



Avacta Group plc

Preliminary Results  
for the Period Ending December 31<sup>st</sup>, 2022

25<sup>th</sup> April, 2023

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# **Avacta Group plc Preliminary Results**

for the Period Ending December 31<sup>st</sup>, 2022

# Preliminary Results Highlights



## ***Therapeutics – significant clinical and pre-clinical progress***

- Avacta's lead pre|CISION™ drug, AVA6000 – a tumour microenvironment activated form of a chemotherapeutic agent, doxorubicin:
  - Favourable safety profile in the first four patient cohorts.
  - Doxorubicin detected in tumour biopsies at therapeutic levels.
  - Principle of FAP activation of pre|CISION™ drugs confirms tumour targeting potential of the platform.
- The next pre|CISION™ drug candidate, AVA3996, a tumour-targeted proteasome inhibitor based on bortezomib:
  - Pre-clinical data show FAP activated cell killing in in-vitro models.
  - In-vivo models of efficacy show that AVA3996 is as effective as bortezomib and that the drug is better tolerated.
- Good pre-clinical progress in both key research partnerships AffyXell (Daewoong Pharmaceutical) and LG Chem.
- Therapeutics Division relocated to Scale Space, in Imperial College's White City Campus.

## ***Diagnostics – significant progress towards establishing a fully integrated in vitro diagnostics business with first transformational acquisition***

- Diagnostics Division initiated a long-term 'buy and build' strategy with a vision to build an in-vitro diagnostics ('IVD') business, with global reach, supporting physicians and broadening access through decentralised testing.
- In October 2022, the Group acquired Launch Diagnostics, the UK's largest independent IVD distributor serving hospital pathology laboratories in the UK and France for an initial cash consideration of £24 million payable upon completion, in addition to consideration for other short-term non-operating assets of £0.9 million.

## ***Corporate – board further strengthened with drug development expertise***

- Dr Christina Coughlin, a medical oncologist and immunologist and Chief Executive Officer of CytolImmune Therapeutics, Inc., appointed as Non-executive Director to the Board of Directors of Avacta in March 2022.

# Preliminary Results for the Year Ending 31<sup>st</sup> December 2022



## Income Statement

	2022 (£m)	2021 (£m)
<b>Revenue</b>	<b>9.65</b>	<b>2.94</b>
<b>Gross profit</b>	<b>7.24</b>	<b>2.02</b>
Research/Manufacturing costs	(11.10)	(15.62)
S, G & A costs	(11.23)	(8.14)
<b>Adjusted EBITDA</b>	<b>(15.09)</b>	<b>(21.74)</b>
Amortisation/Depreciation	(8.18)	(2.28)
SBP/Share of AffyXell losses	(9.38)	(5.06)
<b>Operating loss</b>	<b>(32.65)</b>	<b>(29.08)</b>
Convertible bond	(8.99)	-
Net financial costs	-	(0.11)
Taxation	2.10	2.82
Discontinued operation	0.35	0.06
<b>Retained loss</b>	<b>(39.19)</b>	<b>(26.31)</b>
Loss per share	15.48p	10.57p

# Preliminary Results for the Year Ending 31<sup>st</sup> December 2022



## Operating Segment Analysis

	2022 (£m)				2021 (£m)			
	Dx	Tx	Central	Total	Dx	Tx	Central	Total
<b>Revenue</b>	<b>4.17</b>	<b>5.48</b>	<b>-</b>	<b>9.65</b>	<b>0.78</b>	<b>2.16</b>	<b>-</b>	<b>2.94</b>
<b>Gross profit</b>	<b>1.89</b>	<b>5.35</b>	<b>-</b>	<b>7.24</b>	<b>0.56</b>	<b>1.46</b>	<b>-</b>	<b>2.02</b>
Research/Manufacturing costs	(2.31)	(8.79)	-	(11.10)	(5.81)	(9.81)	-	(15.62)
S, G & A costs	(4.71)	(2.40)	(4.12)	(11.23)	(2.89)	(1.90)	(3.35)	(8.14)
<b>Adjusted EBITDA</b>	<b>(5.13)</b>	<b>(5.84)</b>	<b>(4.12)</b>	<b>(15.09)</b>	<b>(8.14)</b>	<b>(10.25)</b>	<b>(3.35)</b>	<b>(21.74)</b>
Amortisation/Depreciation	(6.88)	(1.28)	(0.02)	(8.18)	(1.32)	(0.95)	(0.01)	(2.28)
SBP/Share of AffyXell losses	(1.44)	(3.86)	(4.08)	(9.38)	(0.99)	(2.98)	(1.09)	(5.06)
<b>Operating loss</b>	<b>(13.45)</b>	<b>(10.98)</b>	<b>(8.22)</b>	<b>(32.65)</b>	<b>(10.45)</b>	<b>(14.18)</b>	<b>(4.45)</b>	<b>(29.08)</b>

\* Excludes Animal Health in both periods

# Preliminary Results for the Year Ending 31<sup>st</sup> December 2022



## Cash Flow

	2022 (£m)	2021 (£m)
<b>Cash/short term deposits at 1 January</b>	<b>26.19</b>	<b>47.91</b>
Operating cash outflows	(16.43)	(20.51)
Investing activities	(25.04)	(1.31)
Financing activities	56.90	0.23
Other	0.16	(0.13)
<b>Cash/short term deposits at 31 December</b>	<b>41.78</b>	<b>26.19</b>

- Investing activities relates to the Launch acquisition, disposal of Animal Health and capex.
- Financing activities includes the convertible bond £55.0m at 5% discount, placing and open offer less transaction costs.
- Cash at 31 March 2023 is circa £39.0 million with benefit post-year end of receiving the R&D tax credits refund from FY21 of £2.8 million.

