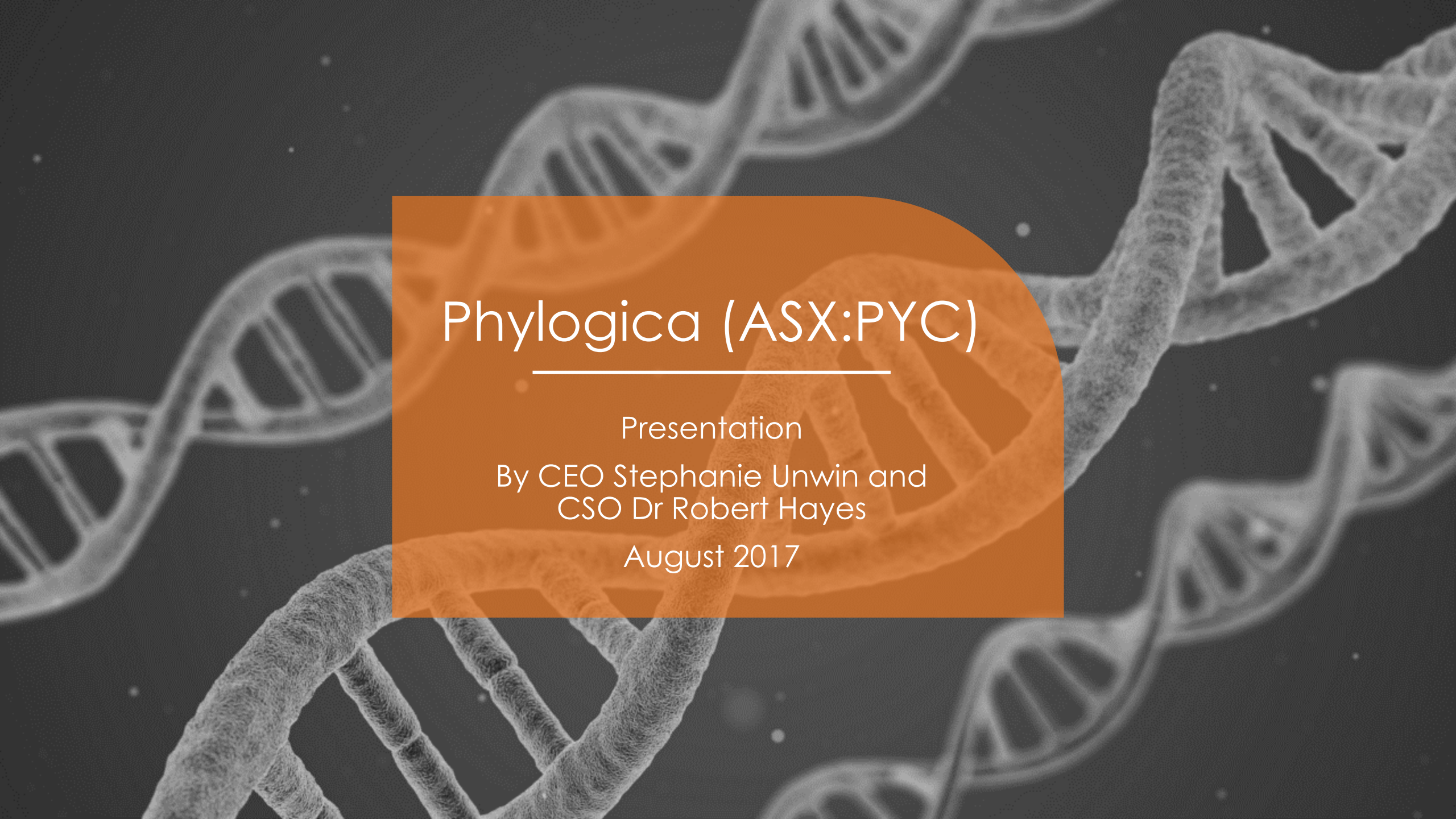

Phylogica (ASX:PYC)

Presentation

By CEO Stephanie Unwin and
CSO Dr Robert Hayes

August 2017

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About Us

Who are we?

Perth-based biotech focused on creating a commercial platform to deliver drugs into the previously undruggable intracellular environment.

What do we do?

Improve existing drug delivery and identify carriers and cargoes from our proprietary library of peptides that specifically access and target intracellular diseases.

Why Peptides?

Peptides are naturally occurring protein blocks in the body with the potential to fight diseases.

Peptides are widely regarded as the basis for future world-leading drugs.

