



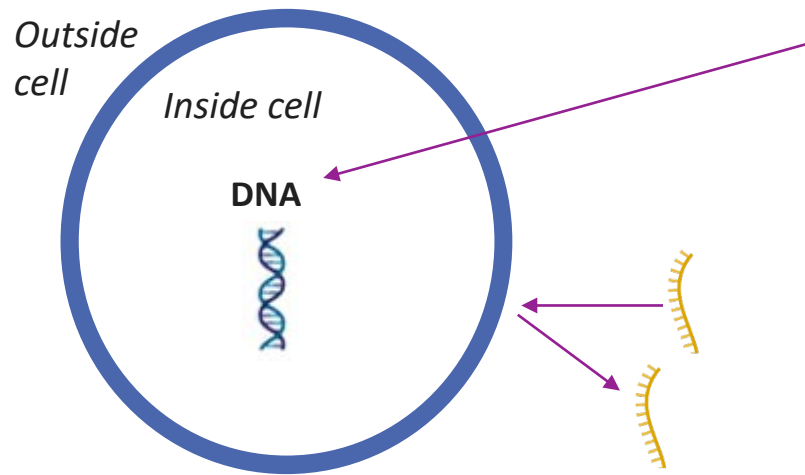
# PYC Therapeutics

Investor Relations Presentation September 2019



# The delivery challenge: getting big drugs inside cells

The promise of breakthrough medicine can only be realised once the 'delivery challenge' has been solved



## The Opportunity

The **highest value drug targets** (DNA, RNA, protein) exist **inside cells**

## The Challenge

**But...** The cell membrane has evolved over hundreds of millions of years to **keep foreign substances (like drugs) out**

**The Implication:** Many breakthrough therapeutics **fail due to an inability to reach their target**

*"If the CRISPR gene editing system is to live up to its disease-curing potential, researchers must devise a plan to deliver it into the body"*

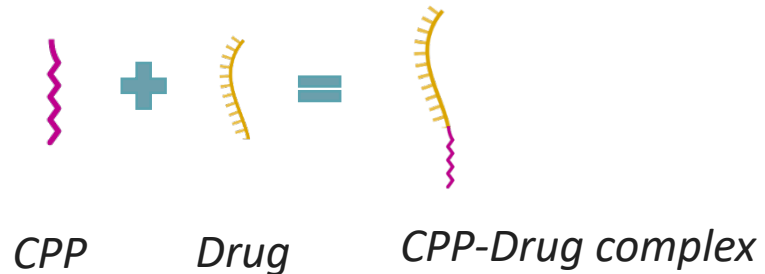
*"Merck's Alan Sachs, on RNAi's Big Challenge: Delivery, Delivery, Delivery"*

*"For the most common inherited monogenic disorders ... effective gene therapy is likely to remain a delivery challenge"*

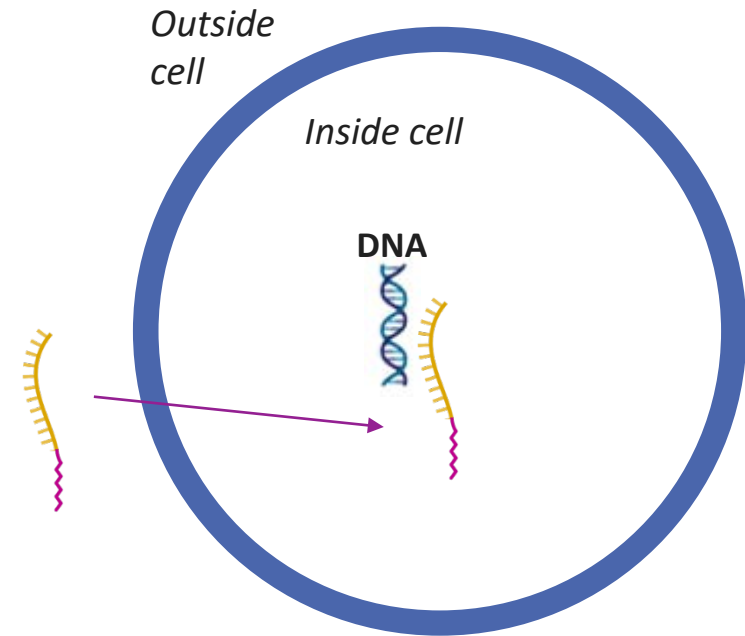
# PYC Therapeutics solves the delivery challenge with our Cell-Penetrating Peptide (CPP) technology