# Preliminary Results for the Year Ending 31<sup>st</sup> December 2022



## Balance Sheet

	2022 (£m)	2021 (£m)
Non-current assets	37.10	12.27
Current assets (exc. cash/deposits)	13.77	7.26
Cash/deposits	41.78	26.19
Assets held for sale	-	1.28
Current liabilities	(14.00)	(4.37)
Non-current liabilities	(60.21)	(1.41)
<b>Net assets</b>	<b>18.44</b>	<b>41.22</b>

- Non-current assets include PPE, IFRS16 leases re Avacta facilities, goodwill on the Launch acquisition and investment in AffyXell.
- Current assets include FY21 and FY22 R&D tax credit and Launch debtors/inventories
- Liabilities (current & non-current) include the following:
  - IFRS 16 lease liabilities of £5.22 million.
  - Convertible bond – debt value £18.73 million
  - Convertible bond – derivative value £39.10 million
- Convertible bond outstanding following 2<sup>nd</sup> amortisation on 21 April is now down to £46.8 million.



# **Avacta Therapeutics**

## *Business Update*

Improving cancer patients' lives through innovation and partnership

## VISION

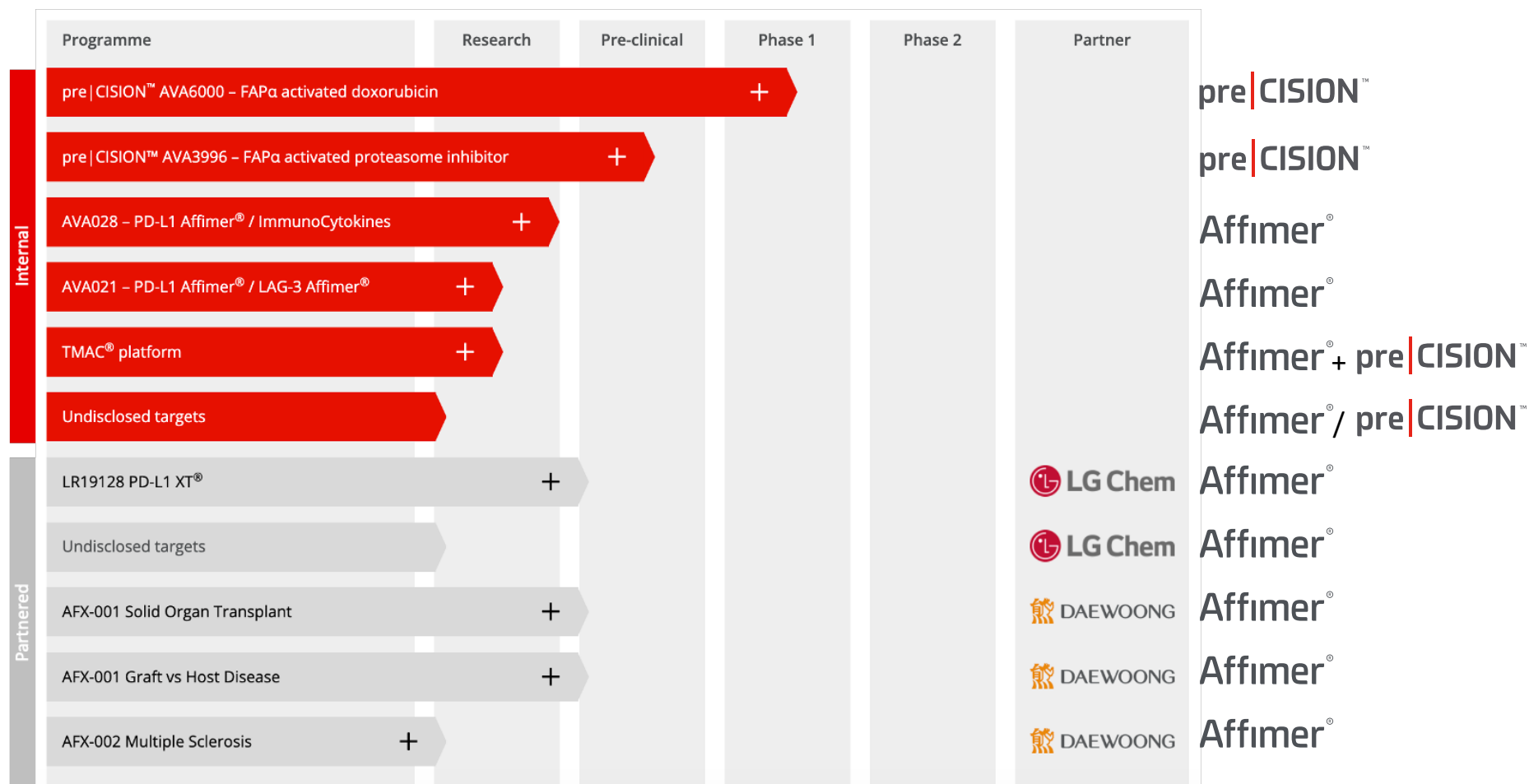
Our vision is to deliver innovative oncology drugs that transform treatment outcomes to improve cancer patients' lives.