Key Investment Highlights

- **Addressing a large unmet market need** - $250Bn for biologics targeting "undruggable" targets and $110Bn cancer treatment
- **Derisked investment opportunity** - progressing 3 asset groups - intracellular delivery, biologic therapeutic solutions and new drug discovery
- **Well validated platform** technology - partnerships with Genentech, MedImmune, Pfizer, Janssen Biotech and Roche
- **Strong patent position** - international patents in place
- **Best-in-Class compounds** - leading programs FPP and iMyc are better than existing gold standard solutions
- **High calibre team** - attracted world-class talent from the industry and commercial sector
- **Blue sky potential** - extensive Phylomer library ensures a high hit rate on any target of interest

Financial details

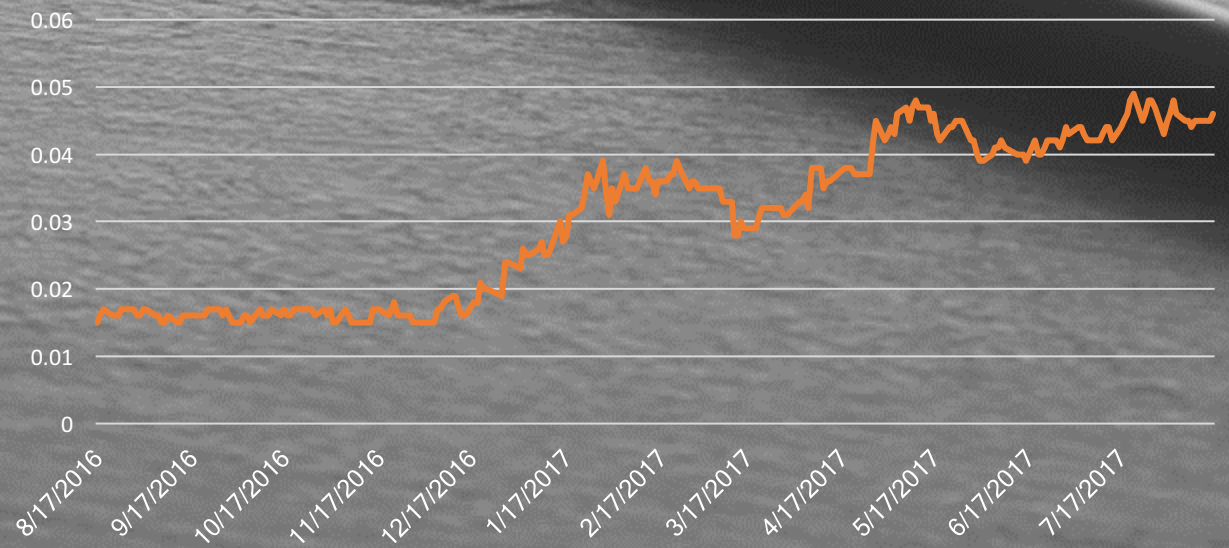
Current share price: $0.045

Shares on issue: 2.12Bn

Market Cap: $95.4M

Cash : $9.5M

Phylogica (ASX:PYC) share price August 2016 -2017



Experienced Management Team

In mid 2017 Phylogica revitalised its management team with senior Pharma and commercial executives :

Core Management Team

Dr Hayes was previously the Head of Biologics at Amgen, responsible for leadership and strategic direction and operational management of Amgen's biological preclinical pipeline. Dr Hayes was also VP and Venture Leader of a biotech company within Janssen. He has over 20 years experience in biotech start ups and pharmaceutical companies.

Ms Stephanie Unwin, CEO

Dr Robert Hayes, CSO

Ms Unwin was previously an executive general manager at Synergy. She has held senior positions including Head of Strategy and Innovation; Chief Transformation Officer; and General Manager of both Commercial and Retail Business Units within the $3bn electricity utility. Ms. Unwin's experience includes: managing an internal team of over 150 people, complex commercial transactions and reaching commercial close on a $300M infrastructure fund for future renewable projects. She also has substantial experience as a company Director with over 15 years of Board engagements across both ASX and TSX.

