmaceutical Co. – Republic of Korea leading pharmaceutical company with >$900M in annual sales
  - Exclusive licensing agreement for the Republic of Korea
  - $500,000 upfront, ~$40M in regulatory and sales milestones plus royalties on sales
  - Kwangdong responsible for all development, regulatory and commercial activities

FOSUNPHARMA 复星医药 Kwangdong PALATIN TECHNOLOGIES, INC.

# Vyleesi™ (bremelanotide) Program Timelines

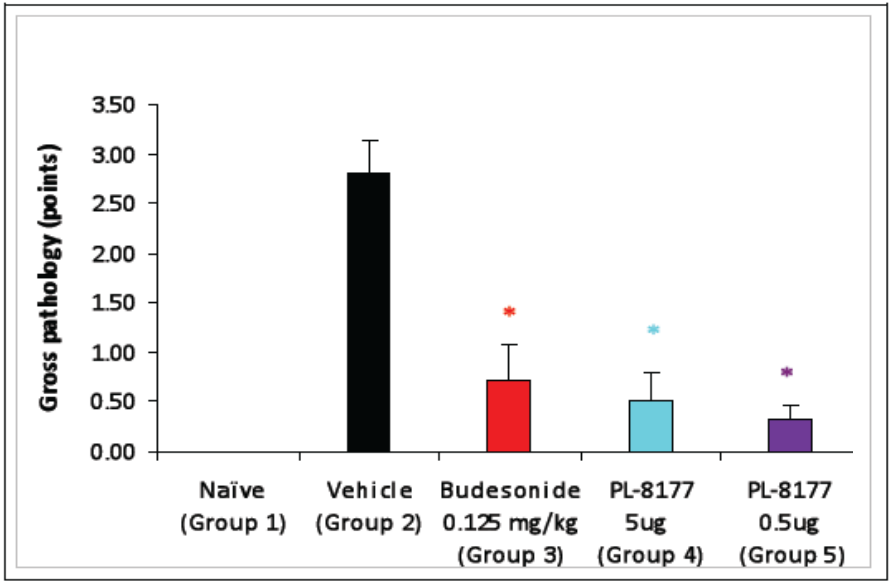
| | |
|---|---|
| NA Phase 3 top-line results / co-primary endpoints met | 4Q2016✓ |
| NA license agreement closed with AMAG | 1Q2017✓ |
| FDA NDA accepted for review | 2Q2018 ✓ |
| ADCOM | Early 2019 |
| PDUFA date | 3/23/2019 |
| cFDA approval for China anticipated | 1H2020 |
| S. Korean approval anticipated | 1H2020 |
| EU partnership anticipated | 1H2019 |
| EU phase 3 trial start | TBD |
| Additional ROW partnerships anticipated | 1H2019 |

# Melanocortin Anti-Inflammation Program

# Melanocortin Agonists Anti-Inflammatory Program

- Goal design and develop selective MC1r & MC1/5r agonists for treating a variety of inflammatory and autoimmune indications
  - Rational design and synthesis of selective MC1r & MC1/5r agonists
    - PL-8177 cyclic peptide selective MC1r agonist
    - PL-8331 cyclic MC1/5r agonist
  - Melanocortin agonism functions to “resolve” pro-inflammatory pathways
    - Suppresses pro-inflammatory cytokines
    - Reprograms pro-inflammatory monocytes & T-cells to mediate immune tolerance
- PL-8177 and PL-8331 demonstrated reversal of pathology in multiple inflammatory and autoimmune disease models
  - Including inflammatory bowel disease, dry eye, uveitis and diabetic retinopathy

