

## Operational Update – June Quarter

*Phylogica (ASX:PYC) is the owner of a peptide library containing the extraordinary richness and diversity of nature. We are using these libraries to develop a drug delivery platform capable of reaching the highest value drug targets located inside cells. Our delivery platform enables drug cargoes to cross the cell membrane and directly reach their target.*

### 31 July 2018:

PYC is pleased to update shareholders on progress made in the June quarter.

#### Highlights:

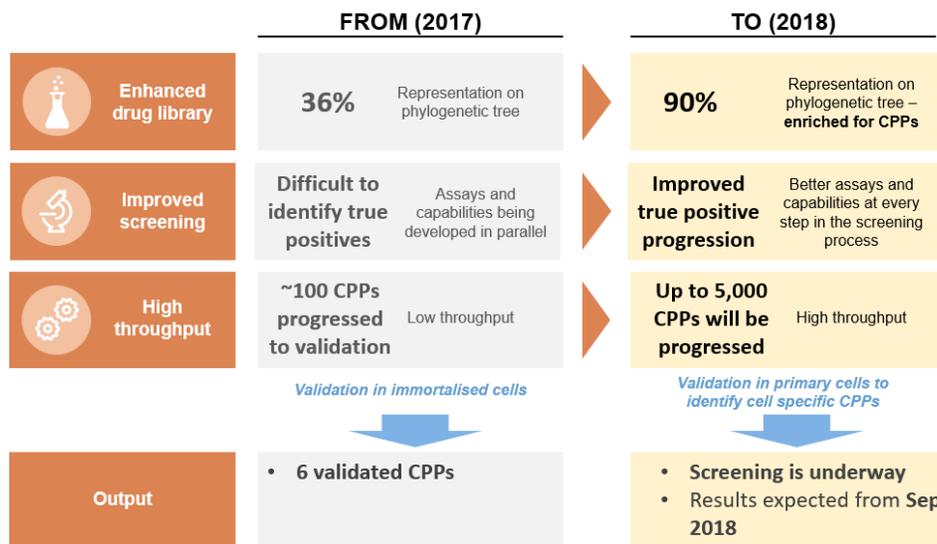
- Successful completion of the proof of concept validation for our intracellular delivery platform across multiple cargo classes and in multiple tissue types both *in vitro* and *in vivo*;
- Initiation of screening our newly enriched libraries to identify 'second generation' CPPs with:
  - o Improved efficiency of delivery;
  - o Cell type specificity; and
  - o Different properties enabling delivery of different classes of therapeutic cargoes;
- Successful results in the peptide vaccine program and expansion beyond oncology indications.
- Publication of our in-house developed methodology for evaluation of CPPs *in vitro* in a peer-reviewed journal (Biomolecules)

#### Context

##### *The last quarter*

The second quarter of 2018 provided the *in vivo* validation of our intracellular delivery platform that was designated as the key short-term milestone in the 2017 strategic review. The *in vitro* and subsequent *in vivo* validation of the Cre recombinase system not only demonstrates that Phylogica's 'first generation' CPPs have the ability to deliver a large cargo into the nucleus of a cell in multiple tissue types but it also provides us with a tool for the rapid *in vivo* evaluation of our 'second generation' CPPs. These 'second generation' CPPs arising from screening and high throughput validation of our enriched libraries will start to become available from September 2018 (see image below).

Phylogica's 2<sup>nd</sup> generation CPPs are expected to be a significant improvement on our 1st



*The next quarter*

With the *in vivo* validation of our platform complete, the third quarter of 2018 is directed towards identification and prioritisation of the programs that Phylogica will pursue to develop therapeutics for clinical evaluation. The principal output that shareholders should expect is a view of the cargo class and indication that Phylogica will pursue as a 'flagship' program. This will be accompanied by a 'roadmap' of the pathway for formal pre-clinical development of this program through to Investigational New Drug (IND) filing. Alongside this 'flagship' program which we will use to build our platform's clinical validation, Phylogica will also identify supporting programs to complement both the 'flagship program' and our CPP platform.

**In vivo platform validation**

Phylogica recently announced (Refer to ASX release Monday 30 July) that it had successfully delivered the Cre recombinase cargo into multiple different tissue types in an *in vivo* model. Realisation of this milestone represents the most significant and technically challenging validation of our intracellular delivery platform that was set in the 2017 strategic review. Our CPPs can deliver a large cargo into multiple different tissue types *in vivo* without any optimisation of the CPP sequence itself, leaving significant scope for further improved delivery through making basic modifications to the CPP's properties, such as increasing its half-life and stability. The Cre model allows us to harvest individual organs from the treated mice and evaluate the efficiency of delivery of the cargo specifically to that tissue – it therefore provides a valuable tool for evaluating the cell-specific CPPs that we are seeking to identify in our second-generation candidates.

## Screening of enriched libraries to identify our 'second generation' CPPs

As part of the 'pivot to platform', Phylogica made a significant capital investment in expanding its peptide libraries to include additional organisms. These enriched libraries are currently being screened to identify our 'second generation' CPPs that we hope will:

- deliver more cargo into cells;
- have the ability to target a certain type of cell for delivery of a therapeutic cargo; and
- have different properties better tailored for the delivery of particular drug cargo classes.

These 'second generation' CPPs will start to be available for validation from September 2018. Phylogica has fully developed tools for rapid evaluation of these CPPs (eg. *in vivo* Cre system and peptide vaccine models) and is in the process of developing other value adding methodologies for identification and validation of our CPPs.

