Phylogica
2015 Investor Presentation
(PYC:ASX)

Harnessing biodiversity for peptide therapeutics

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Overview

- Recent company highlights
- Update on recent scientific developments
- Corporate strategy to return value to shareholders

About Phylogica

- Genentech deal worth USD$142m – to fight drug resistant superbugs

- Licensing deal with Phoremost for phenotypic screening and small molecule drug development

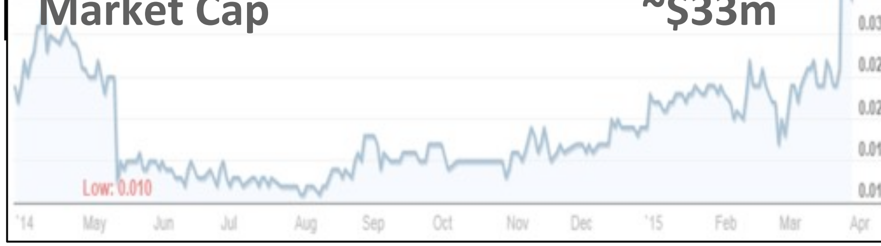
- PYC recent breakthrough – 'Best in Class' peptides for delivering smart drugs against 'holy grail' cancer targets inside cells

- PYC launched proprietary cancer programme….progressing rapidly to preclinical development