# PL-8177 DSS IBD Model – Gross Pathology

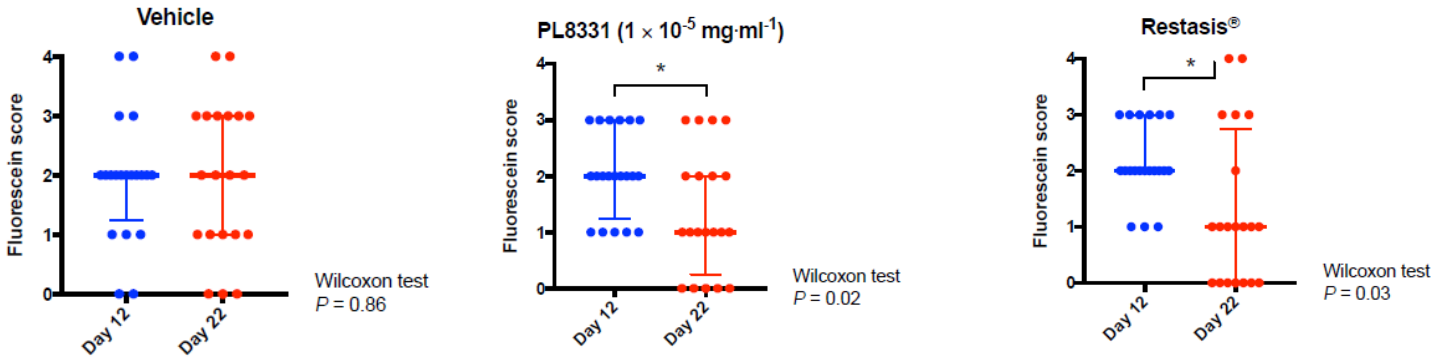



**Mean Gross Pathology (Groups 1-5)**
* $p<0.05$ vs. Vehicle (Group 2) using T-test

- PL-8177 delivered topically to the colon. Budesonide oral delivery.
- PL-8177 0.5 µg/rat is 60X more potent than budesonide 0.125mg/kg.

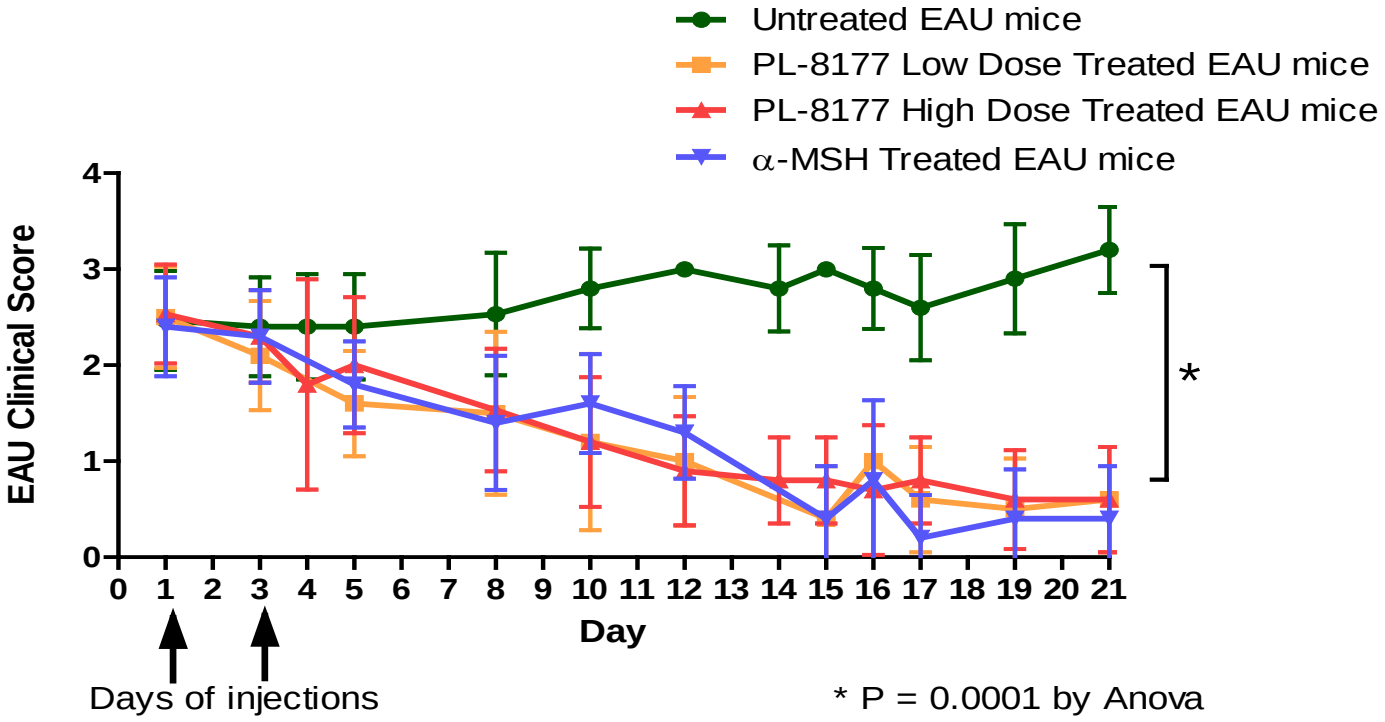
# PL-8331 Pre-Clinical Scopolamine Dry Eye Model

Mouse model of Scopolamine induced dry eye, established disease, topical application




- PL-8331 as good or better (no level 4 disease) than Restasis
- Xiidra showed no improvement in fluorescein staining

