



# Phylogica

Investor Presentation  
May 2018

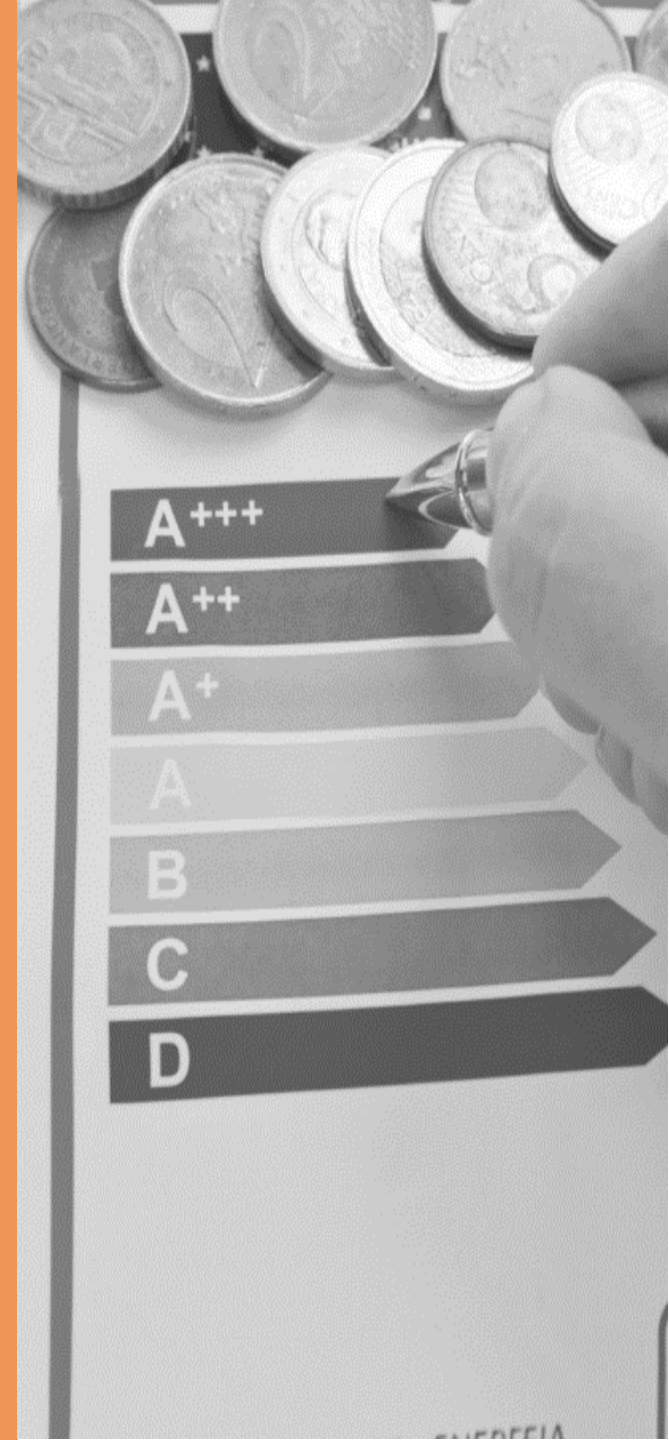
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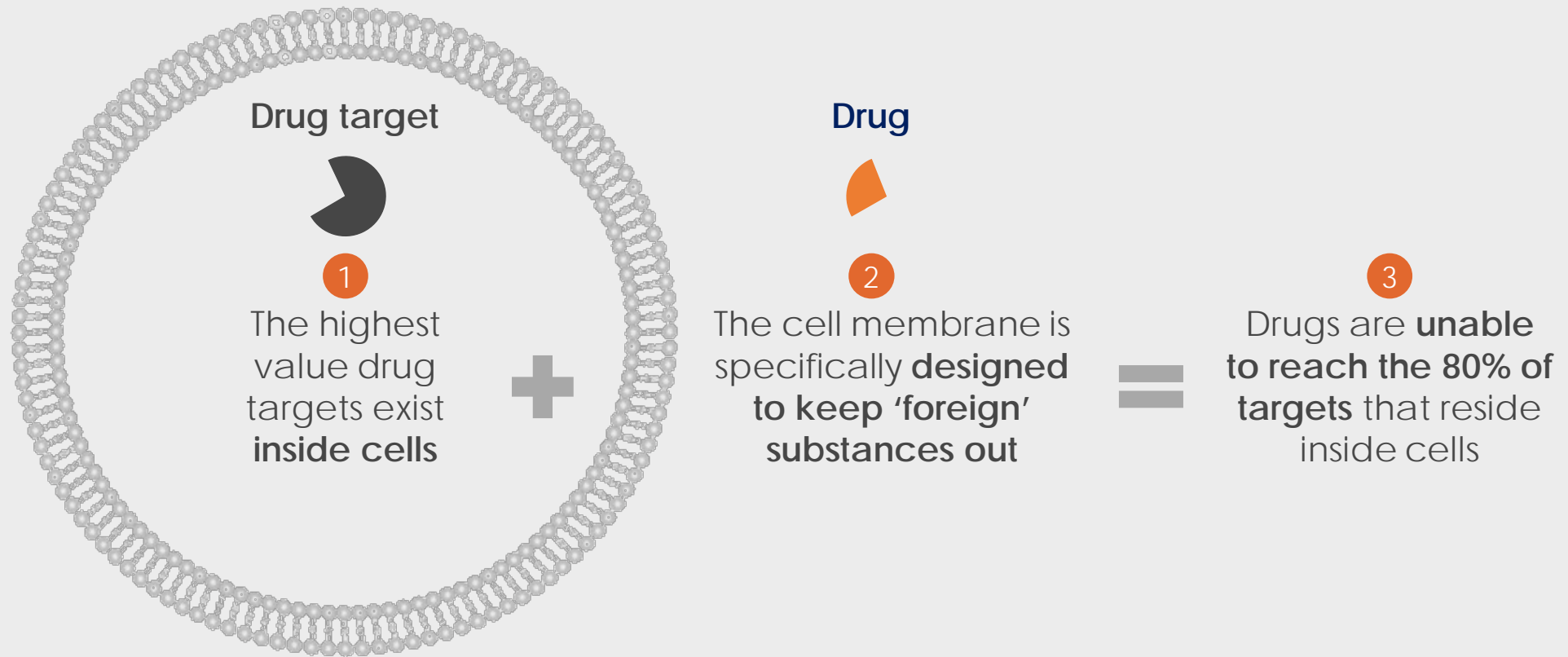
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# The problem – the ‘undruggable target’