Board of Directors

Ms Stephanie Unwin, CEO

Dr Bernard Hockings, NED

Paul Watt, NED

Dr Robert Hayes, CSO

Dr Rick Kendall, NED

Three focus areas to validate the commercial platform

1 **Improve FPP's endosomal escape activity**

- New FPPs to be identified by assays
- Protein engineering work
  - Fine tuning existing FPPs active window and strategic substitution
- 13 new FPP families announced last quarter with good activity

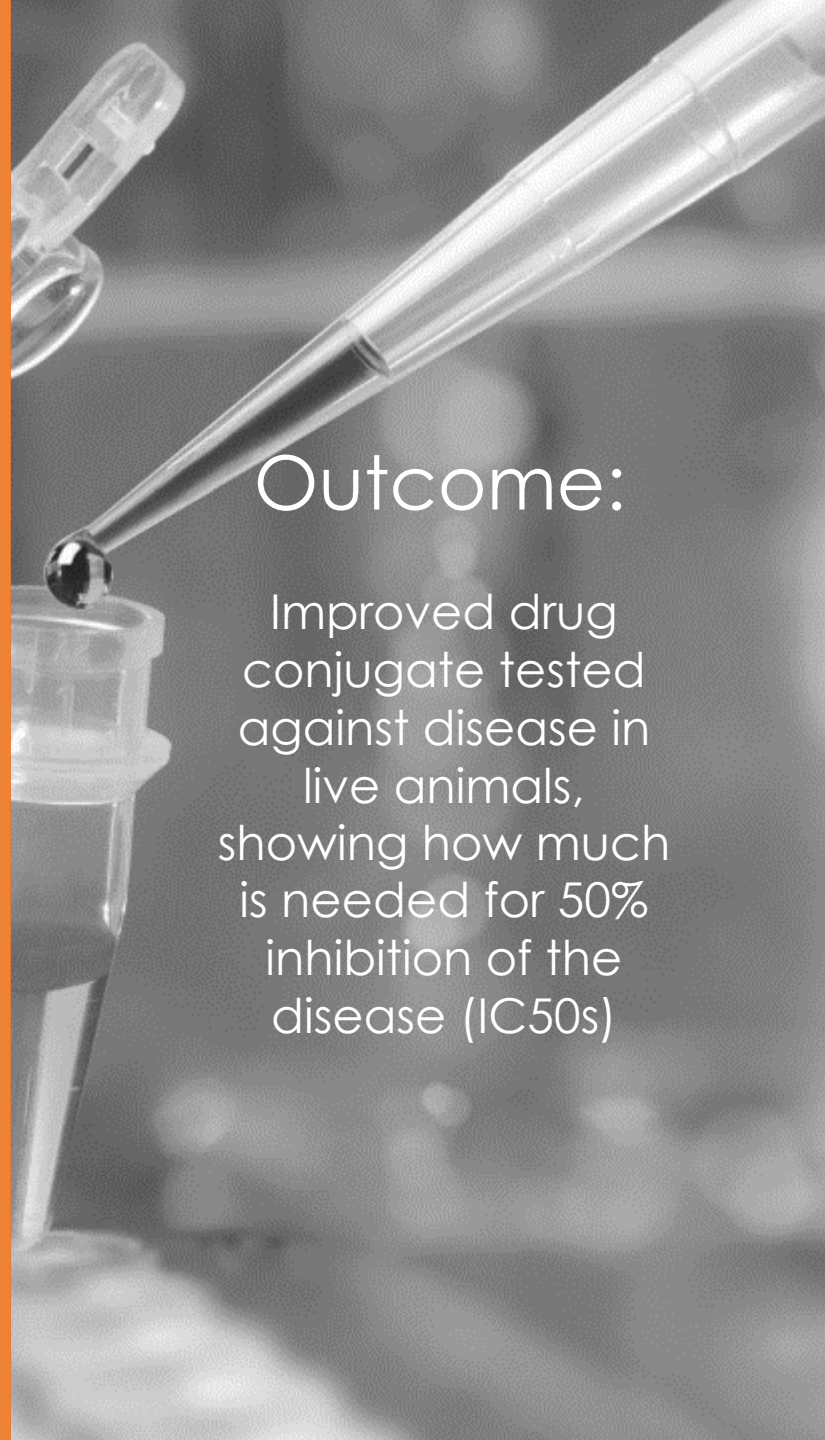
2 **Increase the cargo's binding affinity (binding to the target)**

- Ensuring a cargo is optimised to bind to the target: eg iMyc to Myc
- Work in progress to increase binding

3 **Increase half life - drug conjugate where we want it for longer (biodistribution and pharmacokinetics)**

- Increasing drug half-life – time it takes for half the drug to leave the body
- Application of half life extension techniques in progress

Jan 18 – In Vivo efficacy data to validate a functioning FPP platform



Outcome:

Improved drug conjugate tested against disease in live animals, showing how much is needed for 50% inhibition of the disease (IC50s)

Disruptive Drug Delivery Platform

Overcoming existing drug delivery challenges with FPPs

Platform Technology: The Phylomer Library

PYC's Phylomer Library is made up of 35 biodiverse genetic material derived from volcanoes, geysers and undersea vents.