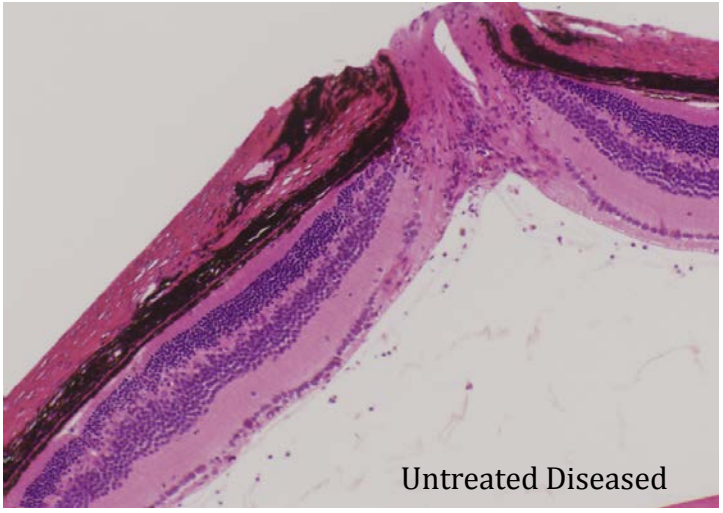
# PL-8177 Experimental Autoimmune Uveitis

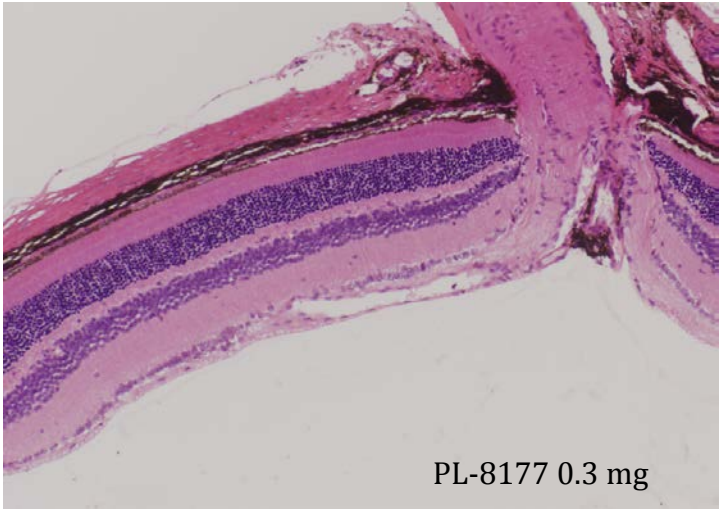



- MC1r agonism has significant effects in reversing uveitis
- Conducted in collaboration with Dr. A. Taylor at Boston University School of Medicine

# PL-8177 Experimental Autoimmune Uveitis

Cross section of the eye




- Treatment with PL-8177 results in reversal of the disease process with return to normal phenotype
- Reversal of immune cell infiltration and restoration of tissue morphology

# Anti-Inflammatory Clinical Development Programs

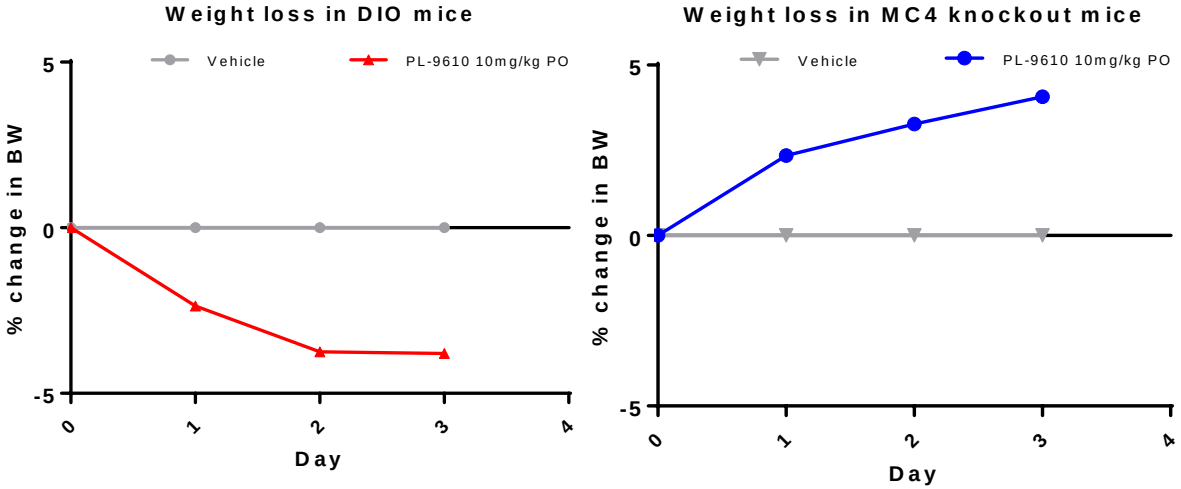
- PL-8177 initial indication ulcerative colitis
  - IND cleared 4Q2017
  - Phase 1 SAD/MAD study start in 1Q2018 SC delivery (data 3Q2018)
  - Phase 1 pk & biodistribution study of oral formulation 4Q2018
  - Multiple phase 2A proof of mechanism studies 1H2019
  - Phase 2 POC oral formulation in UC patients 2H2019
    - Establish clinical proof of concept
- PL-8331 initial indication ocular inflammation
  - Preclinical IND enabling activities complete 2H2019
  - IND submission and initiation of phase 2 dry eye clinical trial 2H2019
    - Establish clinical proof of concept