## Peptide vaccine progress

Phylogica recently announced further studies demonstrating the efficacy of its peptide vaccine *in vivo* with demonstration of both:

- i) stimulation of the immune system (expansion of the number of CD8+ T-cells in response to the vaccine); and
- ii) the ability of this immune response (CD8+ T-cells) to identify and kill target cells (those cells expressing the antigen that was introduced to the immune system by the CPP)

at levels comparable to a strong immune response to a viral infection (see ASX announcement of 27 July 2018).

## Conclusion

The broader industry trend towards finding intracellular delivery solutions is very encouraging for Phylogica (see CEO letter released 9 July 2018 for a further description of this trend). The focus on CPPs as a preferred delivery option in certain settings is gaining momentum. The special edition of Biomolecules focused on CPPs and to which Phylogica was a contributor (see ASX announcement of 16 July 2018) is a demonstration of this increasing attention. The path for Phylogica to achieve recognition of the value of its platform in the context of formal pre-clinical and subsequently clinical validation is clear and will enable the Company to demonstrate its point of differentiation over other CPPs in a competitive setting.

**ENDS**

For further information, please contact:

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## **About Phylogica**

Phylogica Limited (ASX: PYC) is a biotech company focused on commercialising its intracellular drug delivery platform and screening its peptide libraries to identify drug cargoes for development against a wide range of disease targets. Phylogica controls access to the world's most structurally diverse source of peptides which have the ability to act as effective drug delivery agents and drug cargoes, penetrating cell walls to reach previously 'undruggable' targets across a range of disease types. Phylogica's platform of proprietary cell penetrating peptides has been validated across multiple animal models for the ability to deliver a diverse range of drug cargoes into cells. The company has collaborations with several pharmaceutical companies including Roche, Medimmune, Pfizer, Janssen and Genentech.

## **Forward looking statements**

Any forward-looking statements in this ASX announcement have been prepared on the basis of a number of assumptions which may prove incorrect and the current intentions, plans, expectations and beliefs about future events are subject to risks, uncertainties and other factors, many of which are outside Phylogica's control. Important factors that could cause actual results to differ materially from assumptions or expectations expressed or implied in this ASX announcement include known and unknown risks. Because actual results could differ materially to assumptions made and Phylogica's current intentions, plans, expectations and beliefs about the future, you are urged to view all forward-looking statements contained in this ASX announcement with caution. Phylogica undertakes no obligation to publicly update any forward-looking statement whether as a result of new information, future events or otherwise.

This ASX announcement should not be relied on as a recommendation or forecast by Phylogica. Nothing in this ASX announcement should be construed as either an offer to sell or a solicitation of an offer to buy or sell shares in any jurisdiction.

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**Phylogica Ltd**

ABN 48 098 391 961

## Appendix 4C

### Quarterly report for entities subject to Listing Rule 4.7B

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10, 01/09/16

**Name of entity**

PHYLOGICA LIMITED

**ABN**

48 098 391 961

**Quarter ended ("current quarter")**

30 June 2018

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (12 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) research and development	(1,117)	(4,823)
(b) product manufacturing and operating costs	-	-
(c) advertising and marketing	-	-
(d) leased assets	-	-
(e) staff costs	(266)	(1,002)
(f) administration and corporate costs	(252)	(1,521)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	43	119
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Government grants and tax incentives	8	2,219
1.8 Other - Consulting fees business development strategy	(200)	(1,700)
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(1,784)</b>	<b>(6,708)</b>
<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	(210)
(b) businesses (see item 10)	-	-
(c) investments	-	-
(d) intellectual property	-	-
(e) other non-current assets	-	-

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (12 months) \$A'000</b>
2.2 Proceeds from disposal of:		
(a) property, plant and equipment	-	-
(b) businesses (see item 10)	-	-
(c) investments	-	-
(d) intellectual property	-	-
(e) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
<b>2.6 Net cash from / (used in) investing activities</b>	<b>-</b>	<b>(210)</b>
<b>3. Cash flows from financing activities</b>		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	135
3.4 Transaction costs related to issues of shares, convertible notes or options	-	(10)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
<b>3.10 Net cash from / (used in) financing activities</b>	<b>-</b>	<b>125</b>
<b>4. Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1 Cash and cash equivalents at beginning of quarter/year to date	4,931	9,940
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(1,784)	(6,708)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	-	(210)
4.4 Net cash from / (used in) financing activities (item 3.10 above)	-	125
4.5 Effect of movement in exchange rates on cash held	-	-
<b>4.6 Cash and cash equivalents at end of quarter</b>	<b>3,147</b>	<b>3,147</b>

5. <b>Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1 Bank balances	515	260
5.2 Call deposits	2,632	4,671
5.3 Bank overdrafts		
5.4 Other (provide details)		
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>3,147</b>	<b>4,931</b>

6. <b>Payments to directors of the entity and their associates</b>	Current quarter \$A'000
6.1 Aggregate amount of payments to these parties included in item 1.2	266
6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2	

Directors Fees, Consulting Fees and Superannuation

7. <b>Payments to related entities of the entity and their associates</b>	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	-
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

8. <b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

N/A

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Research and development	1,190
9.2	Product manufacturing and operating costs	-
9.3	Advertising and marketing	-
9.4	Leased assets	-
9.5	Staff costs	320
9.6	Administration and corporate costs	220
9.7	Other	-
<b>9.8</b>	<b>Total estimated cash outflows</b>	<b>1,730</b>

10.	Acquisitions and disposals of business entities (items 2.1(b) and 2.2(b) above)	Acquisitions	Disposals
10.1	Name of entity	-	-
10.2	Place of incorporation or registration	-	-
10.3	Consideration for acquisition or disposal	-	-
10.4	Total net assets	-	-
10.5	Nature of business	-	-

### Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.



Sign here: \_\_\_\_\_  
(Company secretary)

Date: 31 July 2018

Print name: Kevin Hart

### Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standard applies to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.