The library enables the discovery of new phylomers with potential for:

- Drug delivery agents: Functional Penetrating Phylomers (FPPs) effectively penetrate the cell wall, reaching the "undruggable" targets
- therapeutic drugs: eg iMyc, targeting naturally occurring cancer proteins in the body
- A validated platform for new drug discovery

Conventional Drug Delivery Challenges

The problem?

Conventional drugs are delivered via Cell Penetrating Peptides (CPPs) which are mostly trapped within endosomes even when successfully bypassing the cell wall – resulting in toxicity as they are only active at very high concentrations

OUTSIDE CELLS

INSIDE CELLS

Most CPP drugs remain trapped in endosomes, rendering them inactive.

Our solution?

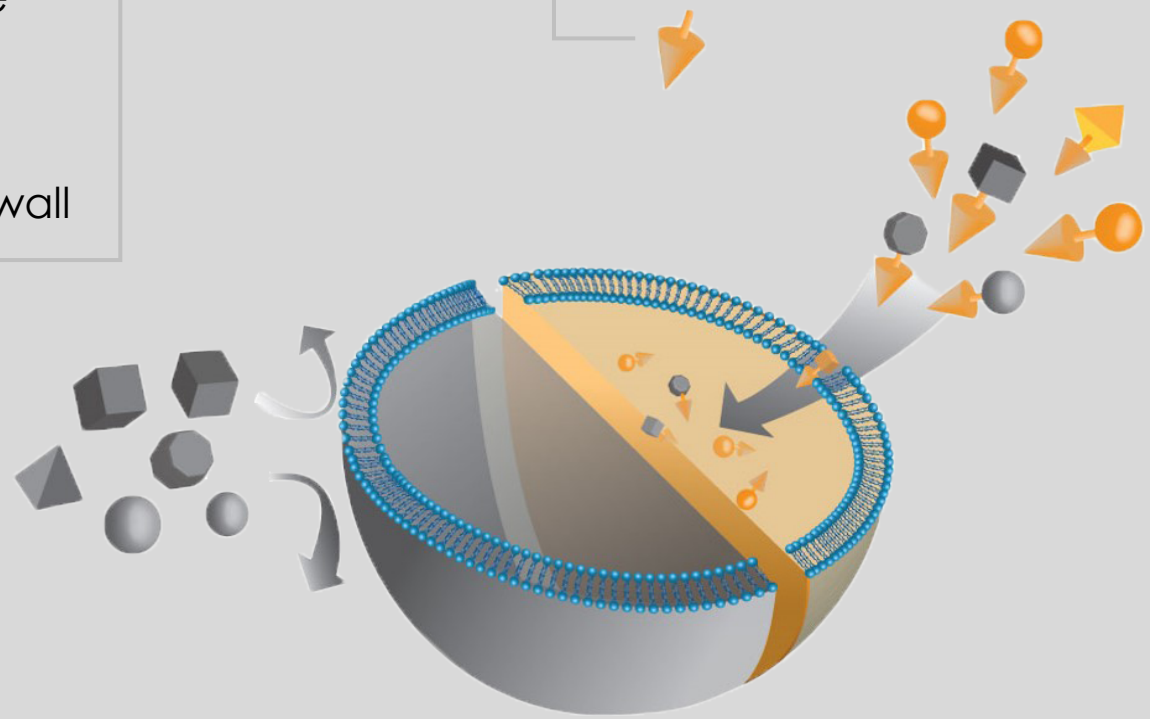
Development of cell-penetrating peptides to effectively penetrate cell walls and **escape endosomes** to deliver the desired therapeutic effect to the drug targets sitting within the cells.

About Phylogica's FPPs

Phylogica's proprietary cell penetrating peptides – FPPs (Functional Penetrating Phylomers) can deliver a diverse range of "biologic cargoes" into cells overcome existing challenges to drug delivery.

