EDISON

Chimeric Therapeutics

Development update

Acquiring an exciting new NK cell technology

Pharma & biotech

Chimeric has announced that it has entered into an exclusive option agreement to license the clinically validated, off the shelf, robust, enhanced natural killer (CORE-NK) cell platform from Case Western Reserve University for the treatment of cancer. The CORE-NK platform was designed to overcome the hurdles associated with NK cell development and enables the production of large numbers of highly active universal donor NK cells that are active in the body. The company expects to rapidly move to complete full licensing of the platform.

Year end	Revenue (A$m)	PBT* (A$m)	EPS* (A$)	DPS (A$)	P/E (x)	Yield (%)
06/20	0.0	(0.1)	(62.01)	0.0	N/A	N/A
06/21	0.0	(14.9)	(0.08)	0.0	N/A	N/A
06/22e	0.0	(14.0)	(0.04)	0.0	N/A	N/A
06/23e	0.0	(14.5)	(0.04)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Improving NK cells

NK cells are naturally found within the body and are able to recognise and kill cancer cells, but efficacy when used in a therapeutic setting is often limited due to challenges in manufacturing enough of them to halt the growth of many cancers. CORE-NK cells are made by activating and expanding NK cells to make them more active and robust in large numbers.

Enabling an expansion of the pipeline

Besides using CORE-NK cells to target cancer directly, this licensure would allow for the creation of CAR-NK programs to augment the current CLTX CAR T and CDH17 CAR T programmes that are focused on solid tumours. Four new pipeline programmes are expected to be started in 2023 following the anticipated acquisition of the CORE-NK platform.

Positive low dose CHM 1101 data from Phase I

Data from the low dose cohort of four patients from the Phase I trial of CHM 1101 (CLTX CAR T) was presented in November at the Society for Neuro-Oncology (SNO) annual meeting. Three out of four patients achieved stable disease that was durable for five to eight weeks. In one patient, there was no evidence of progression in the part of the brain in which CHM 1101 was infused intratumourally and progression was only seen in an area of the brain where it was not infused intertumourally.

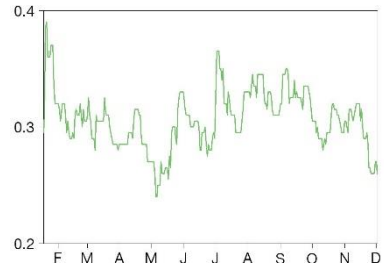
Valuation: A$322m or $0.97 per share

We have adjusted our valuation from A$327m or A$0.99 per share to A$322m or A$0.97 per basic share, mainly due to lower net cash. Because the CORE-NK platform is not fully licensed and its associated products are not yet in the clinic, we are not including them in our valuation yet, in accordance with Edison methodology. Once included, they may have a meaningful impact upon the valuation due to the size of the markets targeted by the company.

6 December 2021

Price	**A$0.27**
Market cap	**A$90m**
	A$1.40/US$
Net cash (A$m) at 30 June 2021	17.4
Shares in issue	333.4m
Free float	39.2%
Code	CHM
Primary exchange	ASX
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	(13.3)	(24.6)	N/A
Rel (local)	(11.4)	(21.8)	N/A
52-week high/low		A$0.39	A$0.24

Business description

Chimeric Therapeutics is an oncology-focused Australian-based company that recently went public on the ASX. The lead programme is CHM 1101, currently in Phase I for the treatment of GBM. Beyond GBM, the technology may have applicability for other tumours such as melanoma. The company recently in-licensed a CDH17 CAR T for use in solid tumours and the CORE-NK platform, which may have broad applicability in cancer.

Next events

Updated CHM 1101 data	CY22
CHM 2101 Phase I initiation	CY22

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Edison profile page

The CORE-NK platform

Chimeric has announced that it has entered into an exclusive option agreement to license the CORE-NK platform from Case Western Reserve University. NK cells are found in the body naturally and are able to recognise and kill cancer cells without affecting healthy cells. They are also able to produce cytokines that use the immune system to mount an additional response to kill tumours. However, efficacy when used in a therapeutic setting is often limited due to challenges in manufacturing enough of them to halt the growth of many cancers. Through the platform, CORE-NK cells are made by activating and expanding NK cells to make them more active and robust in large numbers.[1] The company expects to rapidly move to complete full licensing of the platform. Financial terms are likely to include development milestones, industry standard royalties (likely single digit in our view) and an upfront payment.

The anticipated licensure would enable a significant expansion of the product pipeline past CHM 1101 and CHM 2101, the CLTX and CDH17 CAR T therapies, respectively, currently in development. The company plans to develop CAR NK versions of both those programmes, develop therapies using the current and next generation CORE-NK platform and an additional CAR NK with an undisclosed target. CAR NK products would be made by inserting CARs into the CORE-NK platform cells. Adding the CARs improves the delivery of the NK cells to specific antigen-expressing tumours.

Exhibit 1: Planned Chimeric pipeline post-CORE-NK licensure

Programme	Construct	Type	Indication focus	Status
CHM 1101	CLTX CAR T	Autologous	Glioblastoma multiforme (GBM), melanoma, colorectal, prostate	Phase I ongoing in GBM, second trial in another indication planned for 2022
CHM 2101	CDH17 CAR T	Autologous	Neuroendocrine, colorectal, pancreatic, gastric	Phase I expected 2022
CHM 0201	CORE -NK Platform	Allogeneic	Both hematologic and solid tumours	Phase I complete (9 patients completed all three dose levels with data expected in 2022), further technological enhancements planned for development as combination therapy
CHM 0301	Next Generation CORE-NK platform	Allogeneic	Hematologic tumours	Phase I planned 2023
CHM 1301	CLTX CAR -NK	Allogeneic	Glioblastoma multiforme (GBM), melanoma, colorectal, prostate	Phase I planned 2023
CHM 2301	CDH17 CAR-NK	Allogeneic	Neuroendocrine, colorectal, pancreatic, gastric	Phase I planned 2023
CHM 3301	Undisclosed CAR-NK	Allogeneic	Undisclosed	Phase I planned 2023

Source: Chimeric Therapeutics

As NK cells are not thought to cause graft-versus-host-disease (GVHD), all these CORE-NK based therapies have the potential to be allogeneic, where cells from a single donor could be used to treat multiple patients. This is in contrast to autologous therapies where treatments are based on a patient's own cells. Allogeneic therapies hold the promise of starting with healthier material, lowering manufacturing costs and being rapidly available to patients (the bespoke nature of autologous treatments can delay treatment for weeks).