## PYC Therapeutics' solution

Cell Penetrating Peptides (CPPs) are **able to cross the cell membrane** – CPPs can be joined to a drug cargo to deliver it inside the cell



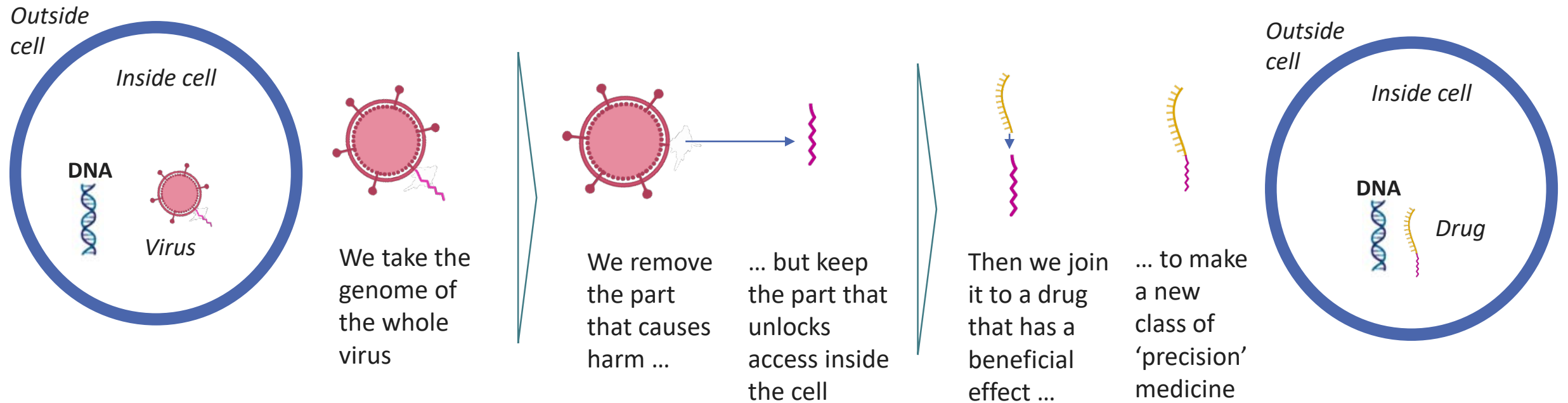
***Precision medicine is now a reality***



*“By taking advantage of the unique cell-translocation property of these short peptides, various payloads of proteins, nucleic acids, or even nanoparticle-based carriers were **delivered into all cell types with unparalleled efficiency**”<sup>1</sup>*

# PYC's delivery platform uses Nature's solution to a complex problem

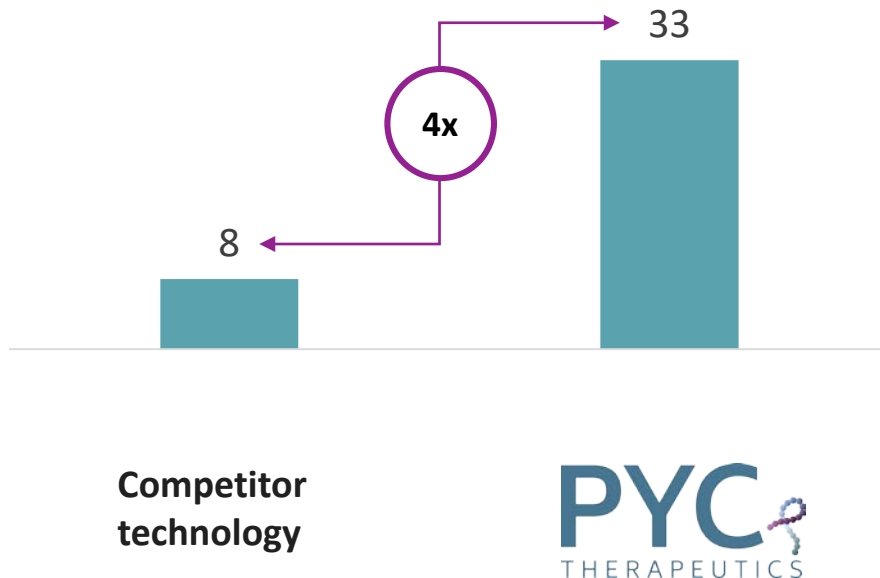
**Nature has worked out how to cross the cell membrane – viruses and other micro-organisms can enter human cells**