Large molecule drugs such as antibodies are unable to penetrate cell wall

Phylogica's FPP



FPPs attach to "biologic cargoes" (ie. such as antibodies and a range of large cargoes) are able to effectively penetrate the cell wall

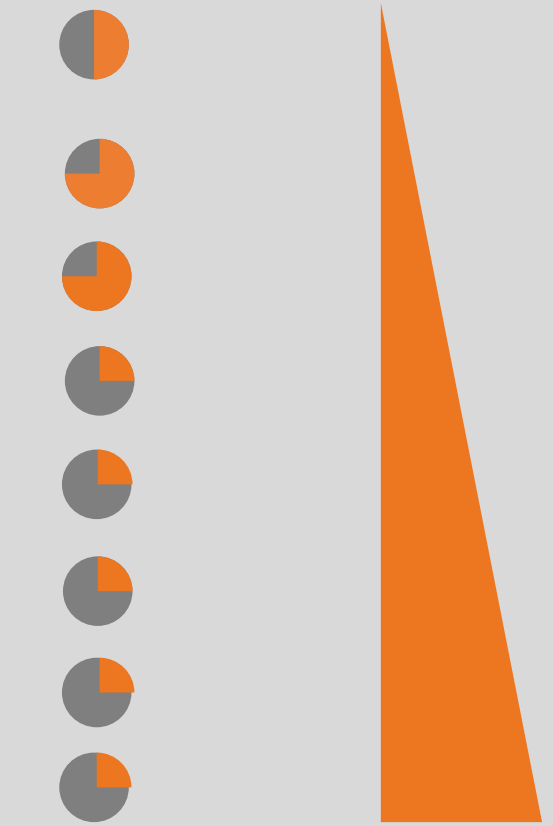
Potential to expand the "druggable" targets within the cell by >10-fold

FPPs are able to deliver a diverse range and size of cargos

Conceptual stage
Validated efficacious delivery

Example cargos and targeted diseases that can be delivered with FPPs

Cargo class	Example cargo	Example disease
RNA	PMO	Duchenne muscular dystrophy
Anti-microbial	Antibiotics	Multi-drug resistant Gram-negative bacteria
Scaffold	Omomyc	Breast cancer
Peptide	Anti-amyloid fibril	Alzheimer's disease
	DC vaccine	Mesothelioma Melanoma
Toxin	Ribotoxin	Acute myeloid leukaemia
Enzyme	Glucocerebrosidase	Gaucher disease
Bi-specifics	Bcl-2 + Omomyc	Resistant cancers