## STRATEGY

- Use our proprietary pre|CISION™ and Affimer® platforms to develop best-in-class and first-in-class cancer therapies.
- Grow our clinical pipeline alongside selective and focused out-licensing.
- Combine our in-house drug development expertise with a focused partnership strategy.

# Avacta Therapeutics Pipeline – 2023

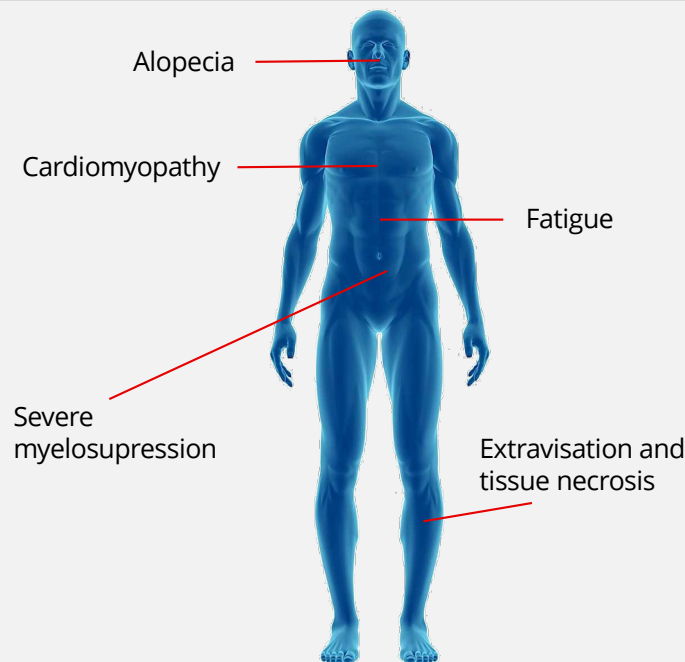


Reducing systemic toxicities of chemotherapies and improving tolerability for patients through tumour-specific activation

## The Problem

- Chemotherapy, cytotoxic agents and immunotherapies are not tumour selective.
- Systemic toxicities and tolerability for patients limit the therapeutic index of most oncology drugs.
- There is an urgent unmet need to differentiate between tumour and normal cells.

### Common Doxorubicin Toxicities



## pre|CISION™

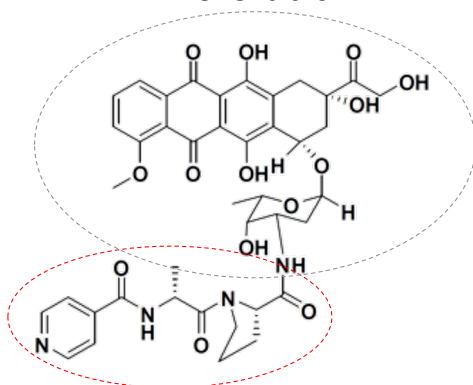
- Targets the tumour tissue and limits systemic exposure.
- Selectively activated in the tumour microenvironment by an enzyme that is in high concentration in most solid tumours.
- Designed to enhance safety and tolerability and increase efficacy.

# AVA6000: Targeting Doxorubicin to the Tumour

Reducing the side-effects of doxorubicin through tumour-specific activation using the pre|CISION™ technology

## AVA6000

### Doxorubicin

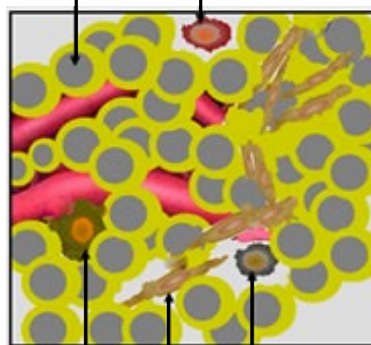


pre|CISION™

Prevented from entering cells by  
pre|CISION modification

## Tumour Microenvironment

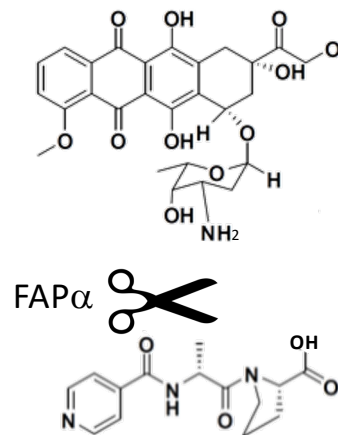
Cancer cells Naïve T cells



Macrophage  
Cancer Associated Fibroblasts  
B cells

FAPα +ve fibroblasts and cancer cells

## Release of Active Doxorubicin



FAP mediated release of doxorubicin

# AVA6000: Ongoing Phase 1 Dose Escalation & Expansion Trial



## Phase 1a Dose Escalation

### Primary Objectives

- Safety and tolerability of AVA6000.
- Maximum tolerated dose and/or recommended phase 2 dose of AVA6000.