Corporate Snapshot

Shareholders	%
B. Hockings	27.5
Sietsma Holdings	10
Bonadido	4
Top 15	**57**

Summary	
ASX	PYC
Cash (12/14)	$3.7m
Net Burn	$3.2m
Market Cap	~$33m



Executive Team

Dr Richard Hopkins – CEO
Dr Paul Watt - CSO

Board of Directors

Dr Doug Wilson
Non-Executive Chairman

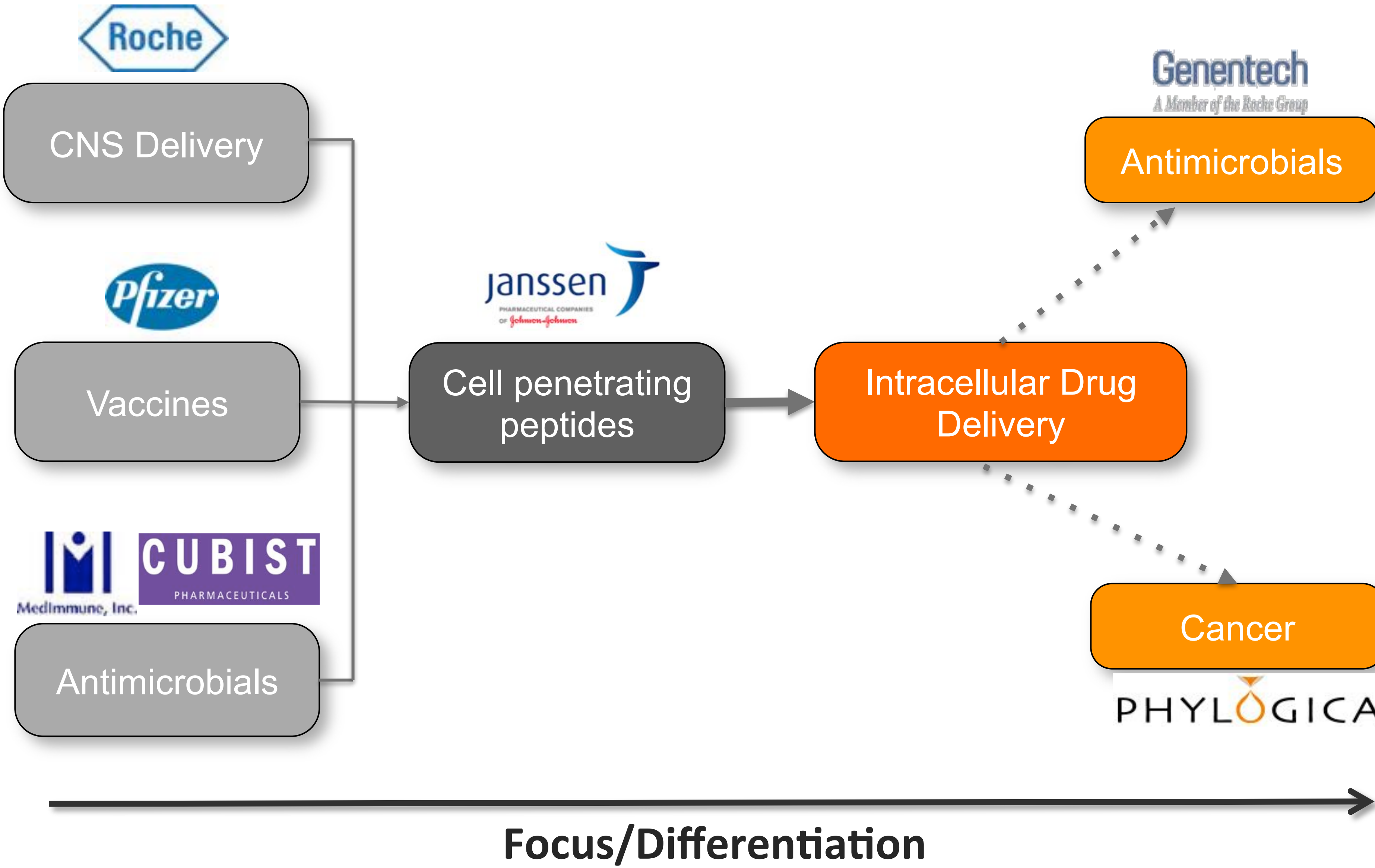
Dr Richard Hopkins
CEO

Jeremy Curnock Cook
NED

Dr Bernard Hockings
NED

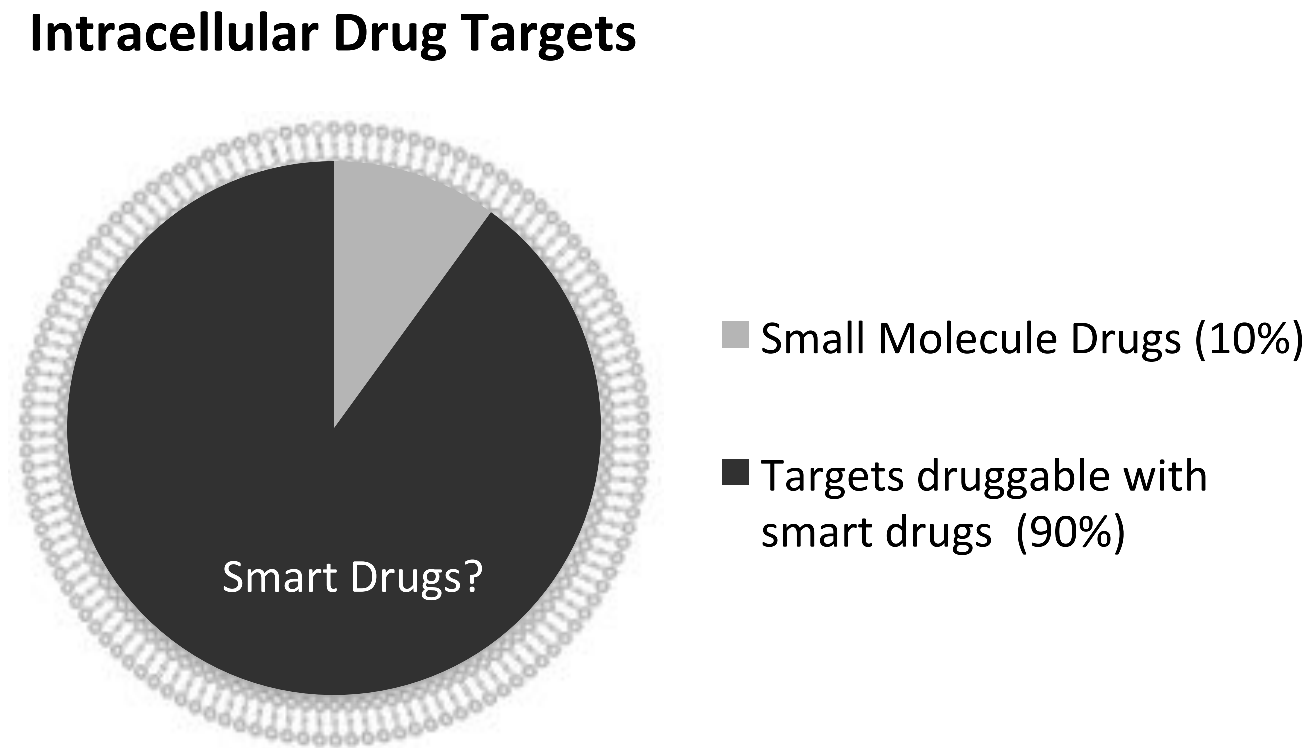
Bruce McHarrie
NED

