

# Phylogica Ltd

## (PYC \$0.037) Speculative Buy

EUROZ

Analyst	Date	Price Target
Ben Laird	20 <sup>th</sup> October 2017	\$0.074/sh

### Company Update

#### Investment case

PYC continues to make steady scientific progress in relation to improving the potency and efficacy of their core Functional Penetrating Peptide (FPP) candidates. The company is also actively broadening the base of applications for the FPP technology both in terms of potential classes of drug cargoes delivered and tissues targeted. In parallel to these advancements PYC's internal iMyc program remains on track to deliver in vivo efficacy data by early CY'18.

Our view remains that PYC is a reasonable probability to ink one or more commercial deals in the medium term with regard to early stage applications of the FPP platform. The iMyc outcome is a high risk high reward proposition that we believe is not priced in at current levels.

**We maintain our Spec BUY recommendation with a price target of \$0.074/sh.**

#### Key points

- PYC's current lead FPP has previously demonstrated potency in delivery of biological cargoes inside a cell of around 37x that of the "gold standard" cell penetrating peptide (Tat).
- This has been demonstrated through assays and model cargoes in vivo.
- Recent assay work announced in September 2017 has yielded a further 5 FPPs that demonstrated significantly greater potency than PYC's current lead FPP.
- PYC's iMyc program is progressing as planned towards animal trials in early 2018. Lead optimisation is underway and showing encouraging signs with respect to potency and Pharmacokinetic (PK) profile.
- PYC also announced in October 2017 that via an original partnership with Roche, a US patent had been granted covering PYC's Phylomers that had the ability to potentially carry drug cargoes into the cells of the brain from the blood stream. This is early stage but is further tangible evidence of the broadening of potential applications of PYC's platform technology.

#### Broadening the base

- PYC is making concerted steps to sharpen up the commercial aspects of the business by applying more automation to lead generation. This in turn accelerates the broadening of the potential applications of the FPP technology.
- The next key step is to achieve a degree of validation for each application moving from 'in vitro' through to 'in vivo' and convert this validation into commercial collaboration deals. We understand that PYC has several possible FPP collaborations that could lead to a commercial outcome in the next 6-12 months.

Phylogica Ltd	Year Ended 30 June	
Share Price	0.037	A\$/sh
Price Target	0.074	A\$/sh
Valuation	0.074	A\$/sh

Shares on issue	2120	m, undiluted
Options on issue	48	m
Market Capitalisation - undiluted	78	A\$m
Enterprise Value	69	A\$m
Debt	0	A\$m
Cash (est end FY'17)	9.9	A\$m

Turnover	1.6m	sh/day
12 Mth Hi-Lo	0.012-0.049	cps
Balance date		June 30th

#### Directors & Management

Ms Stephanie Unwin	CEO
Dr Robert Hayes	CSO
Dr Paul Watt	NED
Dr Bernard Hockings	NED
Dr Rohan Hockings	alt NED

#### Shareholders

Bernard Hockings	27.5%
David Sietsma	6.2%
Australian Land	7.6%
Anthony Barton	4.7%

#### Company Details

100 Roberts Rd  
Subiaco, WA 6008  
Telephone: +61 8 9489 7777  
www.phylogica.com

#### Share Price Chart



#### Disclosure

This analyst declares that he has a beneficial interest in Phylogica Ltd.

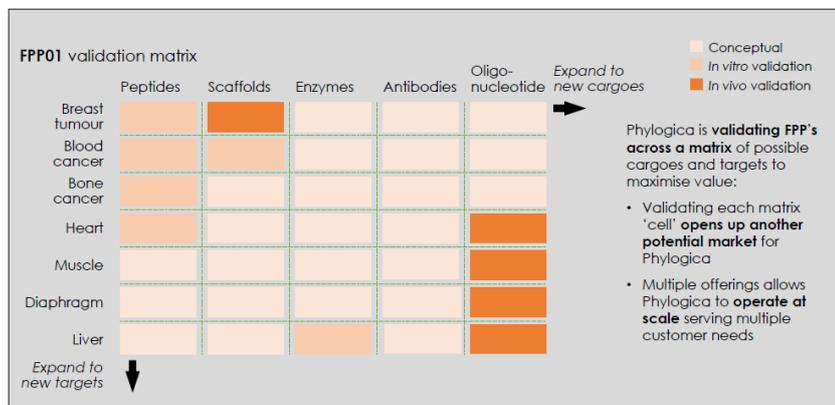
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- The table below outlines PYC's current and planned cargo types and target cells for FPPs and the current level of validation:



Source: Phylogica Ltd presentation Oct 2017.