# Anti-Inflammatory Program Summary

- MC1r agonism resolves pro-inflammatory processes involved in autoimmune and inflammatory diseases
  - PL-8177 and PL-8331 demonstrated reversal of pathology in multiple disease models
- Diverse compound library and extensive receptor SAR available to rapidly identify compounds with appropriate selectivity profile for numerous disease indications
- PL-8177 initial indication ulcerative colitis
  - Phase 1 SAD/MAD dosing completed (data 3Q2018)
  - Phase 1 pk & biodistribution study of oral formulation 4Q2018
  - Multiple phase 2A proof of mechanism studies 1H2019
  - Phase 2 POC oral formulation in UC patients 2H2019
- PL-8331 initial indication ocular inflammation
  - Preclinical IND enabling activities complete 2H2019
  - IND submission and initiation of phase 2 dry eye clinical trial targeted 2H2019

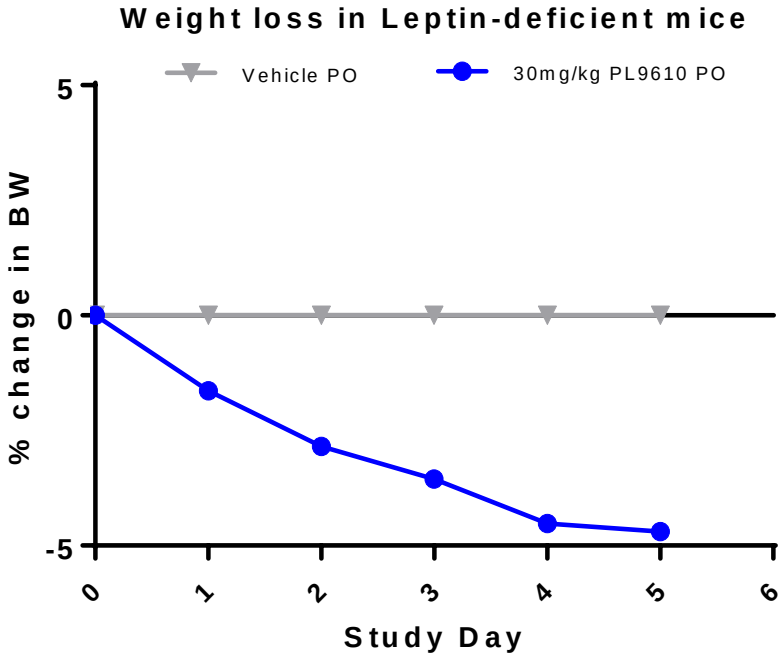
# Melanocortin Receptor-4 Agonist Obesity

# PL-9610 Diet-Induced Obese vs MC4r Knockout Mice




- PL-9610 causes weight loss in wild-type DIO mice but not in MC4r knockout mice

# PL-9610 in Leptin-Deficient (ob/ob) Mice




- PL-9610 was dosed orally twice a day

# MC4 Receptor Obesity Program Summary

- MC4r selective agonists, peptide and oral small molecules
  - Efficacy established in DIO and leptin-deficient animal studies
  - No effect seen in MC4r knock-out model, establishing weight loss effect as MC4r based
  - Two phase 2a clinical trials established proof of concept
  - Limited effects on blood pressure (excellent therapeutic window)
- PL-9610 orally-active small molecule clinical development candidate
  - IND enabling activities start 2H2018
  - IND submission and initiation of phase 1 targeted 2H2019
- Program is under evaluation for Orphan Drug designations for treatment of rare genetic metabolic and obesity disorders