**The insight:** in 1988, it was discovered that HIV was able to cross the cell membrane and that this ability was driven by a fragment of its genome called ‘Tat’

# Phylogica's solution – leverage nature



## Build a unique drug library with 500 billion peptides

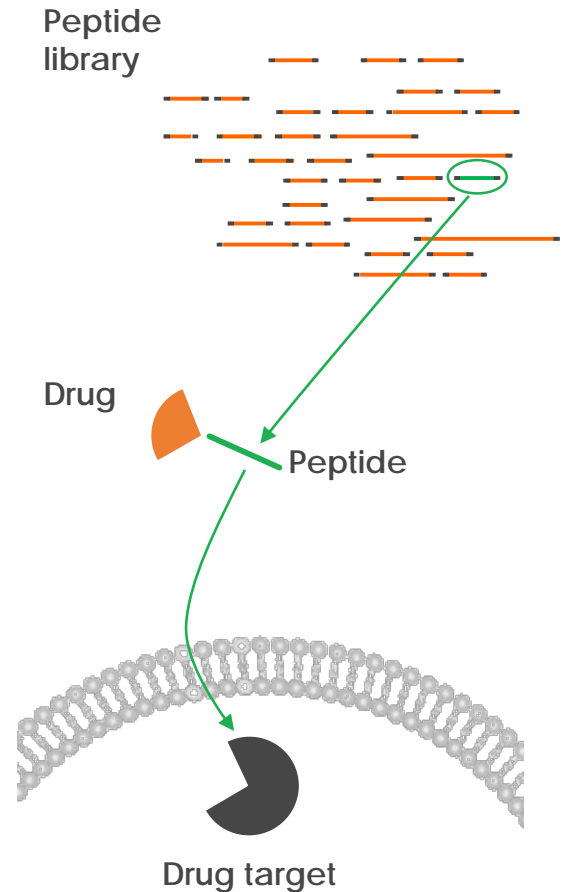
- Our core patent underpins our drug library based on the genomes of viruses, bacteria and other organisms
- We cut the genome of each organism into fragments to create a library of 500 billion peptides