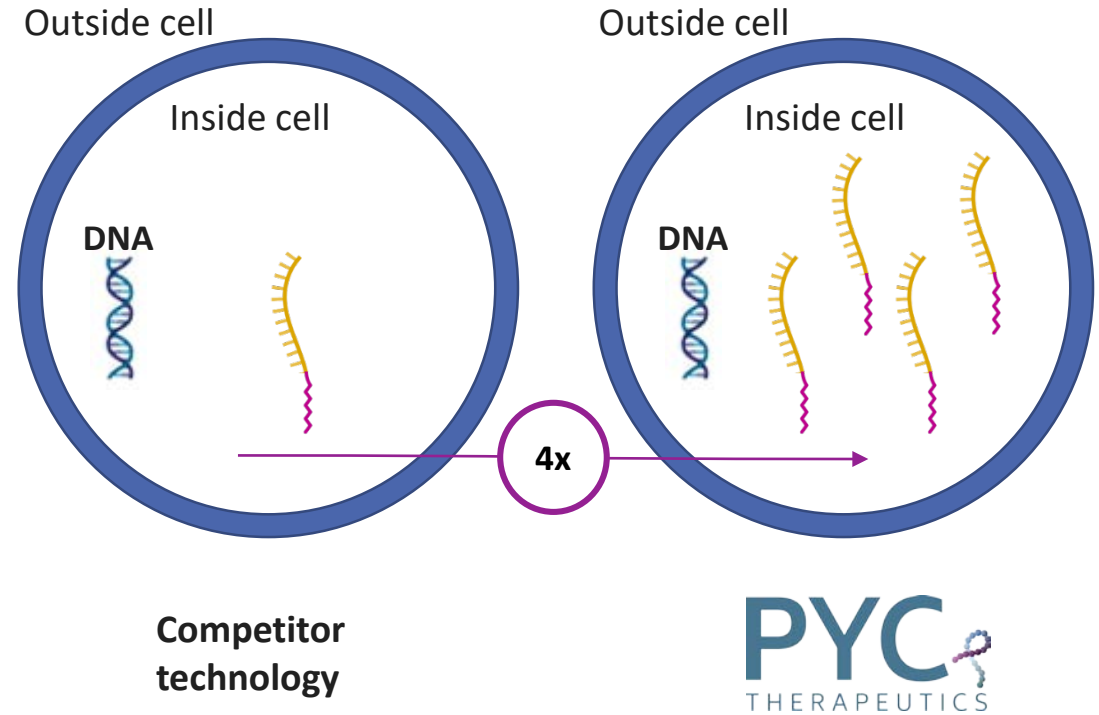
# PYC has a clear competitive advantage in the amount of drug cargo that we can deliver

**Our delivery technology delivers 4x as much drug cargo inside cells than our nearest competitor's**

**% of cells with drug successfully delivered<sup>1</sup> in animals**



**Getting enough drug cargo inside the cell is the rate-limiting step in the development of precision drugs**



***PYC's competitive advantage has been proven in both animals and human cells***

See ASX announcement 'Animal Models – 400% outperformance of gold standard' from the 23/07/2019 and ASX announcement 'Phylogica's Technology is Effective in Human Cells' from the 6/08/2019

<sup>1</sup> A competitive read-out of exon skipping in retinal pigment epithelium (RPE)/choroid cells demonstrating 410% outperformance of PYC's CPP over benchmark (RXR) 4 7 days post-administration of a single dose of 1.6 micrograms CPP-ASO per rodent eye. The ASO is Survival of Motor Neuron 1 and the outcome measured is successful exon skipping.



# PYC drives shareholder returns through two commercial applications of our delivery 'platform'

## 1 Development of our own pipeline of drugs



PYC's delivery platform  
+  
PYC's drug

- Develop our own cargoes for our area of focus, starting with Inherited Retinal Disease
- PYC owns the 'whole molecule'