### Recent "Big Pharma" Interest in the drug delivery space

- In May 2017, unlisted UK biotech Bicycle Therapeutics struck a deal with Bioverativ (recently spun out of Biogen) to apply their particular peptide drug delivery platform technology to the treatment of haemophilia and sickle cell disease.
- This was one application of a platform with multiple possible parallel opportunities.
- Bicycle realised a US\$10m upfront payment with up to US\$410m of milestone payments to run initial screening and in vitro validation that could lead to pre-clinical trials. This is a relatively larger up-front cash transaction for such an early stage collaboration.
- The reason Bicycle Therapeutics could attract such terms is because the drug delivery platform had been validated in terms of other programs attracting significant third party commercial interest with some entering phase 1 clinical trials.
- While we do not assert that PYC should have comparable status now. It does serve to illustrate the value multiplier that can occur upon platform validation.

### Shareprice catalysts

- Achieving further in vivo efficacy for one of PYC's FPPs:** The most advanced prospect to achieve this end is PYC's in house iMyc program. Mice data from the iMyc program is due in late 2017/early2018. A positive result will not only de-risk the iMyc program but will have significant positive implications for the entire PYC platform.
- Partnership deals with credible third parties:** Announcements in this vein will add cash to the balance sheet, provide further third party validation and also broaden the potential application of PYC's FPPs.

### Valuation

We value PYC at \$0.074/sh with a Spec BUY rating.

We ascribe a nominal value of \$50m for PYC's peptide platform, FPPs and other drug candidates. Note that if PYC can land collaboration deals with improved up front metrics to the previous \$1-2m level we could look to ascribe more value to PYC's core platform.

Due to the early stage nature of the iMyc program we choose to value PYC based on a risk weighted potential outcome of a license deal with Pharma Co post successful preclinical trials.

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Table 1 below outlines the value and nature of several license deals completed in the Immuno-oncology (IO) field in 2016 at the preclinical phase of a drug's development. We see the IO field as a relevant comparison to PYC's iMyc program as IO is a relatively new pathway of cancer treatment that has attracted significant Pharma Co interest.

Company	PharamCo Partner	Trial Stage	Field	Drug	Notes	Upfront Terms	Ongoing Terms	Carry on Spend
Jounce Therapeutics	Celgene	Preclinical	Immuno-oncology	JTX-2011	Designed to treat solid tumors as a single agent or in combination	US\$225 plus US\$36m equity investment	Jounce retains 60% US profit share for JTX-2011	50% going forward
							Jounce keeps 25% US profit share for first additional program	
							Jounce keep 50% US profit share for next three additional programs	
Argenx	AbbVie	Preclinical	Immuno-oncology	ARGX-115	Due to it's mechansim of action it can treat a broad range of cancers and could be used with other meds	US\$40m plus potential US\$20m top up	Potential additional US\$625m as various hurdles are met	
							Double digit royalties if drugs reaches sales	
Advaxis	Amgen	Preclinical	Immuno-oncology	ADXS-NEO	Highly targeted, patient specific treatment	US\$40 plus US\$25m equity investment	Potential additional US\$475m as various hurdles are met	
							High single digit royalties if drugs reaches sales	
Flexus	Bristol-Myers Squibb	Preclinical	Immuno-oncology	FLX925	Potential ability for an acquirer to combine the drug with other drug assets.	US\$800m	Potential additional US\$450m as various hurdles are met	

Table 1. Source: Fierce Biotech

The reason for the disparity in up front terms between the Flexus/BMS deal and the rest is because FLX925 can potentially be combined with other drugs to produce compounding beneficial effects. The result being that an acquiring Pharma Co could potentially lift the commercial value of their broad portfolio of drugs as opposed to just a single silo.