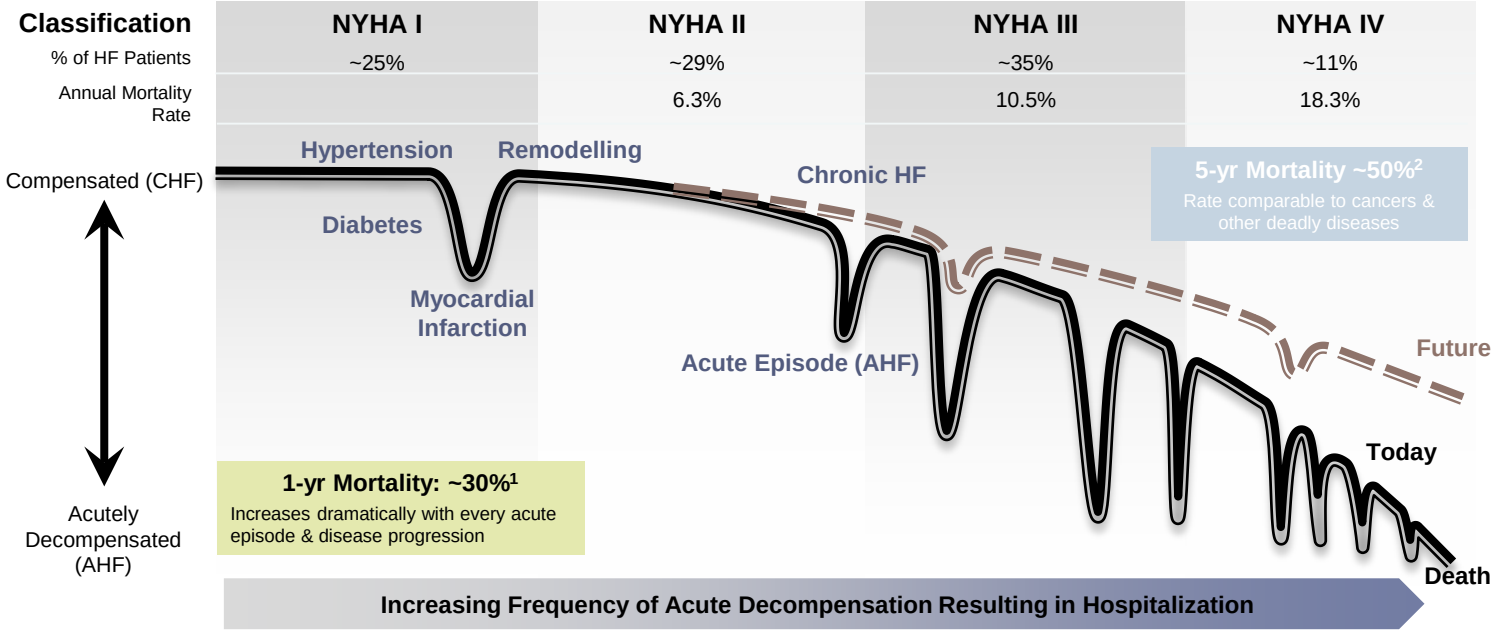
# Natriuretic Peptide Receptor Program

# Heart Failure Overview

- Heart failure (HF) is a common, progressive disorder in which impaired cardiac pump function leads to inadequate systemic perfusion required to meet the body's metabolic demands
  - 5M US patients (Circulation. 2013;127(1):e6)
  - > 1M annual US hospitalizations (Circulation. 2010;121(7):e46)
- High unmet medical need:
  - Decrease re-hospitalization rates
  - Decrease morbidity and mortality
  - Improve patient quality of life
- Anticipated increase in diagnosis and treatment of HF worldwide

# Natural History of Heart Failure

HF is progressive disease characterized by a downward spiral, punctuated by increasing episodes of acute decompensation