## 2

Licensing  
our  
delivery  
platform to  
other  
Pharma Co

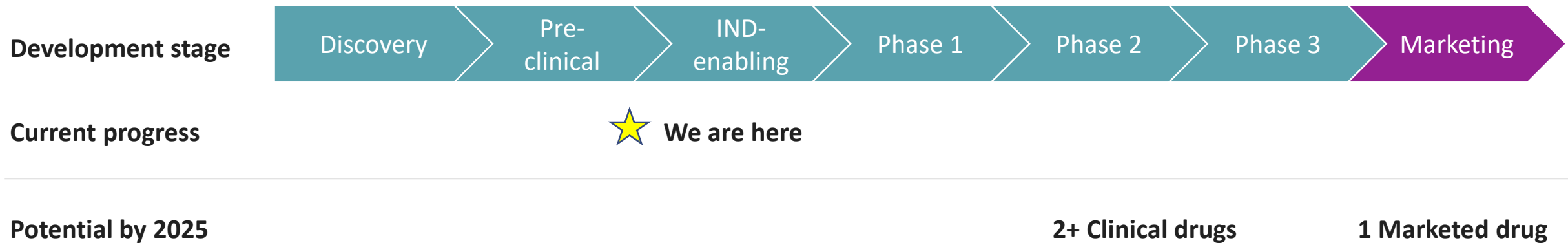


PYC's delivery platform  
+  
Licensee's drug

- Leverage our delivery platform to generate up-front revenue and gain a trailing interest in third party molecules
- Use the out-licensing model to scale across multiple disease indications across diverse target tissues

# ① Developing our drugs: PYC is targeting significant markets of unmet need

## Illustrative drug value proposition – Inherited Retinal Disease example



## We have a strong base to enable success in reaching and capturing the full opportunity in the Inherited Retinal Disease market



**Success in animal models**  
*Both efficacy and toxicology*



**Success in human cells**  
*Proof of concept established*



**3D human retina model**  
*Organoid or “retina in a dish” model coming in the immediate future*



**Success from similar drugs**  
*ASOs in other inherited retinal diseases are clinically validated*



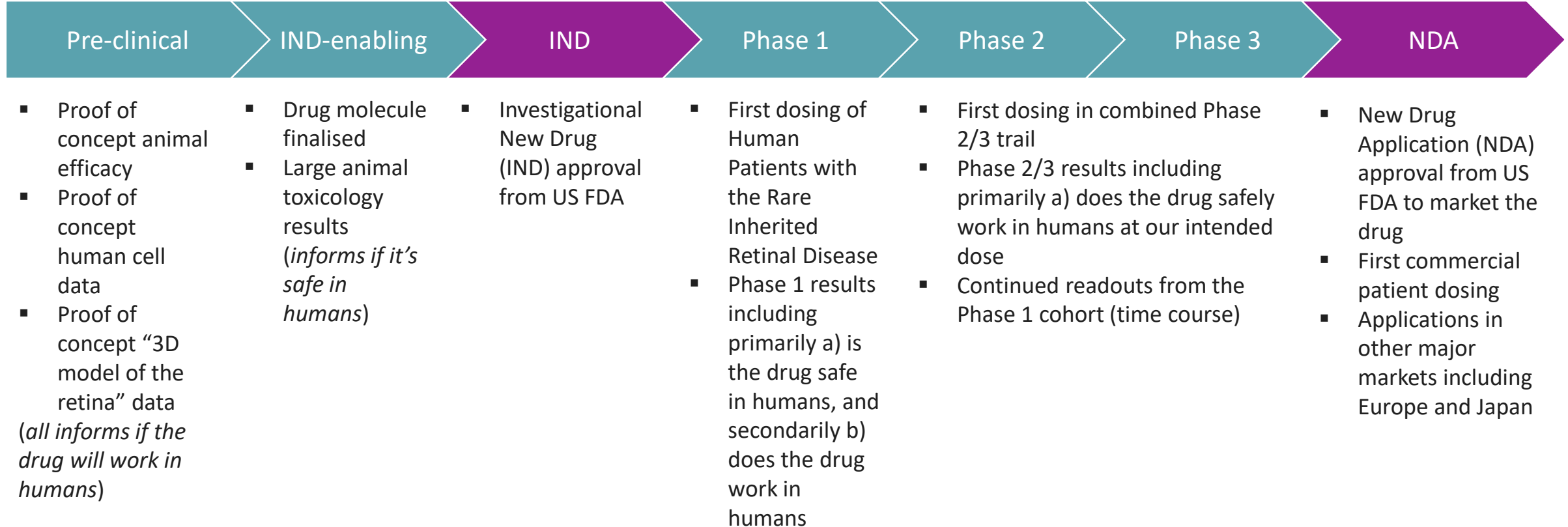
**Serving unmet need**  
*Opportunity to combine phases 2/3 in clinical trials*