Partnerships: focus on intracellular delivery of biologics



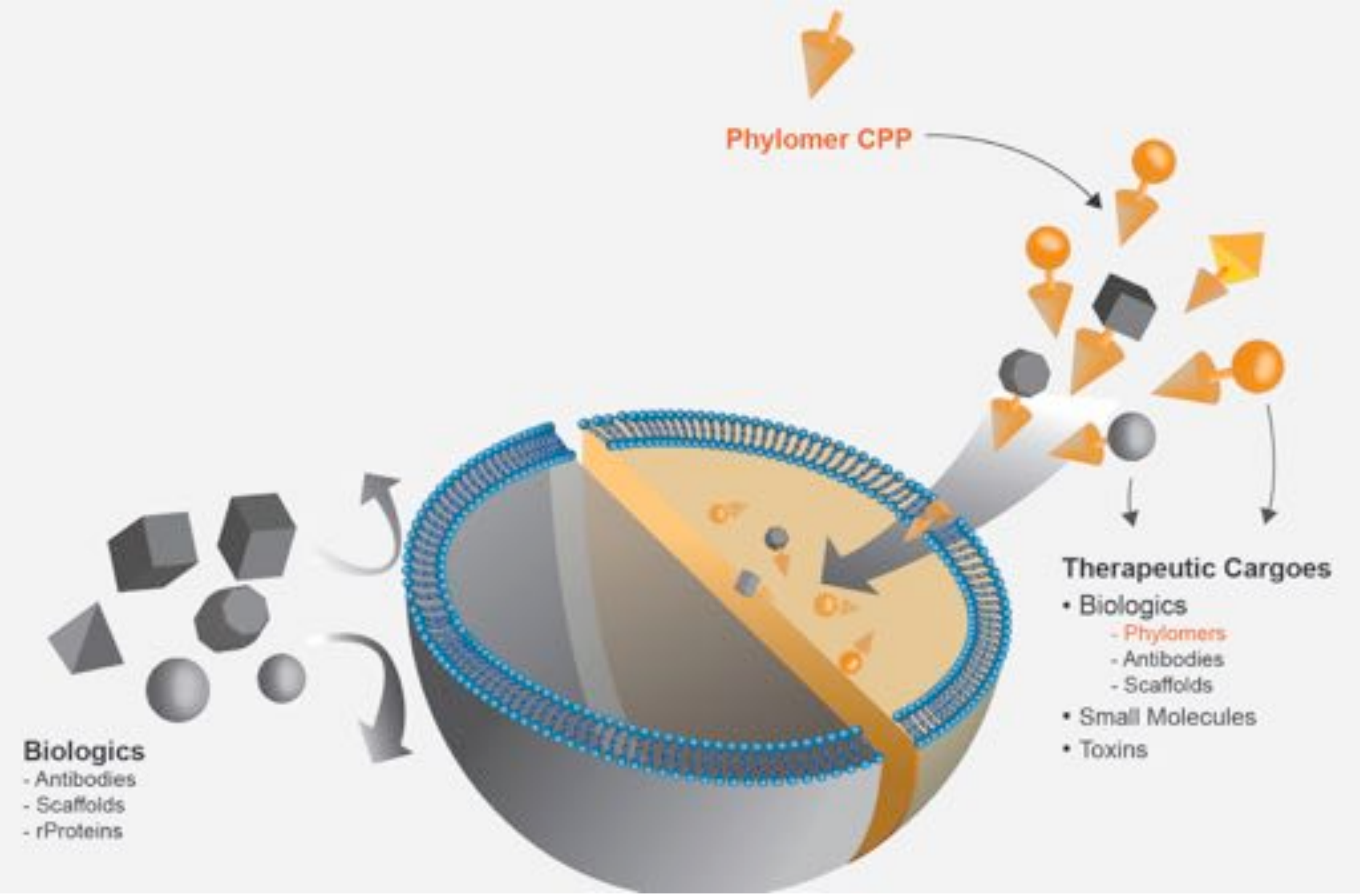
Phylogica's Core Technology

Majority of drug targets are inside cells



- **PYC addressing unmet need to deliver biologic drugs inside cells!**

Cell Penetrating Phylomer (CPPs): delivering biologics cargoes inside cells



Potential to expand the druggable landscape by >10-fold!!

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Validation of
'Best in Class' Phylomers for
intracellular drug delivery