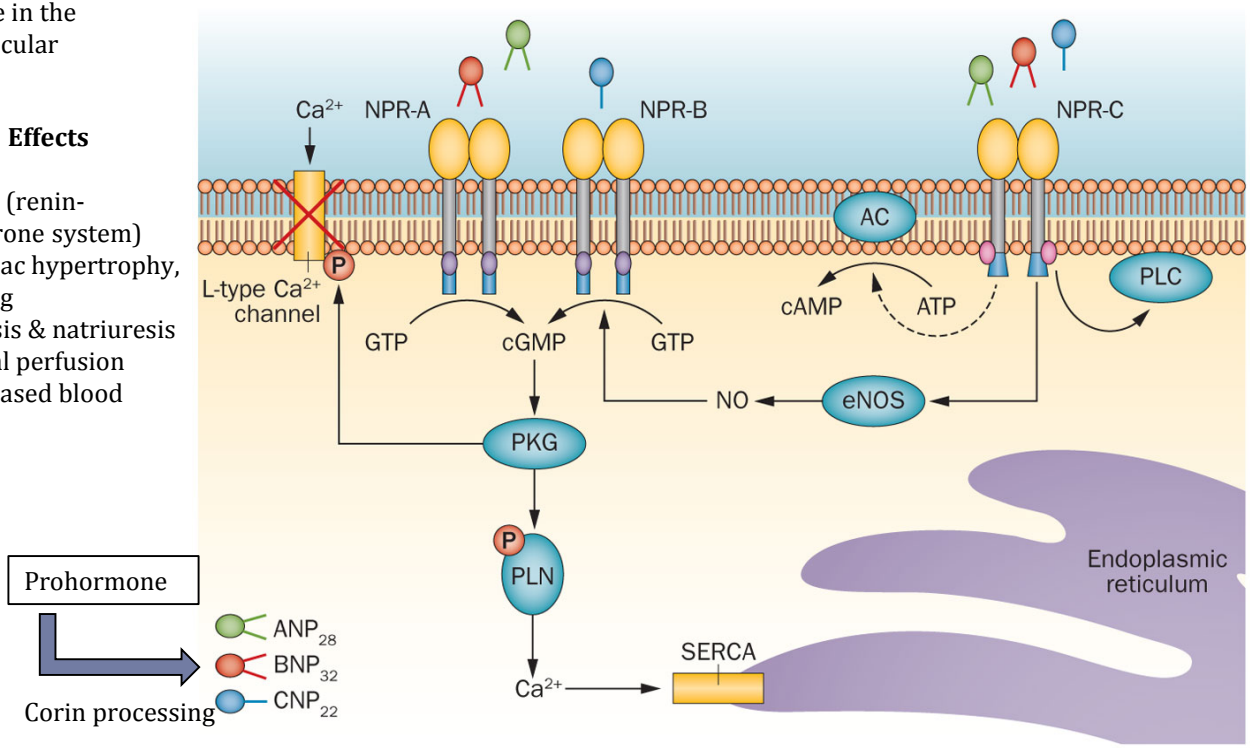

Sources: Muntwyler J et al. Eur Heart J. 2002;23:1861-6; [2]Go et al. Circulation. 2014;129:e28-e292; Decision Resources
Note: 1-yr mortality/readmission in AHF patients 40%; Dickstein K et al. Eur Heart J. 2008;29:2388-442.

# Natriuretic Peptide System (NPS)

Neuropeptide hormone system plays an important role in the regulation of cardiovascular homeostasis

**Physiological Effects**

- Downregulate RAAS (renin-angiotensin-aldosterone system)
- Suppression of cardiac hypertrophy, fibrosis & remodeling
- Stimulation of diuresis & natriuresis
- Increased myocardial perfusion
- Vasodilation & decreased blood pressure
- Bronchodilation



# NPS — a Validated Target in HF

- Nesiritide (Natrecor®): short acting NPR-A agonist
  - Acute vasodilator: symptomatic benefit in acutely decompensated HF (FDA approved)
- Entresto®: dual ARB+neutral endopeptidase (NEP) inhibitor
  - NEP inhibitor component increases endogenous natriuretic peptides
  - Approved July 2015 to treat HF patients with reduced ejection fraction
  - NPS augmentation will become part of standard of care for HF
- Corin: serine protease
  - Converts inactive pro-ANP and pro-BNP into active hormone
  - Human loss-of-function corin mutations characterized by decreased active natriuretic peptides and increased refractory hypertension, cardiac hypertrophy, mortality

# Natriuretic Peptide: Program Overview

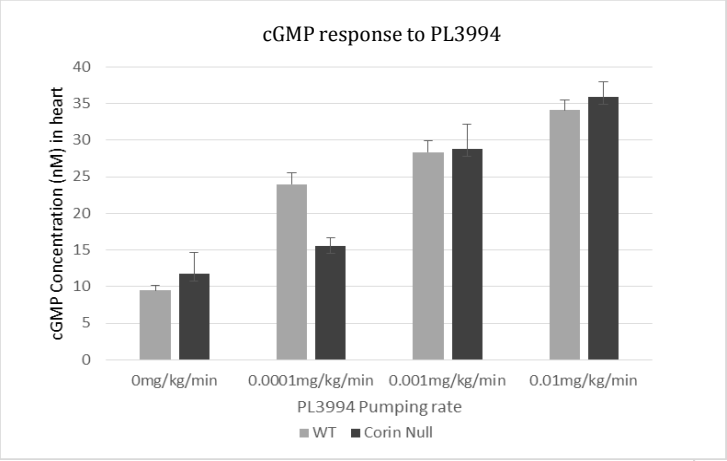
The natriuretic peptide system represents an underexploited mechanism for treating HF and other CV diseases