## Screen for the rare peptides that can cross the cell wall

- Evolutionary pressures on these peptides over millions of years have enriched them for drug like properties
- Specifically, many viruses are known to have the ability to cross the cell wall
- We leverage nature's solution by screening our libraries for rare peptides with the ability to cross the cell wall

## Use peptides to 'tow' a drug cargo across the cell wall

- Join the peptide with the ability to cross the cell wall to a drug 'cargo' to form a peptide-drug conjugate





# Validation of platform across multiple contexts, including in animal studies

## Concept

## Disease model

## Outcome

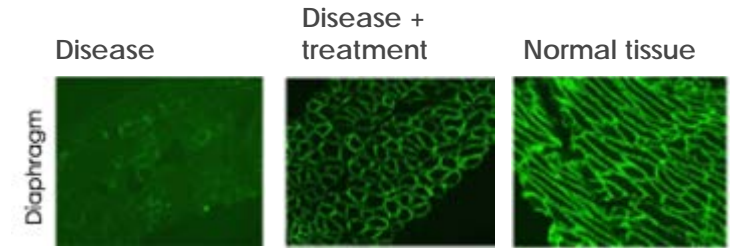
Cell penetrating peptide

+ Drug cargo

= Drug conjugate

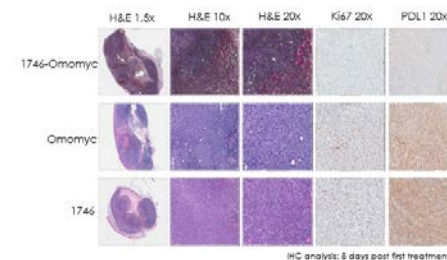
Duchenne  
Muscular  
Dystrophy

Muscle-cell  
successfully  
treated by  
FPP-cargo



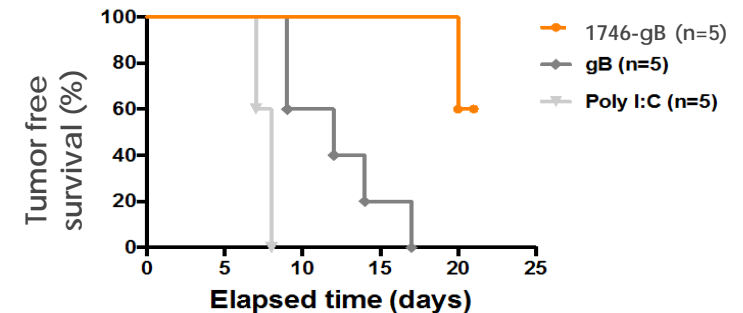
Breast  
Cancer

Breast cancer  
inhibited by  
FPP-cargo  
through  
intracellular  
target



Melanoma

FPP-cargo  
treatment  
increased  
survival time  
by 100%



Note: FPP = Functional Penetrating Peptide

# What's new in 2018?

2017

## Drug libraries



36% of phyla represented  
– not specifically  
designed for FPPs

## Screening tools



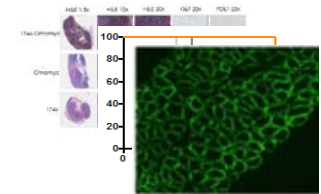
Manual – low  
throughput

## Analytics capability



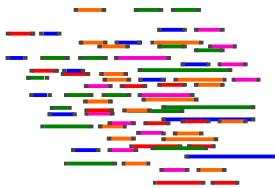
Insufficient data to  
use advanced  
analytics

## In vivo outcomes



Very encouraging –  
clear point of  
differentiation

2018



93% of phyla represented  
– specifically enriched for  
FPPs



Automated –  
high throughput



Advanced analytics  
enabled – move  
from observational  
to predictive power

**Coming  
soon...**

# Near term milestones

3Q2018

4Q2018

Delivery Platform

★  
Systemic delivery of  
Cre in vivo

Cancer vaccine

★  
T-cell expansion  
in vivo

CRISPR

★  
Delivery of Cas9  
ex vivo

Target Product Profile

★  
Evaluation of PK  
extension in vivo



# Investment highlights