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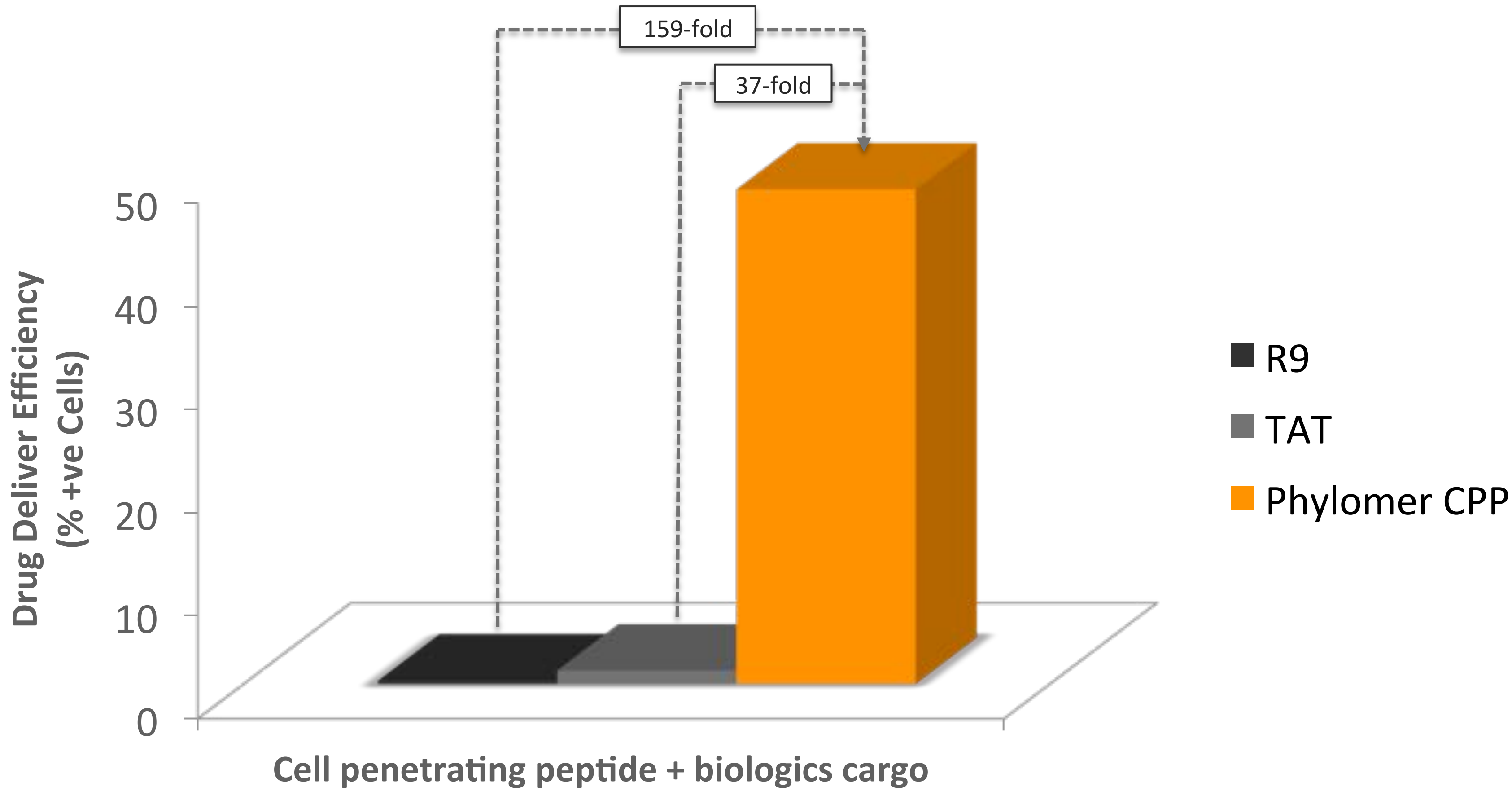
‘Best-in-Class’ cell penetrating Phylomers for delivering biologics drugs inside cells



- **‘Best in Class’** delivery against conventional CPPs including TAT (gold standard)

Applications for Phylogica's 'Best-in-Class' Drug Deliver Solution

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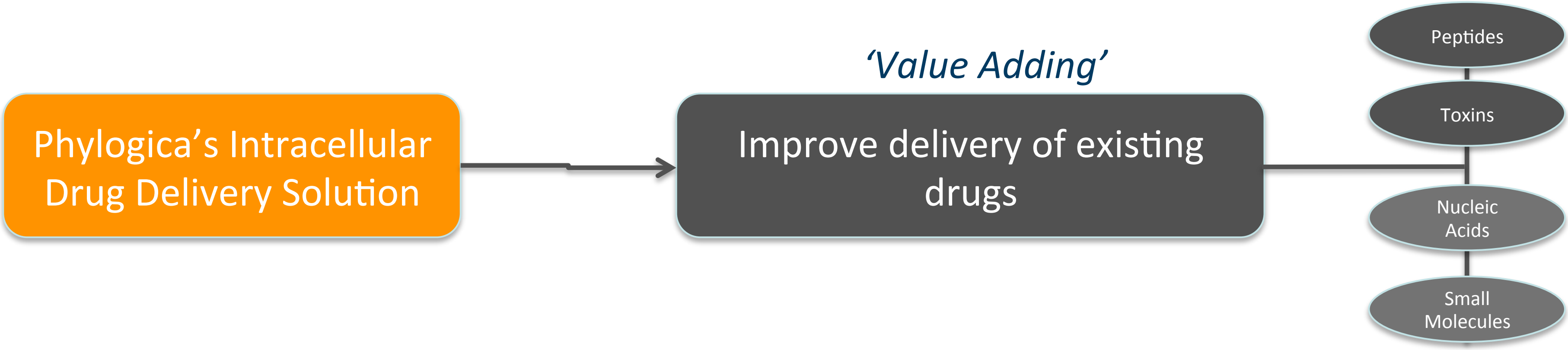
Phylogica's delivery solution compatible with multiple drug classes



MYC: A 'Holy Grail' cancer target

- MYC: Is 'activated' in most human cancers (>50%) and is associated with poor clinical outcomes
- Considered undruggable by conventional small molecules.
- Inhibiting MYC can eradicate existing tumours including lung, liver, pancreatic, blood and brain cancers
- ***OmoMyc:*** *Most potent Myc inhibitor in vivo*
  - 90 amino acid mini-protein derived from Myc
  - No effective drug delivery solution