- Proprietary natriuretic peptide library
  - Compounds selective for NPR-A, NPR-B, NPR-A/B & NPR-C
  - Comprehensive IP portfolio with composition of matter and methods of use patent and patent applications
- PL-3994 selective for NPR-A clinical candidate
  - Two phase 1 clinical studies completed
  - In preclinical models significant reductions in cardiac hypertrophy and fibrosis
  - Once daily SC patient self-administration
  - Phase 2A ready
- PL-5028 NPR-C/A agonist preclinical candidate
  - NPR-C agonism increases effects on reducing cardiac fibrosis
  - Potential for superior efficacy with reduced potential for hypotension

# Opportunities for Treating Heart Failure

- Heart Failure with Reduced Ejection Fraction (HF-rEF)
  - Targeting patients with progressing disease
- Heart Failure with Preserved Ejection Fraction (HF-pEF)
  - No approved treatment options, significant unmet medical need
- Patients with corin and/or reduced active NP expression
  - High unmet medical need; poor response to current therapies
  - Potential Orphan designation
  - Restore normal NP function

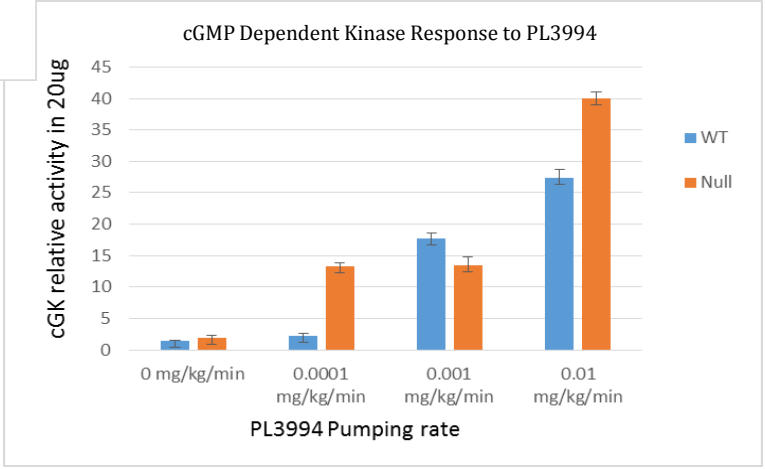
# PL-3994 Cardiac cGMP and pKG




Mouse TAC model in cardiomyocyte conditional corin gene KO mice

Collaboration with Dr. Daniel Dries, Temple Cardiovascular Research Center

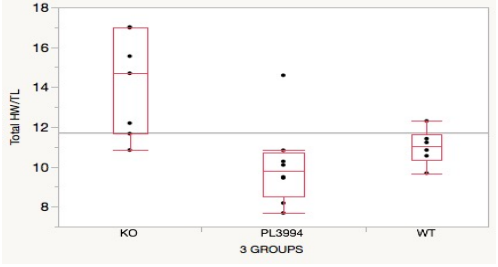
Samples are from LV apical region




- 14 day continuous infusion of PL-3994
- PL-3994 had no effect on systemic blood pressure
- Systemic PL-3994 activated NPR-A & pKG in cardiomyocytes
- PL-3994 rescued cardiac hypertrophy and reduced cardiac fibrosis

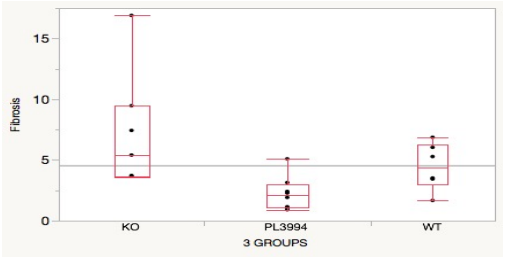
# PL-3994 in Corin “Cardiac-KO” HF Model