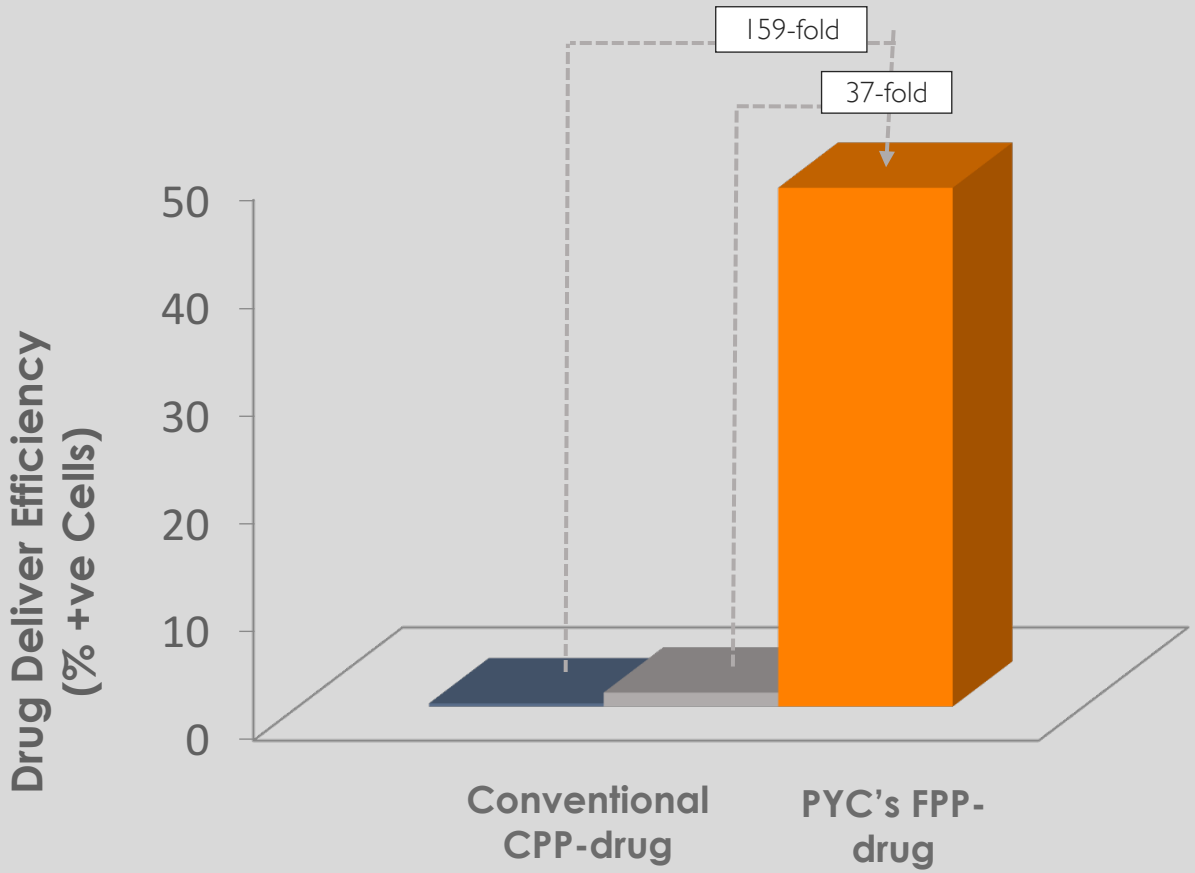


1 Progress measured in terms of ability to deliver efficacious cargo class into cell using FPP

Best-in-class: Phylogica's FPP

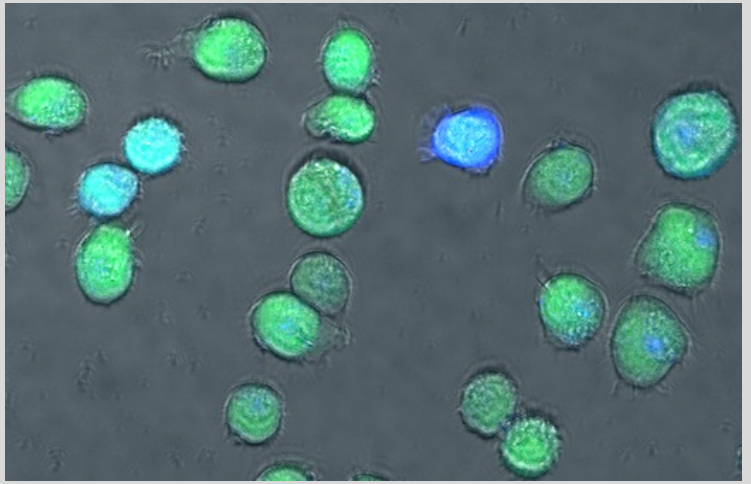
As conventional Cell Penetrating Peptides (CPPs) are mostly trapped inside the cells, Phylogica's FPPs:

- enables effective delivery of its biological cargoes as it enables the drug to penetrate cell walls and escape the endosome
- Are compatible with a wide range of biological cargoes
- Are found to be functional in a number of tissues
- Demonstrates evidence of action through assays and model cargoes in vivo