Summary of Phylomer CPP-Omomyc fusion studies

- Unprecedented potencies (submicromolar) against Myc in drug resistant breast cancer cell lines
- CPP-Omomyc fusion improves efficacy of existing cancer drugs by up to 3X.
- First evidence for activity of a CPP-Omomyc fusion in an animal model of breast cancer.
- **Phylomer platform can access traditionally intractable target landscape and address area of unmet need**

Phylogica's Oncology Program

Targeting Breast Cancer

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Oncology programme complements 'Value Adding' strategy

Phylogica's Intracellular Drug Delivery Solution

'Value Adding'

Improve delivery of existing drugs

'Phylomer Therapeutics'

Fully integrated drug delivery/ discovery platform

Platform → **Proprietary Products**

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Phylogica's proprietary oncology program

- Phylomer screens against validated and clinically relevant oncology targets
- Rapid progress over 8 months

Program	Indication	Discovery	Functional Validation	Preclinical
			In vitro *In vivo*	
MYC	Breast Cancer			
Stat 5	Breast Cancer			
YB1	Breast Cancer			

Corporate strategy for unlocking intrinsic value in platform and maximising returns to shareholders

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Phylogica's Key Strategic Objectives

- Achieve commercial realisation of the value of the company
- Mature product focus into Preclinical development phase
- Accelerate path to clinical development by global repositioning of the company
- Engage in strategic licensing/collaborative opportunities

Preclinical phase of development represents a major value inflexion point

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Pre-GFC…Preclinical M&A exits for platforms were hot!

- ***Median M&A value = $380m***
- ***All companies with the exception of CAT, CovX and Adnexus were at pre-clinical stage of development at the time of acquisition***

Post GFC....preclinical is still the focus:

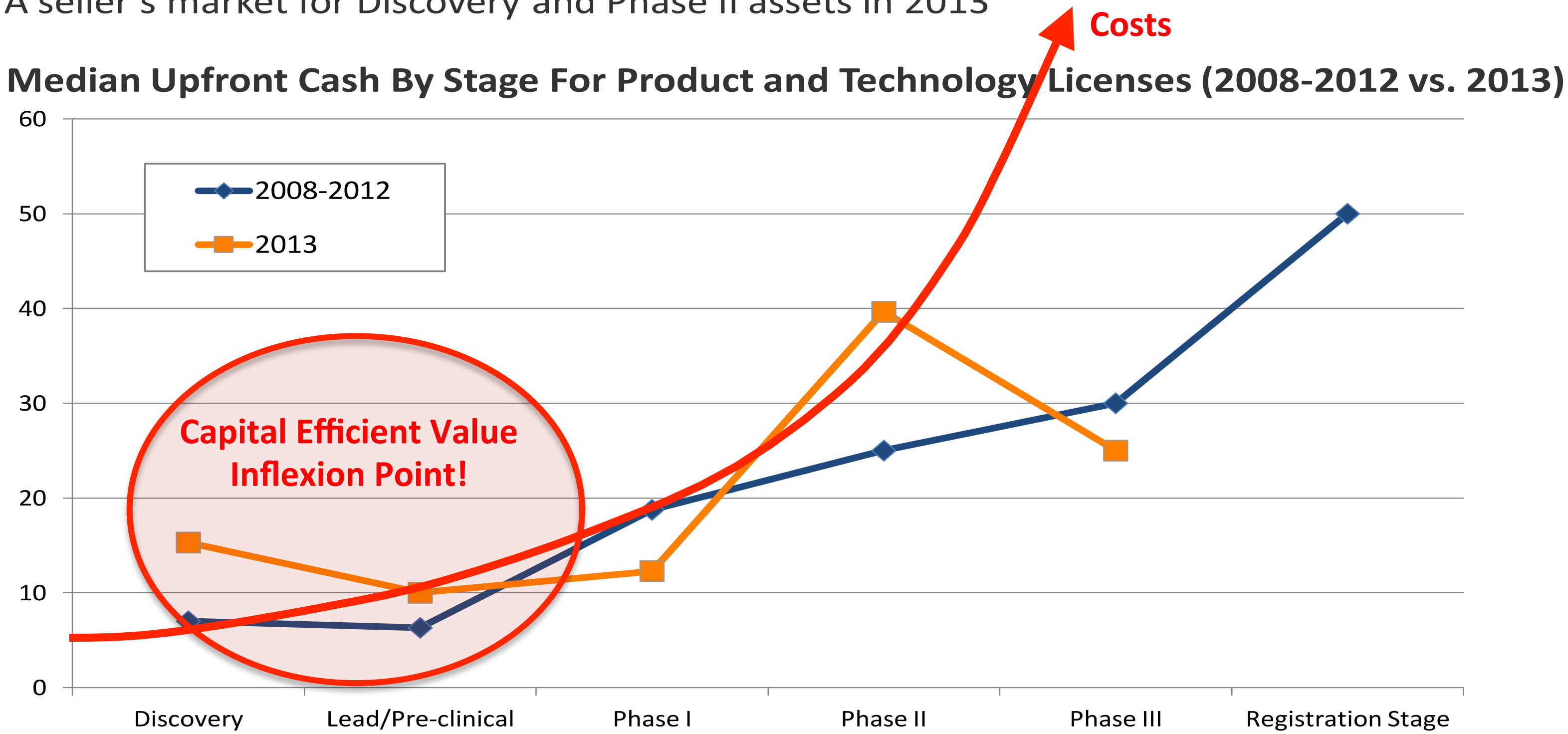
- However....shift from M&A to 'shared-risk' preclinical licensing model
- **50% of top licensing deals in 2013 were Preclinical/Discovery**