### Patient Population

- Locally advanced or metastatic selected solid tumours.
- 20-30 patients.

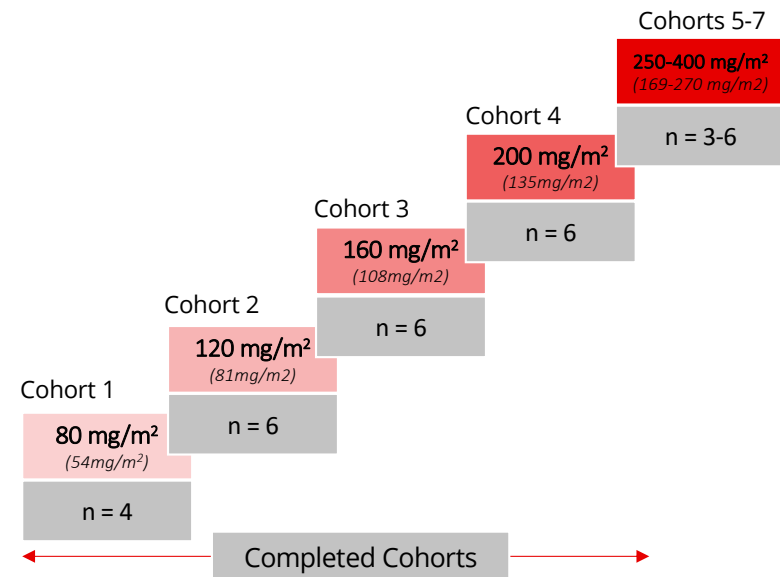
### Endpoints

- Dose limiting toxicities, safety, tolerability & cardiac safety.
- Pharmacokinetic profiles for cycles 1 & 2.
- Optional biopsies (AVA6000/Dox levels).
- Tumour assessments.

### Centres

- 5 UK (open) & 2 US (opened post-period end)

## AVA6000 Dose Regimen - 3 weekly cycles (Doxorubicin Equivalent Dose)



"n" = number of patients in cohort

# Summary of ALS-6000-101 Phase I Dose Escalation Data



Positive safety profile and biopsies confirm release of doxorubicin in the tumour tissue at therapeutic levels

- 22 patients with a range of solid tumours dosed across four dose escalation cohorts.
- Currently dosing patients in the fifth cohort at 250mg/m<sup>2</sup>.

## **Safety and Tolerability**

- **AVA6000 is well tolerated across first four cohorts.**
- Marked reduction in the incidence and severity of the usual doxorubicin related toxicities (alopecia, nausea, myelosuppression, mucositis) including the most serious (neutropenia, thrombocytopenia, anaemia).
- Despite administering the equivalent of more than double the normal dose of doxorubicin to patients in cohort 4, the typical drug-related cardiotoxicity of doxorubicin has not been observed.

## **Biopsy Analysis**

- **Analysis of tumour biopsies taken from 6 patients confirms pre | CISION™ can deliver therapeutically significant levels of doxorubicin to tumour tissue compared to systemic levels at same timepoint.**

# AVA6000: Phase Ib Study



## Clinical development in Soft-Tissue Sarcoma (Phase 1 to 2)

### Development Rationale in Soft Tissue Sarcoma (STS)

- Advanced, Metastatic STS tumours
- Doxorubicin is the only therapy indicated for first-line monotherapy in advanced STS
- No current or near future competition for doxorubicin in 1<sup>st</sup> line STS
- Conventional doxorubicin has marginal efficacy (18% ORR; 6mth PFS) & Rx limitation due to cumulative dose limit (450mg/m<sup>2</sup> – 6 cycles maximum)
- AVA6000 has potential to safely increase Rx duration beyond 6 cycles (18 weeks) by x2-3 times (12-18 cycles – 36-54 weeks) with increased efficacy

### Phase 1a

- Select 2 AVA6000 dose levels for Phase 1b study
- Use PK/PD modelling to identify safe & effective dose from preclinical and emerging clinical data

### Phase 1b

#### Expansion Design

- Open-label, randomised design
- Metastatic Soft Tissue Sarcoma
- FAP positive tumours
- 2 AVA6000 dose levels selected
- 3 Rx arms (2 x AVA6000 vs Dox)
- N = 60
- Up to 12 -18 cycles of AVA6000
- 20 US & European Investigator Sites

### Outcome Measures

- PFS
- RECIST
- AE/Cardiac safety
- Mandate biopsies in patient subset
- Population PK