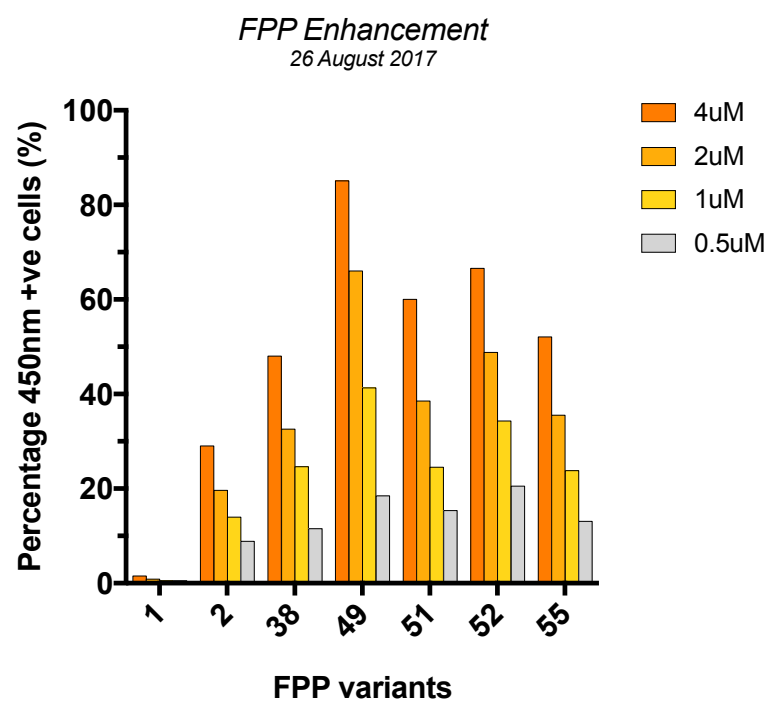


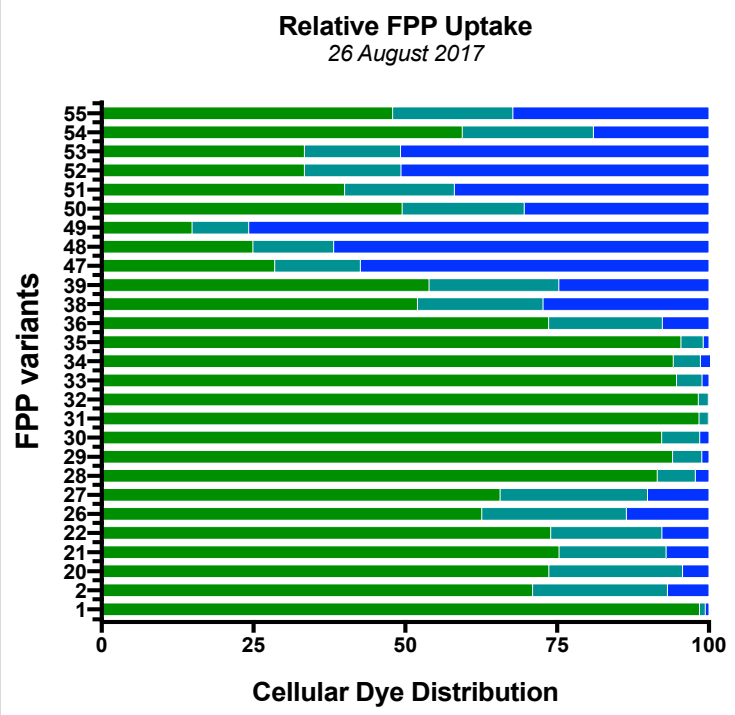
FPPs are best in class when compared to conventional CPPs even at lower concentrations.

Best-in-Class: Phylogica's FPP



Constant improvement for potency and cell-specificity





Proteins:
- Alternative scaffolds
- Enzymes
- Peptides
- CRISPr/cas9

Small molecules

Nucleic acids
- mRNA
- siRNA

Commercial Opportunities: FPP

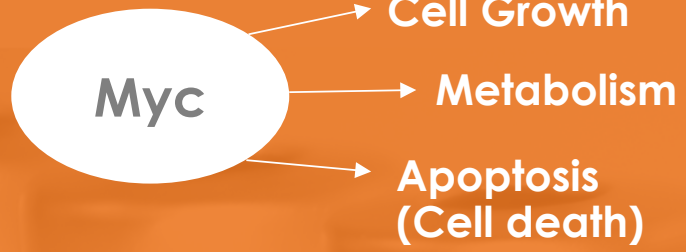
- Addressing the massive $250Bn (CAGR 10.6%) market of drug delivery
- Improving delivery of existing/new drugs
- FPPs form the basis of Phylomer Therapeutics with the potential to be a fully integrated drug delivery platform:
  - Compatible with wide range of biologics cargoes
  - Functional in multiple tissues
  - Demonstrable evidence of action
  - Evidence of *in vivo* efficacy
  - Promising safety data

Biologic Cargoes

Targeting disease with Phylomer Peptides

Our Lead Biological Cargo: iMyc

What is Myc?



- The Myc gene is a 'driver' for cancer when over-regulated
- 7 out of 10 cancers occurs with an over expressed Myc protein

What is iMyc?

- PYC's iMyc (Myc inhibitor) reduces over-expressed Myc in cells, effectively killing off the cancer cell

How is iMyc effective?

- Current Gold Standard OmoMyc protein
- OmoMyc has low potency due to poor cell penetration
- FPP-iMyc is found to be more effective than FPP-OmoMyc

PYC's leading cancer therapeutic program: FPP-iMyc

- 7 out of 10 cancers involve and overactive Myc protein
- Phylogica's lead program FPP-iMyc is best-in-class
- iMyc comparable or better than the 'Omomyc' gold standard in killing Myc-addicted cells
- Target market – $110 Bn

Next Steps:

- lead optimisation and in vivo efficacy data
- Lead optimisation process can increase a drug's potency by 100-1,000 times

