PHYLOGICA

BREAKTHROUGH PEPTIDE THERAPEUTICS

Phylogica's intracellular targeting drug achieves significant reduction in tumours in animal model of cancer

Perth, Australia 5 November 2015: A leading cancer expert based at the Harry Perkins Institute in Perth has conducted an expanded study in a mouse model of breast cancer that has:

- *confirmed Phylogica's peptide-OmoMyc fusion significantly reduces tumour size following direct injection of the drug into the tumour*
- *demonstrated that inhibition of tumour growth was sustained even after cessation of treatment – suggesting prolonged impact of drug*
- *No evidence for Phylomer-associated toxicity was observed*
- *confirmed Phylogica at forefront of efforts to develop first-in-class biologics inhibitors of Myc – a highly sought after cancer target*

The results of this experiment confirm that Phylogica's Cell Penetrating Phylomers (CPPs) can provide access to intracellular drug targets in animals. With this proof of concept the Company's future focus will be on:

- *establishing the efficacy of Phylogica's own proprietary cargoes against high value intracellular targets*
- *confirming the tumour inhibition seen in this model is replicable when the CPP-cargo combination is delivered systemically (eg. Intravenously) rather than by direct injection*
- *continuing the company's transition from concept to product for evaluation in a clinical trial.*

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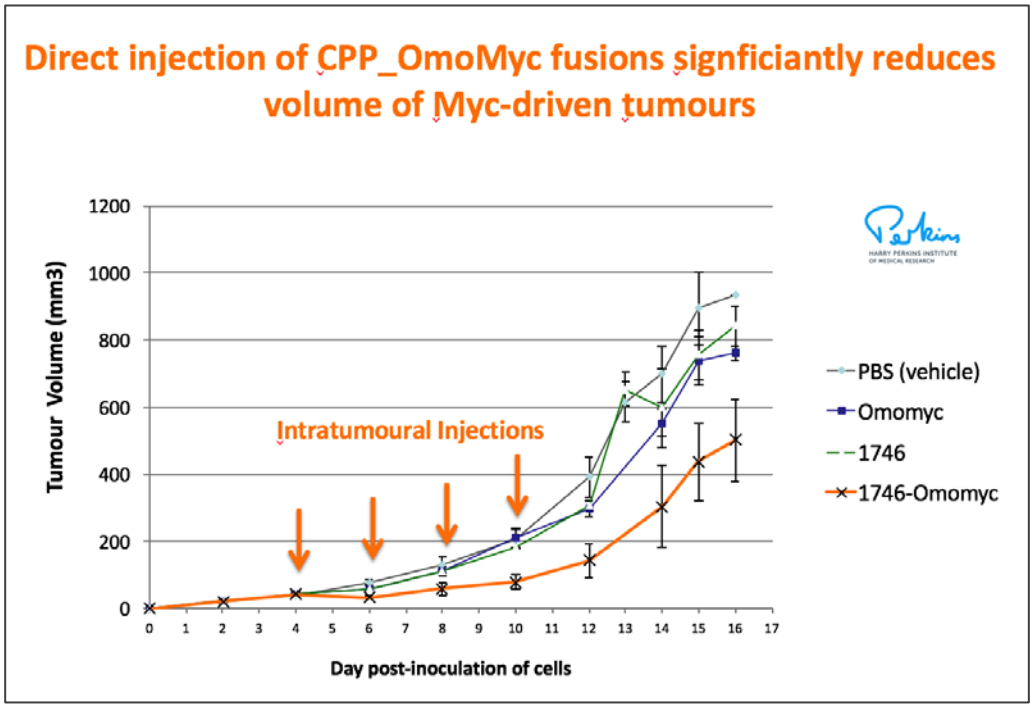
A follow-on study by one of Australia's leading breast cancer experts, Associate Professor Pilar Blancafort, a Laboratory Head at the Harry Perkins Institute of Medical Research, reproduced findings in an animal model of breast cancer undertaken earlier this year.

The overall aim was to show that a biologics drug called Omomyc fused to a cell penetrating Phylomer (1746) could be efficiently delivered inside cells to treat cancer. The 1746-Omomyc fusion inhibits the activity of MYC – a highly validated intracellular cancer target, expressed in many common cancers that has proven to be undruggable with conventional therapies.