We see PYC's iMyc program of potentially being in this category. iMyc acts via a different but complimentary pathway to IO drugs. In laymen's terms IO drugs 'hit the brakes' on tumour progression while iMyc is akin to 'taking the foot off the accelerator'. These two distinct mechanisms of action could in theory be combined to produce improved therapeutic effects of existing drugs on the market.

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Table 2 shows the market capitalisation (where applicable) for the same companies outlined above:

Company	Stock Ticker	Exchange	Market Capitalisation (A\$m)	Notes
Jounce Therapeutics	JNCE	NASDAQ	998	
Argenx	ARGX	Euronext	469	
Advaxis	ADXS	NASDAQ	434	
Flexus	n/a	n/a	1067	IO program taken over, other assets spun out

Table 2. Source Bloomberg

Taking all of the above into account we believe PYC could potentially secure a licensing deal with Pharma Co for an upfront payment of US\$50-150m with longer term milestone payments of US200-400m+ and a double digit royalty stream.

On the basis of the potential upside outlined above vs the risk of successfully completing preclinical trials we derive the following valuation for PYC:

PYC Valuation		
iMyc Program	A\$m	100
Other Assets	A\$m	50
Cash (end FY'17)	A\$m	9.9
<b>Total</b>	<b>A\$m</b>	<b>159.9</b>
SOI (fully diluted)	m	2168
<b>Valuation</b>	<b>A\$/sh</b>	<b>0.074</b>

**We maintain our Spec BUY recommendation and a price target of \$0.074/sh**

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## Contact Details

**Euroz Securities Limited** +61 8 9488 1400

### International Toll Free

(If calling to Euroz from the following Countries)

Germany	0800 1800 554
Switzerland	0800 835 385
Hong Kong	800 900 936
Malaysia	1800 805 002
Singapore	800 6161 759
New Zealand	0800 441 271
USA	18 772 804 390
United Kingdom	08 000 929 851

### Research Analysts

Jon Bishop - Head of Research	+61 8 9488 1481
Andrew Clayton - Resources Analyst	+61 8 9488 1427
Ben Laird - Industrials Director	+61 8 9488 1429
Gavin Allen - Industrials Analyst	+61 8 9488 1413
Jerome Paz - Associate Research Analyst	+61 8 9488 1414

### Institutional Sales

Andrew McKenzie - Executive Chairman	+61 8 9488 1407
Rob Black - Managing Director	+61 8 9488 1423
Jay Hughes - Executive Director	+61 8 9488 1406
Russell Kane - Executive Director	+61 8 9488 1426
Simon Yeo - Executive Director	+61 8 9488 1404
Timothy Bunney - Executive Director	+61 8 9488 1461
Peter Schwarzbach - Executive Director	+61 8 9488 1492
Stacy Kitsantas - Institutional Adviser	+61 8 9488 1486
Nicholas Doherty - Assoc. Institutional Adviser	+61 8 9488 1473

### Private Client Advisers

Chris Webster - Head of Private Clients	+61 8 9488 1412
Ben Statham - Executive Director	+61 8 9488 1417
Brian Bates - Executive Director	+61 8 9346 0314
Cameron Murray - Executive Director	+61 8 9488 1440
James Mackie - Executive Director	+61 8 9488 1416
Lucas Robinson - Executive Director	+61 8 9488 1424
Ryan Stewart - Executive Director	+61 8 9488 1441
Tim Lyons - Executive Director	+61 8 9346 0324
Brett Stapleton - Associate Director	+61 8 9488 1435
Duncan Relf - Associate Director	+61 8 9346 0322
Giles McCaw - Associate Director	+61 8 9488 1462
Michael Bowden - Associate Director	+61 8 9346 0307
Richard Gardner - Associate Director	+61 8 9488 1444
Paul Berson - Associate Director	+61 8 9346 0314
Paul Cooper - Associate Director	+61 8 9346 0316
Phil Grant - Associate Director	+61 8 9346 0306
Lauren Walker - Investment Adviser	+61 8 9488 1495
Michael Bartley - Investment Adviser	+61 8 9346 0352
Scott Fraser - Investment Adviser	+61 8 9488 1436
Steve Wood - Investment Adviser	+61 8 9346 0305
Blair Spaulding - Associate Adviser	+61 8 9488 1418

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