Robust Product Pipeline

- Phylomer screens against validated and clinically relevant oncology targets
  - cMyc, N-Myc, Stat5 and YB1
- Validated hits already exceed potency of gold standard inhibitors
- Stat5 and YB 1 collaborations with Dana Farber Institute, Harvard Medical School

Program	Potential Targeted Indications*	Hit ID	Hit to Lead Validation In Vitro	Hit to Lead Validation In Vivo	Lead Selection/ Optimisation	Preclinical/ IND enabling
Myc	AML, Breast Cancer (TNBC), Neuroblastoma	✔	✔	✔	progressing	
STAT5	AML, CML	✔	✔	progressing		
YB1	AML, Breast Cancer (TNBC)	✔	✔	progressing		
FPP**	Intracellular Payloads	✔	✔	✔	*progressing*	

* current shortlisted indications only

** Multiple diverse FPP-payload constructs at various stages (includes external collaborations)

\# includes non GLP and GLP toxicology

Partnering Strategy

Phylogica has a variety of academic and industry partnerships set up with key players in the industry working together to mine the Phylomer Library for new drug targets and to progress FPP's with various 'biological cargoes'.

Genentech
A Member of the Roche Group

The University Of Queensland AUSTRALIA | IMB
Institute for Molecular Bioscience

LA TROBE UNIVERSITY

PHORE MOST
DRUGGING THE UNDRUGGABLE

Murdoch UNIVERSITY

Brunel University London

Pfizer

Olivia Newton-John Cancer Research Institute

janssen
PHARMACEUTICAL COMPANIES OF Johnson & Johnson

HARVARD MEDICAL SCHOOL

DANA-FARBER CANCER INSTITUTE

MedImmune

Roche

Agency for Science, Technology and Research
SINGAPORE

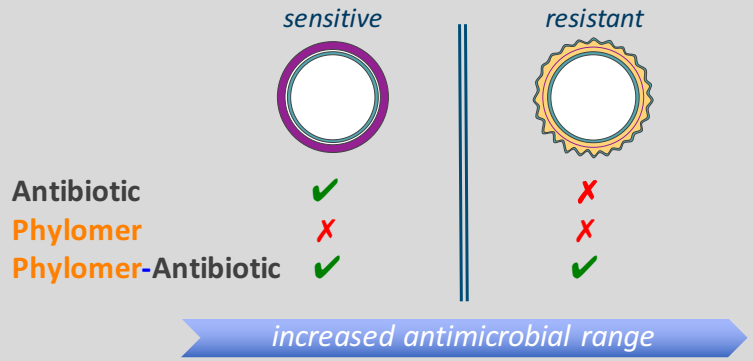
Perkins
HARRY PERKINS INSTITUTE OF MEDICAL RESEARCH

Current activities

Genentech
A Member of the Roche Group

- Our collaboration aims at the isolation of Phylomers that can help killing multi-drug resistant "super bugs"
- Phylomers are expected to increase the potential to kill bacteria which can cause pneumonia, urinary tract infections, meningitis and sepsis in people with a weakened immune system

The principle:



			Paid to PYC
GNE #1	2014	6 month pilot study	US $ 150,000
GNE #2	2015	Resulted in the isolation of one Phylomer, which fulfilled all the criteria & dozens of additional potential hits, which have not been tested yet	US $ 750,000
GNE #3	2017	Screening against additional super bugs	US $ 2,000,000

Benefits for Phylogica?

- Revenue
- Platform development
- Proof of continued interest of big pharma in PYC's platform

Commercial Strategy

2016

- Validation of FPP delivery technology
  - Proof of concept triple delivery negative breast cancer cell line
  - Improved delivery of biologic cargoes into cells in vitro and in vivo
  - FPP-Omomyc shown to reduce lymphoma cells in spleen and bone marrow
- Identified various Phylomers outperforming Omomyc as a Myc inhibitor (iMycs)
- Achieved Genentech's $2M milestone payment for the delivery of anti-microbials via FPP delivery

2017

- Enhancement of FPP technology by identifying 13 more Phylomers with potential to act as FPPs
- Optimisation and selection of 5 lead iMycs for preclinical work
- Secured funding to end of FY18 with $5M placement
- Appointment of high calibre CEO, CSO and non executive director

2018

- FPP-iMyc in vivo efficacy data
- FPP-iMyc IND enabling toxicology studies
- Investigate manufacturing in 2018 ahead of IND application to enter into Phase 1 clinical trials in 2019

Thank you

For more information contact
Stephanie Unwin at
stephanieu@phylogica.com