In the expanded study, Professor Blancafort tested the activity of the 1746-Omomyc drug in an animal model of breast cancer. The animal model used triple negative breast cancer cells which are typically resistant to treatment with conventional drugs. The objective of the experiment was to extend the initial pilot using larger numbers of animals to establish greater statistical significance.

In a notable outcome, Professor Blancafort observed a statistically significant reduction in the size of tumours injected directly with Phylogica's 1746-OmoMyc fusion when compared to controls (Figure 1 below). This outcome represents successful delivery of the primary objective of the experiment and provides Phylogica with proof of concept for the ability to deliver a biologic cargo into the intracellular environment. Professor Blancafort also observed that inhibition of tumour growth was sustained even after cessation of treatment suggesting prolonged impact of the 1746-OmoMyc drug.



Legend: Test (1746-Omyc) and controls (Omomyc alone, 1746 alone, vehicle alone) injected from day 4 every 2 days into T11 syngeneic tumour grafts at a dose of 40 nanomoles per injection (12 animals per cohort). Phylomer 1746-Omyc fusion (orange), Omomyc alone (blue), 1746 peptide alone (green) or vehicle (grey) controls.

Professor Blancafort commented "We were very pleased to observe such strong effects of the 1746-OmoMyc fusion against a particularly aggressive multi-drug resistant tumour. The fact these effects were sustained in the absence of drug combined with the lack of evidence for drug-related toxicity in animals treated with 1746-Omomyc is very encouraging"

Dr Paul Watt, Chief Scientific Officer of Phylogica said, "By penetrating into the actual cancer cell we have a potentially novel and highly effective means of killing cancer cells. We are delighted the results of the pilot study were independently reproduced with larger cohorts of animals."

Phylogica's CEO, Dr Richard Hopkins commented, "These results confirm Phylogica remains at the forefront of efforts to develop first in class therapies against Myc-dependent cancers. Drugs against Myc are highly sought after given its critical role in most common human cancers and so our approach has the potential to address a major unmet medical need.

About Phylogica

Phylogica Limited (ASX: PYC) is a biotechnology company based in Perth, Australia with a world-class drug discovery platform harnessing the rich biodiversity of nature to discover novel peptide therapeutics from the most structurally diverse libraries available. The Company listed on the ASX in 2005 as a spin out from the Telethon Kids Institute (Perth, Australia) and the Fox Chase Cancer Centre (Philadelphia, USA). The Company's drug discovery platform is based on its proprietary Phylomer® libraries containing over 400 billion unique natural peptides, which have been optimised by evolutionary selection to adopt stable drug-like structures. Phylogica offers fully integrated drug discovery services to the pharmaceutical industry utilising its Phylomer® libraries and proprietary screening technologies in exchange for licence fees, milestones and royalties. Partners from discovery alliances within the last 5 years include Roche, MedImmune, Pfizer, Janssen, Cubist Pharmaceuticals and Genentech

About the Harry Perkins Institute of Medical Research

As Western Australia's premier adult medical research institute the priority of the Harry Perkins Institute of Medical Research is to recruit and build internationally renowned highly skilled research teams, comprising doctors, scientists, biostatisticians and pathologists, working together with cutting edge technologies to make new discoveries and translate this new knowledge into more effective treatments and cures. Closely linked to the major teaching hospitals, the Perkins is uniquely positioned to fast track the development of new treatments and new ways to diagnose cancer and other diseases, including tests that enable doctors to select the best approach for each patient. This enhances our ability to match individual patients to the treatments most likely to work for them with the aim of making personalised treatment a reality. www.perkins.org.au

About MYC

Myc is one of the first cancer causing proteins (oncoproteins) to be discovered because of its profound effects, on the growth and differentiation of cancer cells, yet it not been successfully targeted in 30 years with conventional therapies. The MYC gene is the most frequently over-expressed cancer causing gene (oncogene), being amplified in more than half of common cancers such as breast, lung, lymphoma, leukaemia and brain tumours. Many of these cancers have an absolute dependence on Myc for continued growth and are therefore described as being 'addicted' to Myc. This makes MYC a very attractive drug target avoiding problems of resistance to chemotherapy and addressing a major unmet need.