Rescues cardiac hypertrophy



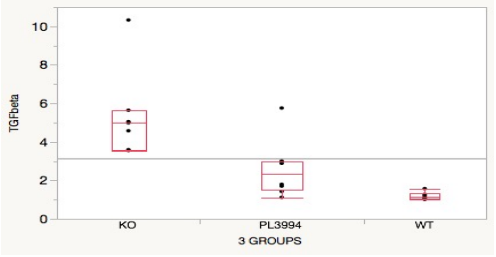

KO vs. PL-3994 p=0.03

Reduces cardiac fibrosis



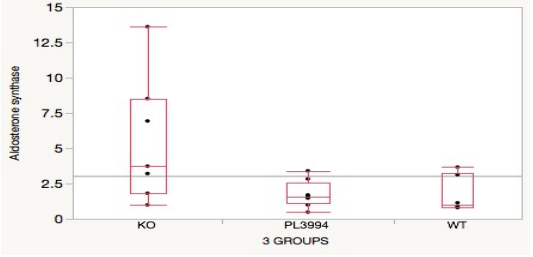

KO vs. PL-3994 p=0.005

Reduces TGF-β expression




KO vs. PL-3994 p=0.03

Reduces aldosterone expression




KO vs. PL-3994 p=0.04

# PL-3994 Preclinical Data Summary

- Clear efficacy in multiple HF models
  - Suppresses RAAS
  - Reverses cardiac hypertrophy and fibrosis
- Systemic dosing activates NPR-A in cardiac tissue as well as associated down stream signaling pathways
- Rescues cardiomyocyte corin gene KO phenotype
- Effects are seen at doses that do not cause significant decreases in systemic blood pressure

# NPS Development Program

- PL-3994 - Two phase 1 trials completed
  - Well tolerated and dosing range established
  - Dose limiting effect hypotension (as anticipated)
  - Ready for phase 2
- PL-3994 phase 2A (open label trial) in HF-pEF patients starts 1H2018
  - N=50, with ascending IV dosing
  - Objectives
    - Characterization of systemic and pulmonary blood pressure effects
    - Cardiac biopsy to evaluate NPS pathway activation in HF-pEF patients
    - Characterization of duration of drug effect
  - Preliminary data anticipated 1H2019
- PL-5028 preclinical IND enabling activities 2018
  - IND submission and initiation of clinical program 1H2019

# NPS Program Summary

- Well positioned to take advantage of the growing interest in NPS based therapeutics in the treatment of HF
- Extensive compound library with receptor selective agonist and antagonists with strong IP positions
- PL-3994 is a novel NPR-A agonist with an extended half-life suitable for chronic subcutaneous self-administration
  - Phase 1 studies completed; ready to advance into phase 2 and proof of principle studies
  - Academic collaborations ongoing
- PL-5028 NPR-C/A agonist reversing cardiac fibrosis and hypertrophy with reduced potential for hypotension
- Potential Orphan Drug indication for HF patients with corin gene mutations
- Incorporating precision medicine approaches to refine patient populations

# Palatin Anticipated Development Milestones

- Vyleesi™ (bremelanotide) for Hypoactive Sexual Desire Disorder
  - NA license agreement closed with AMAG — 1Q2017✓
  - China license agreement Fosun Pharma — 3Q2017✓
  - Republic of Korea license agreement Kwangdong Pharma — 4Q2017✓
  - FDA NDA submission & acceptance — 1H2018 ✓
  - FDA ADCOM — Early 2019
  - PDUFA date — 3/23/2019
  - Additional ROW partnerships — 2019
- Melanocortin Anti-Inflammatory Programs
  - IBD
    - PL-8177 IND submission cleared — 4Q2017✓
    - PL-8177 phase 1 SAD/MAD — 1Q2018 ✓
    - PL-8177 phase 1 SAD/MAD data — 3Q2018
    - PL-8177 phase 1 oral pk & biodistribution study — 4Q2018
  - Ocular indication
    - PL-8331 IND submission and initiation clinical studies (dry eye) — 2H2019
- Melanocortin 4 receptor selective agonists
  - PL-9610 orally active small molecule clinical development candidate
    - IND submission and initiation of Phase 1 clinical study — 2H2019
- Natriuretic Peptide System – Cardiovascular Disease
  - Academic collaborations ongoing – pursuing partnerships — 2019

# Financial Snapshot

| Financial Highlights as of June 30, 2018 | |
|---|---|
| Cash and Cash Equivalents | $38.0 million |
| Total Debt | $7.2 million |

| Summary Capitalization as of June 30, 2018 | |
|---|---|
| | Common Equivalent |
| Common Stock | 200.5 million shares |
| Preferred | 0.1 million shares |
| Warrants | 23.4 million shares |
| Options | 12.8 million shares |
| RSUs | 9.3 million shares |
| Fully Diluted Shares | 246.1 million shares |

# Thank You