Randomise  
2:2:1

### 24 Patients

AVA6000 Dose 1  
12-18 Cycles Q3W

### 24 Patients

AVA6000 Dose 2  
12-18 Cycles Q3W

### 12 Patients

Doxorubicin  
6 Cycles (75mg/m<sup>2</sup>) Q3W

Select  
AVA6000  
RP2D Dose  
for Phase 2

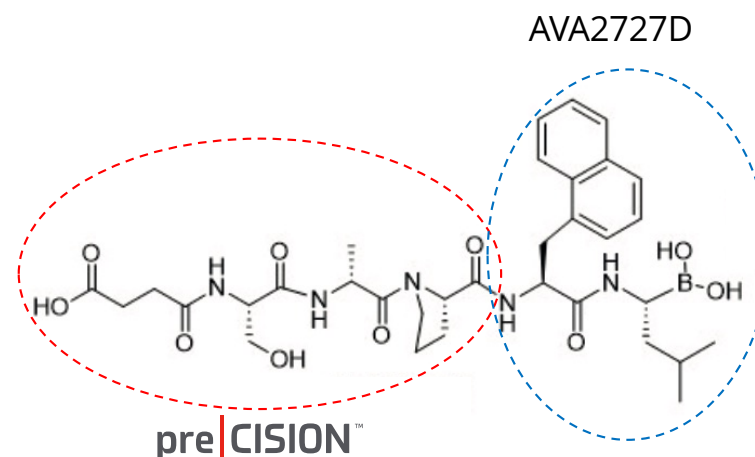


# Pre-clinical Programmes

# AVA3996: A Novel Tumour Targeted Proteasome Inhibitor



- The “proteasome” is the cell’s “garbage disposal” system that breaks down protein waste.
- A working proteasomal degradation pathway (“garbage disposal”) is essential for a cell to survive.
- Inhibiting the proteasome (turning off the “garbage disposal” system) leads to cell death of many types of cells including cancer cells.
- AVA3996 is a pre|CISION™ proteasome inhibitor. The inhibitor itself is referred to as AVA2727D.



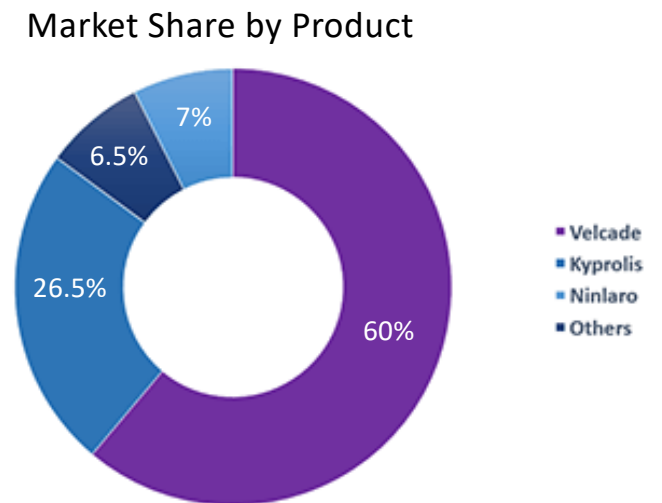
**AVA3996 pre|CISION™ Proteasome Inhibitor**

# Proteasome Inhibitor Market

- The **global proteasome inhibitors market** is expected to grow at a CAGR of 8.4% (2023-2028) to reach nearly USD 2.3 billion by 2026<sup>1</sup>.
- Proteasome inhibitors have severe dose limiting toxicities which have restricted their approval.
- Three are approved for treating multiple myeloma:
  - Bortezomib (*Velcade*) was approved in 2003. This was the first proteasome inhibitor approved for use in the U.S. AVA2727D is very similar but not identical to bortezomib.
  - Carfilzomib (*Kyprolis*) was approved by the FDA for relapsed and refractory multiple myeloma in 2012.
  - Ixazomib (*Ninlaro*) was approved by the FDA in 2015 for use in combination with lenalidomide and dexamethasone for the treatment of multiple myeloma after at least one prior therapy.

1. (<https://www.expertmarketresearch.com/reports/proteasome-inhibitors-market>)

## Global Proteasome Inhibitors Market 2022 (~\$1.7billion)



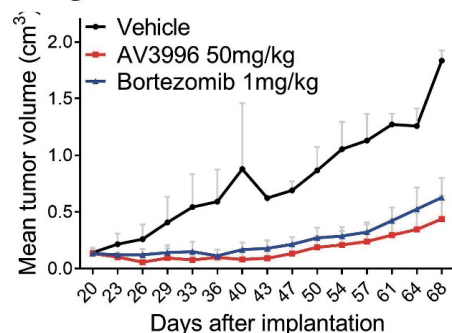
Source: <https://www.expertmarketresearch.com/reports/proteasome-inhibitors-market>

