



Phi Pharma company goal

To develop novel peptide drug conjugate drugs that overcome the limitations of antibody drug conjugates (ADCs), thus revolutionising the treatment of several important cancers

Key points

- The Problem
 - Despite recent advances many cancers remain poorly treated
 - Elderly patients have poorer outcomes (AML 5yr survival: <65 = 44.8% ∴ >65 = 6.3%)
 - Antibody drug conjugates have proven the targeting concept but have issues
 - Long half-life; slow penetration; complex linkers; highly potent toxins; expensive manufacture
- The solution
 - A new class of small drug conjugates with a new class of sugar based targets (GAGs)
 - Rapidly internalisation in tumour cells and rapid elimination from blood
 - Broader choice of suitable payloads and fully chemically synthesized
- Why now?
 - Marketed ADCs have proven targeted drug conjugate concept
 - 3rd party R&D has confirmed relevance of GAG targets
 - Preclinical POC of Phi peptide drug conjugates has been demonstrated

Phi targeting peptide concept

Limit systemic exposure to payload – short plasma half life

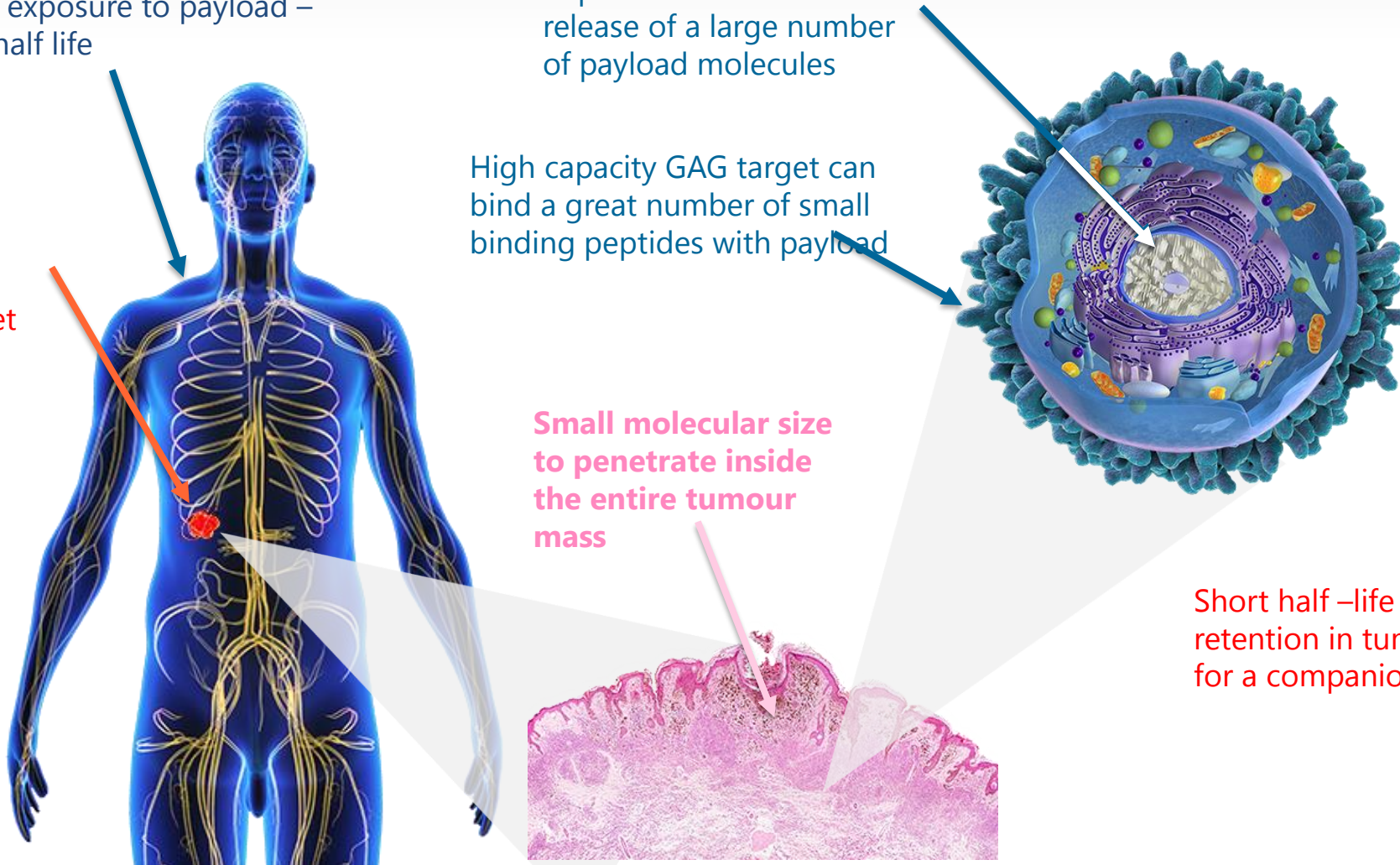
Extend tumour exposure to payload by binding to target

Rapid internalisation and release of a large number of payload molecules

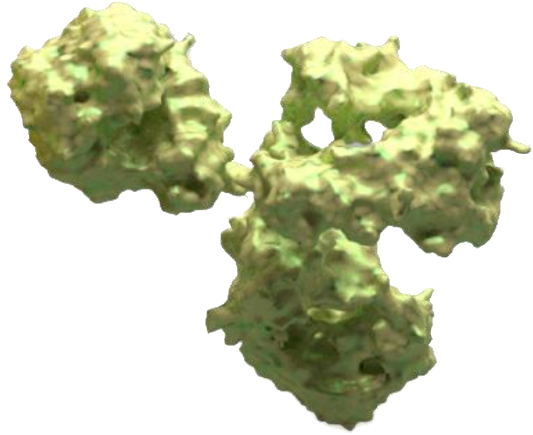
High capacity GAG target can bind a great number of small binding peptides with payload

Small molecular size to penetrate inside the entire tumour mass

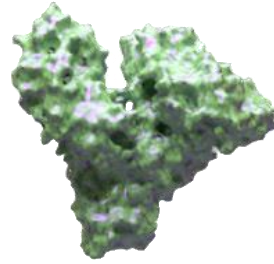
Short half –life but with retention in tumour is ideal for a companion diagnostic



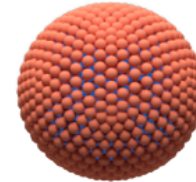
Size matters



**mAb
molecule
(ADC)**



Albumin



**Iron oxide
nano-particle**



**Peptide
(PhiDC)**

Summary status

- A novel product platform: multiple high potential opportunities in oncology
- Series A round of US\$ 4 million secured
- POC demonstrated *in vivo* and *ex vivo* with prototype conjugate
- US patent issued
- Targeting peptides preferentially bind to human tumour cells
- Targeting peptides internalize within minutes
- Target affinity improved 500 fold and is now in clinically relevant double digit nanomolar range
- Lead candidate drug conjugate selection milestone end 2018
- Series B financing anticipated in 2019
- Formal preclinical development and clinical trial in 2019 – 2021