Company	Purchased from	Development Stage	Deal Value ($m)	Upfronts
Dainippon Sumitomo	Edison	Research Project	4,238	18
Roche	Molecular Partners	Research Project	1156	60
Roche	Immactics	Pre-clinical	1017	17
Gilead	MacroGenics	Research Project	836	23
Roche	Isis	Research Project	659	30
Pfizer	CytomX	Research Project	635	25
Roche	Prothena	Research Project	585	30
Astrazeneca	Moderna	Discovery	Conf	240

Pharma are paying more for less!

LICENSING 2013: MEDIAN UPFRONT PAYMENTS BY STAGE

A seller's market for Discovery and Phase II assets in 2013



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n= 405 for 2008-2012 and n = 48 for 2013 product and technology licenses (Discovery-Registration stage) with disclosed upfront cash payments
*2013 deals revealed no Registration Stage deals with disclosed upfront deal values

- **Greatest ROI achieved at Preclinical value inflexion point**

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Phylogica: successfully repositioned for preclinical development

Essential requirements for preclinical deals

Feature	PYC
Unique library to generate high quality hits against diverse targets	✔
Platform to address unique target landscape and unmet medical need.	✔
Strong IP barriers and FTO	✔
Scalable low cost production	✔
Differentiated product/disruptive technology	✔
Potent PK/PD/Formulation in appropriate animal models	ongoing
Clear and compelling commercial target product profile (essential!)	