# In-vivo Efficacy in Multiple Tumour Models

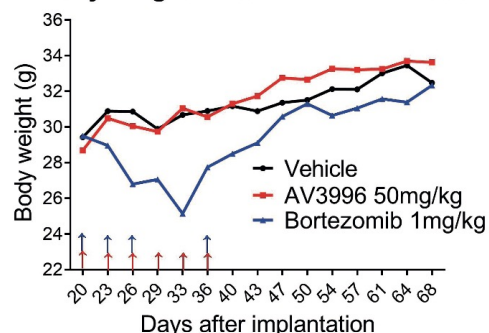


## Melanoma Model

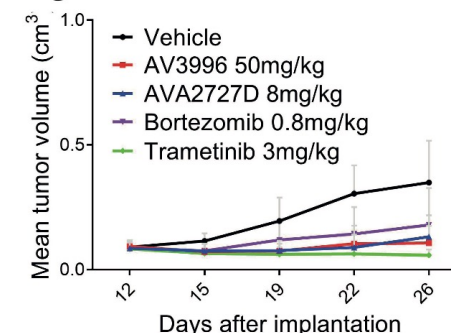
**Tumour growth inhibition: melanoma PDX model**



**Body weight: melanoma PDX model**



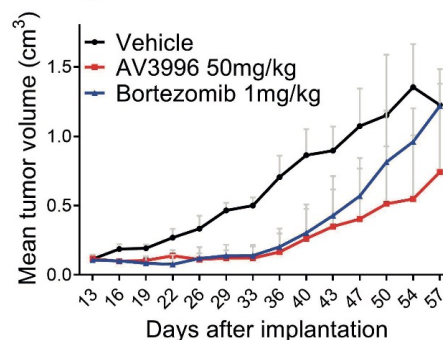
**Tumour growth inhibition: melanoma PDX model**



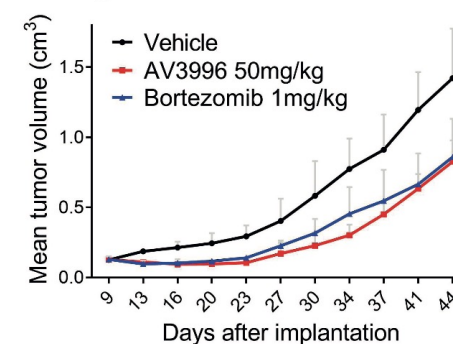
### Key Takeaways

- AVA3996 is as effective in these different mouse PDX models as bortezomib and, in the case of the melanoma model, as trametinib.
- Mice did not show the same toxicities when treated with AVA3996 as when they were treated with 1mg/kg bortezomib.

**Tumour growth inhibition: sarcoma PDX model**



**Tumour growth inhibition: colorectal PDX model**



# Affimer® Next-generation Biotherapeutics

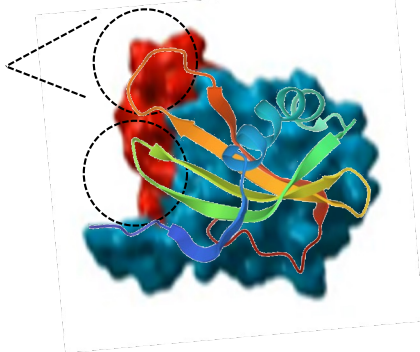


## What is an Affimer®?

Based on a naturally occurring human protein (stefin A) and engineered to display two loops that create an antigen binding surface

Variable loop regions of 9 amino acids each create a target recognition surface and can be randomised to create very large ( $10^{10}$ ) libraries for phage selections

Variable loop regions



Affimer®

## Technical Benefits

Smaller (14 kD), simpler and more robust, soluble and stable than antibodies

High affinity Affimer® candidates generated for new targets rapidly

Flexible formatting for multi-specifics, agonism, drug conjugates

High expression levels in a range of cells and tissues

Fully human: lower immunogenicity risk

## Commercial Advantages

Proprietary and unencumbered IP

Freedom to operate where there is antibody-based IP

## Differentiated Biotherapies

Flexible solutions for **difficult-to-drug** targets **eg GPCRs**

**Exquisitely selective** for target antigen

Building blocks for **developable multi-specific** formats

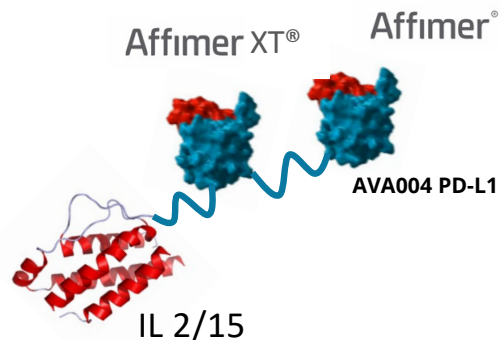
(Proof-of-concept multi-specific Affimers (LG Chem collaboration PD-L1 / XT) have demonstrated the developability of the platform)

**Half-life extension capability** and tunable pharmacokinetics

# Affimer® Internal Research Programmes

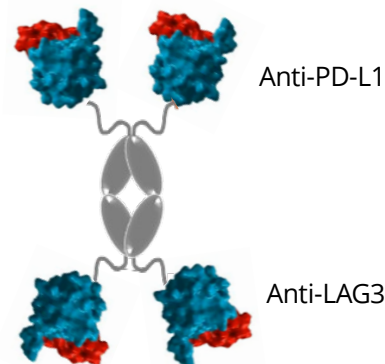
## AVA028 PDL1/Cytokine Bispecific

- Most patients either do not respond to immune checkpoint blockade or will acquire resistance.
- Next generation immunotherapies aim to overcome this lack of response with combination strategies aimed at increasing response to checkpoint blockade.
- Avacta's Immunocytokine approach combines immune checkpoint blockade with cytokine driven T cell stimulation.