**Accessible patient population**  
*Disease registries assist distribution*

# ① PYC has a clear set of milestones to deliver our lead drug

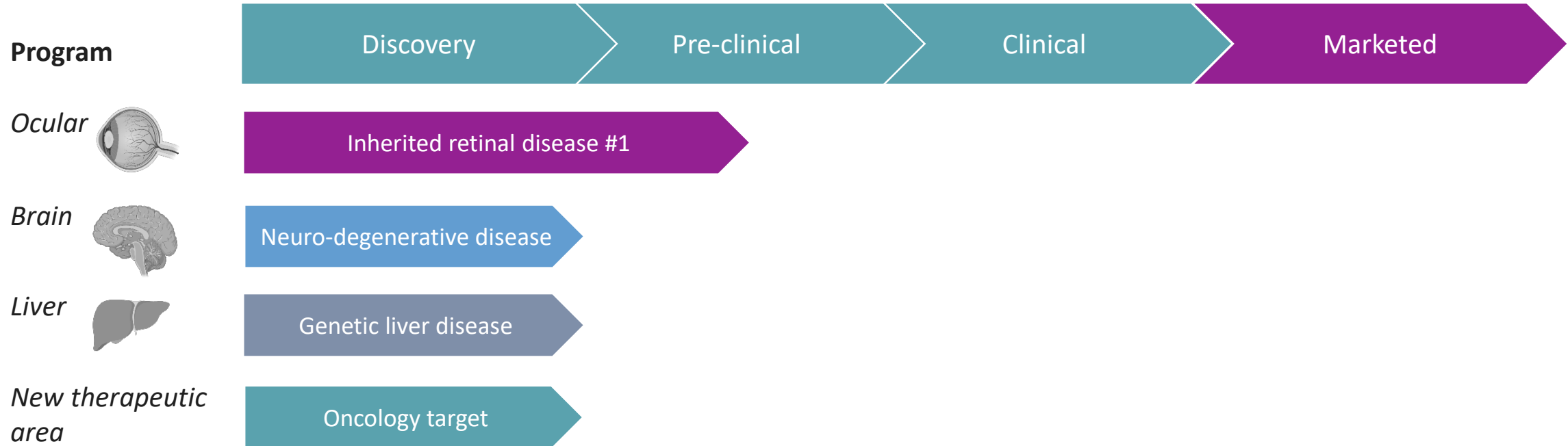
## Milestone impacting valuation and progress to market





## ② Licencing out PYC's CPP delivery platform

### Developmental stage of PYC and Partner's pipeline in 2020













*“Haven’t heard of RNA Therapeutics yet? You will”<sup>1</sup>*

# PYC will be operating in a competitive landscape



## Eye disease landscape examples

## Antisense Oligo landscape examples

					
<b>Geographic base</b>	 Australia	 US	 US	 Netherlands	 US
<b>Platform or asset</b>	Platform	Platform	Asset	Asset	Platform
<b>Development stage</b>	Pre-clinical	Clinical (Phase 1)	Clinical (Phase 2)	Clinical (Phase 1b)	Pre-clinical
<b>Lead indication</b>	Ocular rare disease	Wet AMD	Ocular immunotherapy	Ocular rare disease	Neurological rare disease
<b>Cash reserves (AUD) as at 30 June 2019</b>	~\$10M	~\$120M	~\$260M	~\$140M	~\$350M
<b>Market Cap (AUD) as at 26 August 2019</b>	~\$90M	~\$580M	~\$2,500M	~\$415M	~\$1,600M

# The scientific team

## Scientific Advisory Board



**Shohei Koide**  
**B.S, M.S, Ph.D**  
Professor of Biologics  
Design at  
**New York University**  
*World-leader in the  
design of biologics*



**Stephen Doberstein**  
**B.S.Ch.E, Ph.D**  
Chief Research &  
Development Officer at  
**Nektar Therapeutics**  
*17 years experience in  
biotechnology*



**Judy Lieberman**  
**MD, Ph.D**  
Professor of Pediatrics at  
**Harvard Medical School**  
*First-class University  
board representation*



**Rakesh Veedu Ph.D**  
Head of precision nucleic  
acid therapeutics  
research at the **Centre  
for Comparative  
Genomics**  
*Expert in antisense oligos*



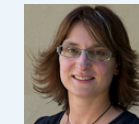
## Operational Team



**Rohan Hockings**  
**MBBS (Hons.), JD GDLP**  
Experience across both  
clinical and commercial roles



**Kaggen Ausma**  
**LLB, B.Econs (Hons.)**  
Previous roles in McKinsey &  
Co and CLSA Asia-Pacific



**Katrin Hoffmann, Ph.D**  
20 years experience in  
biomedical research



**Science Team**  
23 Scientists based at the  
**Harry Perkins Institute of  
Medical Research**

## Key collaborators



Inventors of  
(USFDA approved)  
ASO drug Eteplirsen

Clinical expertise  
in the eye (initial  
target tissue of  
interest)

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