Proprietary integrated discovery platform ready for preclinical development

1 **Drug Delivery Solution**

2 **Phylomer Discovery Engine**

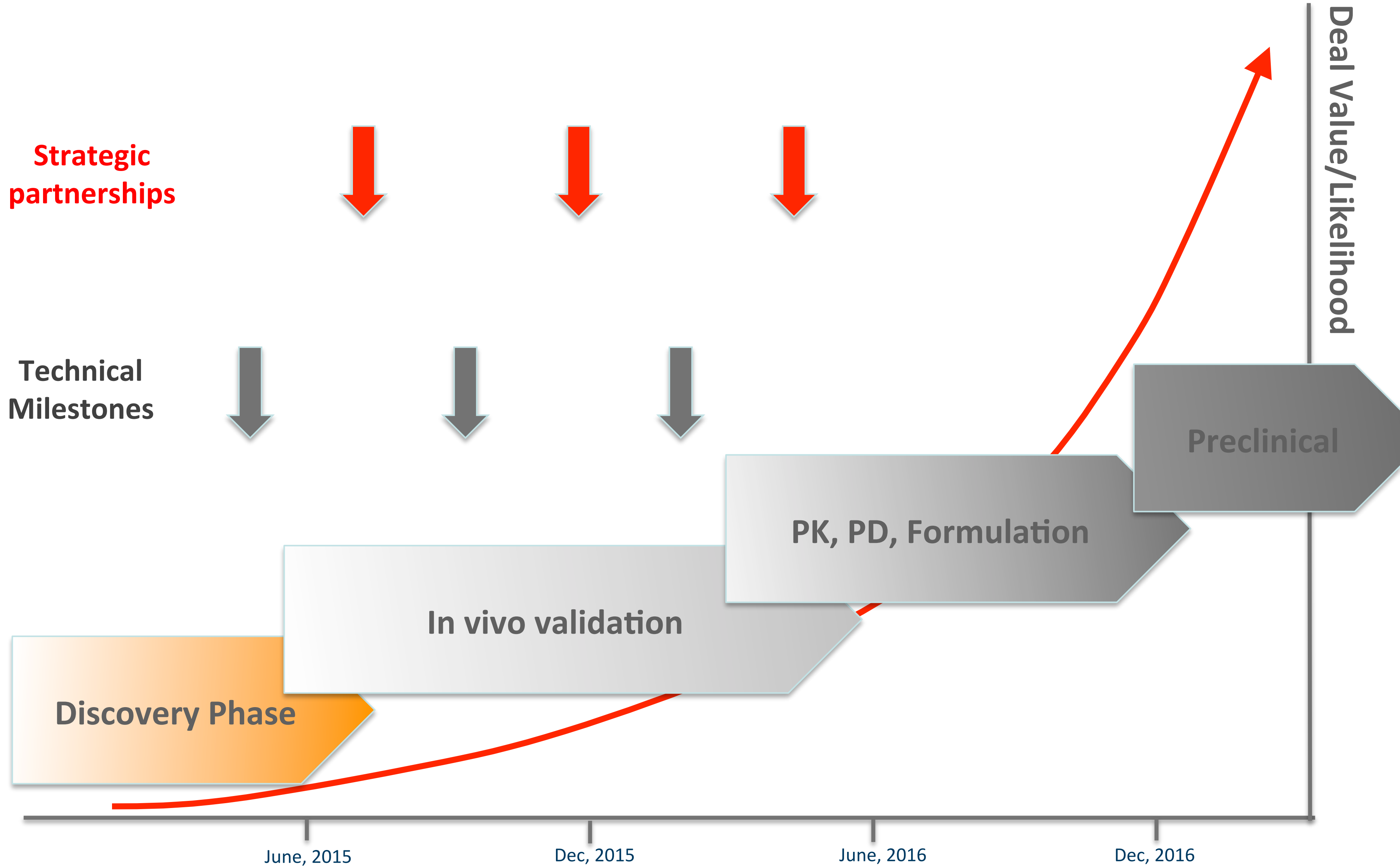
Disruptive technology

Cell Penetrating Peptides + **Phylomers** = 10X expansion in druggable landscape

Fully proprietary molecules

What steps are required to reach a preclinical programme?

3 key phases to preclinical development



Accelerating path to preclinical value inflexion with strategic partnerships

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'Value Adding' strategy to accelerate path to preclinical

Strategic Partnerships

'Value Adding'

Improve delivery of existing drugs

Phylogica's Intracellular Drug Delivery Solution

'Phylomer Therapeutics'

Fully integrated drug delivery/ discovery platform

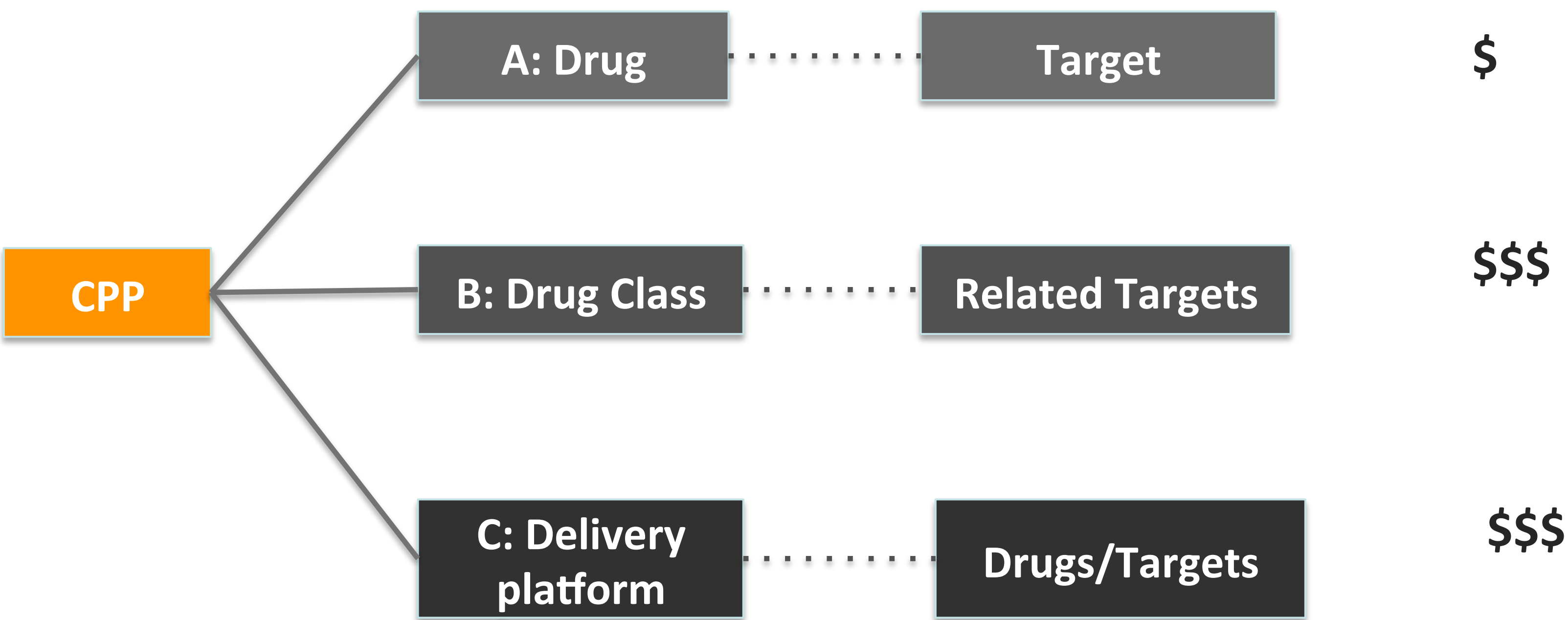
Platform → **Preclinical**

Benefits

- Validation of Phylogica's technology with external partners
- Strategic relationships with selected pharma partners will enhance preclinical licensing/trade-sale opportunities
- Revenue generation to extend capital runway and support pre-preclinical programmes
- Deals should achieve higher values as peptides have already been technically validated

The salami approach to strategic discovery licensing/partnering:

- Partnering strategy generated > $6.5m revenue in 5 yrs
- A single Phylomer CPP provides multiple licensing opportunities

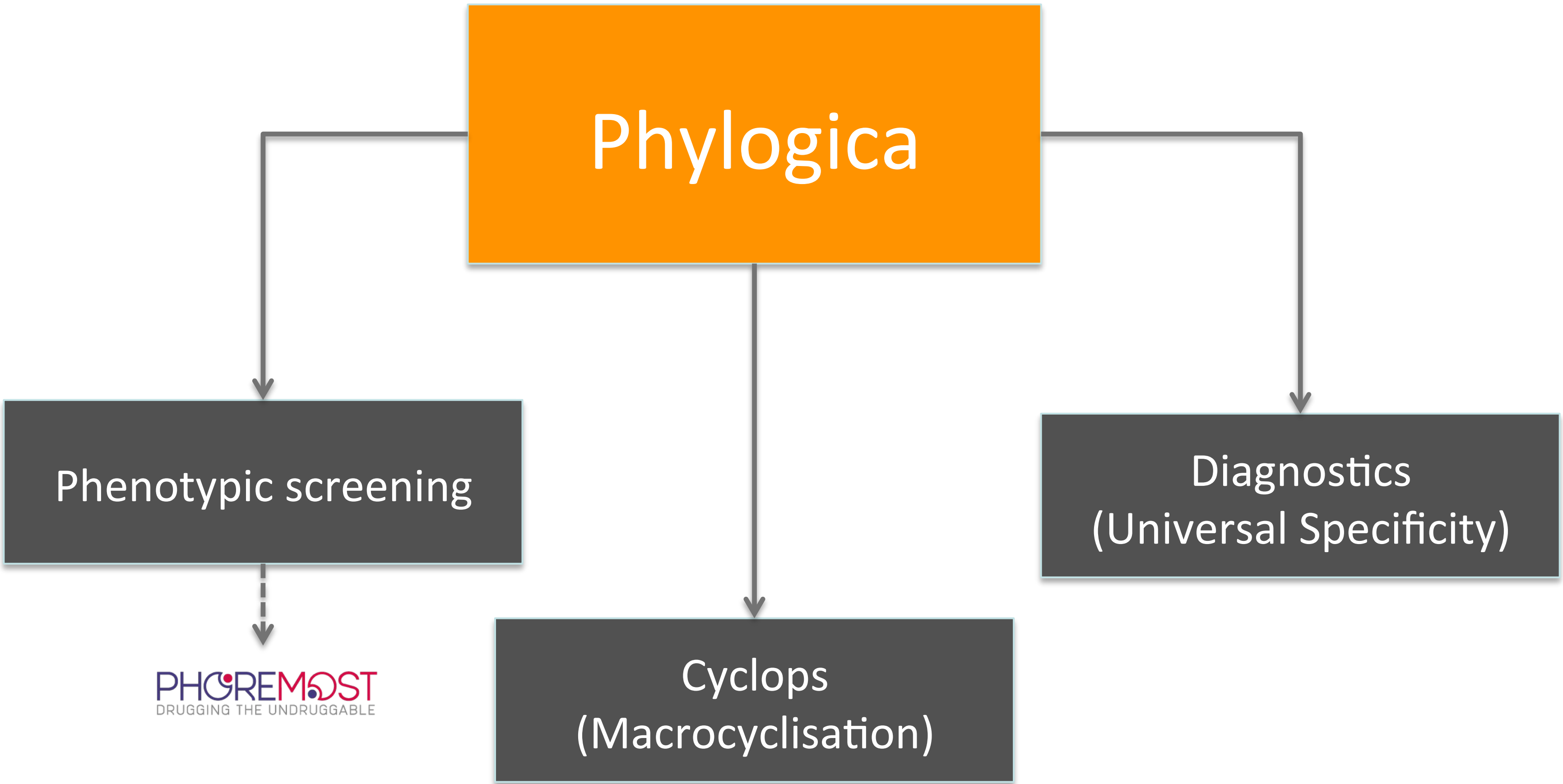


Phoremost deal…very strategic!

- Non-exclusive license to Phylomer libraries for phenotypic screening and small molecule drug development

- Significant benefits flow back to Phylogica;
  - Non-dilutive funds to unlock value in Phylomer platform + 7.5% equity stake
  - Phylogica retains all rights for peptide-based therapeutics
  - Access to **novel** cancer targets and the Phylomer peptides that inhibit their function – can negotiate exclusivity
  - When linked to Phylomer CPPs will generate fully proprietary molecules that feed Phylogica's own oncology pipeline

Spin-Out/Licensing Opportunities



Summary

- Worlds ‘Best-in-Class’ peptides for delivering drugs inside cells
- Phylomers platform can access undruggable landscape inside cells and address major area of unmet need.
- Aiming to have preclinical candidates <2yrs
- Unmatched track record in strategic licensing/partnering agreements with Pharma (eg. Genentech, Phoremost)
- Well positioned to access multiple major value inflexion points

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