## AVA021 Next Generation Multispecific Immunotherapies

- Exhausted T cells have a reduced ability to proliferate and have high-level expression of inhibitory receptors, programmed cell death-1(PD-1) and lymphocyte-activation gene 3 (LAG-3)
- LAG3 is involved in immune tolerance and is associated with poor clinical outcomes.
- Preclinically, combination of anti-LAG-3 and anti-PD-(L)1 antibodies has shown synergistic effects vs blocking either one alone.
- AVA021 is an Affimer-based PDL1/LAG3 bispecific immunotherapy.



## Tumour Microenvironment Activated Drug Conjugates

- Cytotoxin linked to immunotherapy by pre|CISION™ linker.
- Cytotoxin released in the TME/stroma by FAP.
- Potential for synergistic action of pro-inflammatory cytotoxin and immunotherapy.



# Key Partnerships

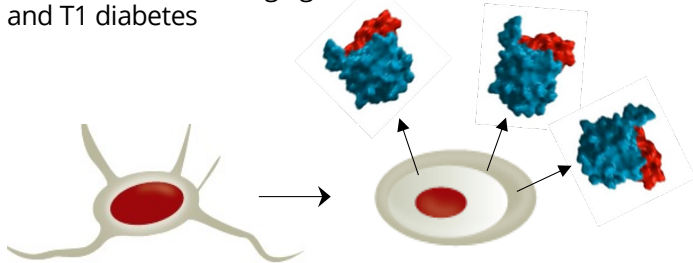
# AffyXell – Joint Venture in the Cell & Gene Therapy



A joint venture in South Korea with Daewoong Pharmaceutical to develop engineered mesenchymal stem cells that express and secrete immuno-modulatory Affimer molecules to treat autoimmune diseases

## Next-generation Stem Cell Therapies

- Renewable “off the shelf” mesenchymal stem cells
- AFX001: MSC secreting anti-CD40L Affimer for use in GvHD
- AFX002: MSC secreting agonist Affimer for use in MS and T1 diabetes



Development stage						
Product Candidate	Target Indication	Discovery	Pre-clinical	Phase1	Phase2	Phase3
AFX-001	⊕ SOT	<div></div>				
	⊕ GvHD	<div></div>				
AFX-002	⊕ MS	<div></div>				

During the reporting period:

- Entered into collaborations with Biocytogen, a Chinese company specialising in developing new biological drugs, and with the Korea Non-Clinical Technology Solution Center ('KNTSC').
- The strategic partnership with GenScript ProBio, a leading biopharmaceutical manufacturer was expanded.
- Successfully completed a funding round to advance its lead mesenchymal stem cell ('MSC') programme towards the clinic, and to develop its wider pre-clinical pipeline of cell therapies.
- Avacta's shareholding in AffyXell increased to 19% following the triggering of a milestone equity payment of £3.60 million.

Data will be presented at International Society for Cell & Gene Therapy, May 2023 (AffyXell and Avacta) <https://www.isctglobal.org/isct2023/home>

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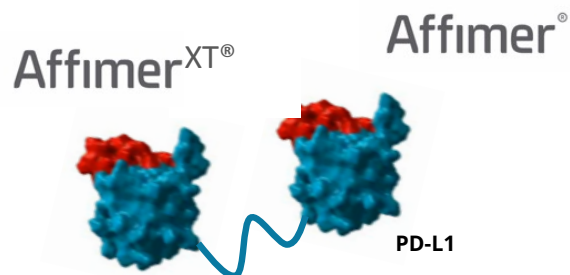
# LG Chem – Multi-target Partnership



A multi-target development partnership and licensing deal worth up to \$310 million with a focus on oncology and inflammatory diseases

## PDL1/XT Antagonist

- PD1/PDL1 axis Affimer inhibitor
- Half-life extension using Affimer XT® a human serum albumin binder
- Small size potentially leads to better tumour penetration



LG Chem Life Sciences Innovation Center, Inc.		Solid Tumor		About Us		Research & Development		Media	Careers	Contact Us
Disease Area	Code	Indication	Research	Preclinical	Phase I	Phase II	Phase III	NDA	Remark	
Oncology	LR19129	Oncology							In partnership with GSK USA GSK CO	
	LR20009	Oncology								
	LR19023	Oncology								
	LR19128	Oncology							In partnership with Avacta <sup>®</sup>	
	LR19155	Oncology								

During the reporting period;

- LG Chem Life Sciences ('LG Chem'), the life sciences division of the South Korean LG Group, exercised its renewal option as part of the ongoing collaboration with Avacta, triggering a licence renewal fee payment to Avacta of \$2 million.

# **Avacta Diagnostics**

## *Business Update*

## VISION

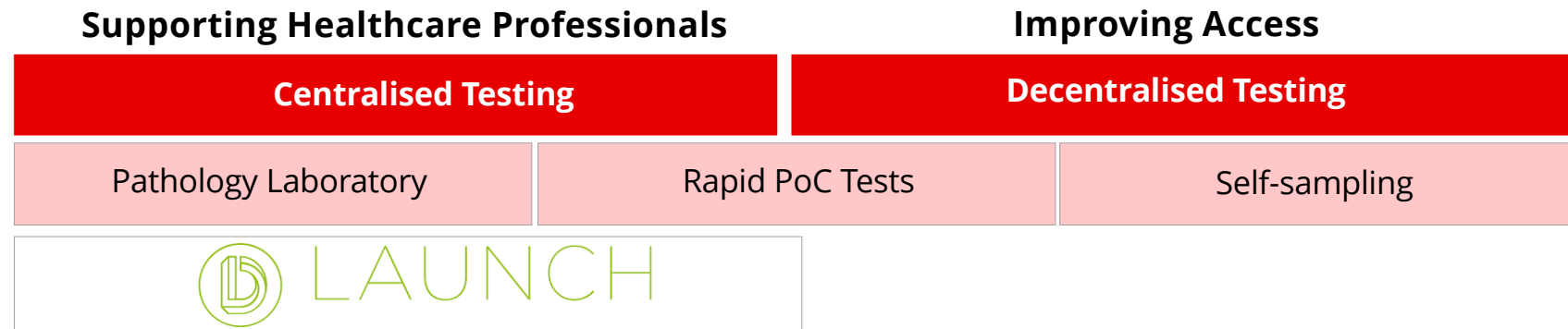
Build an integrated and differentiated in-vitro diagnostics (IVD) business with global reach serving professionals and consumers.



## MISSION

Innovate to make market leading diagnostic solutions available to all, to inform treatment and monitor health and fitness.

# Markets, Applications, Customers and the DX Value Chain



## Diagnostics Value Chain



## Launch

- Leading UK IVD distributor with a growing business in France.
- Established for over 30 years.
- Very strong relationship with NHS.



## Rationale

Acquisition of a profitable distribution channel into centralised pathology laboratories with the market knowledge to help drive future strategy and with good opportunities for growth.

## Key Facts

- Founded in 1990 and headquartered in UK.
- Launch provides immunodiagnostic and molecular test products, technical support and maintenance to healthcare providers in the UK, France, Belgium and Luxemburg and ROI.
- Customers include both public and private sector (e.g. hospitals, clinical trial units, cancer centres, commercial laboratories).
- Long-established and experienced team with an outstanding reputation in the industry for customer service.
- Sales delivered through tenders, contracts such as long term and exclusive Managed Equipment Services with global manufacturers, and annual quotations.

## Launch by Numbers

- FY21 **£14.17M** core, non-COVID related business.
  - Total FY21 revenue **£32.75M**.
  - **£23.85M** UK and **£8.90M** France/Benelux.
  - Gross margin on sales FY19-21 **44-50%**.
  - **£8.52M** adjusted\* EBITDA FY21.
- FY22 **£16.5M** non-COVID revenue.
- Over **4,000** products from **31** suppliers.
- **501** active customers (UK **356**, France/Belux/ROI **145**).
- Typically on **3-5 year** contracts and **c.95%** repeat business.
- **c.70 FTEs** (60% commercial, 40% technical).
- **17,295 ft<sup>2</sup>** offices and warehouse facilities in UK.
- **230 m<sup>2</sup>** logistics facilities in Houille, Northern France.

\* Adjusted to a market rate Managing Director salary and removal of non-recurring professional fees.

# Launch Diagnostics: Growth Opportunities



Opportunities for growth in sales and margin through geographical expansion, cross-selling to customers gained during the pandemic and expansion of product range

## Investment in Sales and Marketing

- Investment in sales and marketing team.
- Cross-selling of non-COVID products into the recently expanded installed base of PCR equipment post-COVID.

Short Term

## Portfolio Expansion

- Expansion of centralised and decentralized testing product portfolio.
- e.g. New automated system for autoimmune and allergy testing (HOB).

Medium Term

## Geographical Expansion

- Investment to expand commercial, logistics and support teams to expand into German market over a 3 year period.
- New logistics site already established in northern France.

Long Term

# Summary



Principle of tumour targeting through FAP activation of pre | CISION™ modified chemotherapy confirmed in AVA6000 phase 1 study.



AVA3996, an FAP-activated proteasome inhibitor, showing positive pre-clinical data; now in IND enabling studies with FIH expected 2024.



Launch Diagnostics: First acquisition in the diagnostics M&A-led growth strategy and a financially transformative deal for Avacta Diagnostics.



October 2022 fund raise provides balance sheet flexibility for focused M&A led growth in diagnostics and achievement of key milestones in therapeutics.





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