Besides these announced programmes, Chimeric will be seeking additional collaboration and licensing opportunities for the platform.

CHM 1101 data from the low-dose cohort

At the SNO conference in November, data from the CHM 1101 Phase I was presented. The data focused the four patients who were enrolled at the lowest dose level of 44m CLTX CAR T cells

1 Ojo et al., Membrane bound IL-21 based NK cell feeder cells drive robust expansion and metabolic activation of NK cells. *Scientific Reports* 2019 Oct 17;9(1):14916.

(which were injected intratumourally in a single injection). Stable disease was achieved in three out of the four patients with durability of five to eight weeks. Importantly, in one patient, there was no observed tumour recurrence in the left frontal lobe where the CLTX CAR T cells were administered. Tumour progression in that patient occurred in the left temporal lobe, which did not receive the infusion. Also, with regards to safety, therapy was generally well tolerated and there were no cytokine release syndrome (CRS) events due to therapy.

Dose escalation is planned across four dose levels up to 440m cells through dual intratumoural and intraventricular routes of administration (intraventricular administration only starts at the 88m cell dose level).

Valuation

We have adjusted our valuation from A$327m or A$0.99 per share to A$322m or A$0.97 per basic share, mainly due to lower net cash. Because the CORE-NK platform is not fully licensed and its associated products are not yet in the clinic, we are not including them in our valuation yet, in accordance with Edison methodology. Once included, they may have a meaningful impact upon the valuation due to the size of the markets targeted by the company.

Exhibit 2: Chimeric valuation table

Product	Main indication	Status	Probability of successful commercialisation	Approval year	Peak sales (A$m)	Economics	rNPV (A$m)
CLTX-CAR T	GBM	Phase I	10%	2027	3,210	100% less single-digit royalty to COH	305.0
Total							305.0
Net cash (as of 30 September 2021)							17.4
Total firm value (A$)							**322.42**
Total basic shares (m)							333.4
Value per basic share (A$)							**0.97**
Options (m)							32.1
Total number of shares (m)							365.6
Diluted value per share (A$)							**0.88**

Source: Edison Investment Research. Note: COH is the City of Hope cancer center

Financials

In the quarterly cash flow report for the first quarter of FY22 (the period ending 30 September 2021), Chimeric reported A$17.4m in cash at Q122. In FY21 the company had an operating loss of A$15.1m. We have not made any meaningful changes to our financial model following these results and have introduced FY23 estimates, which feature A$14.5m in operating expenses. We may increase our R&D expense estimates once we have more clarity on the clinical programme post the closure of the licensing of the CORE-NK platform. We continue to project a financing need of A$80m through 2026, with A$20m expected to be raised in FY22 and modelled as illustrative debt.

Exhibit 3: Financial summary

A$'000s	2020	2021	2022e	2023e
Year end 30 June	AIFRS	AIFRS	AIFRS	AIFRS
PROFIT & LOSS				
Revenue	0	0	0	0
Cost of Sales	0	0	0	0
Gross Profit	0	0	0	0
Sales, General and Administrative Expenses	(64)	(11,068)	(4,007)	(4,167)
Research and Development Expense	0	(3,778)	(9,975)	(10,374)
EBITDA	(64)	(14,847)	(13,982)	(14,541)
Operating Profit (before amort. and except.)	(64)	(14,847)	(13,982)	(14,541)
Intangible Amortisation	0	0	0	0
Other	0	0	0	0
Exceptionals	0	(264)	0	0
Operating Profit	(64)	(15,110)	(13,982)	(14,541)
Net Interest	0	(3)	(3)	(3)
Other	0	0	0	0
Profit Before Tax (norm)	(64)	(14,850)	(13,985)	(14,545)
Profit Before Tax (FRS 3)	(64)	(15,114)	(13,985)	(14,545)
Tax	0	0	0	0
Deferred tax	(0)	(0)	(0)	(0)
Profit After Tax (norm)	(64)	(14,850)	(13,985)	(14,545)
Profit After Tax (FRS 3)	(64)	(15,114)	(13,985)	(14,545)
Average Number of Shares Outstanding (m)	0.0	181.9	333.4	336.7
EPS - normalised (A$)	(62.01)	(0.08)	(0.04)	(0.04)
EPS - Reported (A$)	(63.02)	(0.08)	(0.04)	(0.04)
Dividend per share (c)	0.0	0.0	0.0	0.0
BALANCE SHEET				
Fixed Assets	0	13,840	17,072	20,338
Intangible Assets	0	13,826	16,244	18,661
Tangible Assets	0	14	829	1,677
Other	0	0	0	0
Current Assets	(0)	22,665	28,662	29,154
Stocks	0	0	0	0
Debtors	0	24	0	0
Cash	(0)	22,410	28,063	28,187
Other	0	231	599	967
Current Liabilities	(64)	(7,355)	(7,355)	(7,355)
Creditors	(30)	(7,355)	(7,355)	(7,355)
Short term borrowings	(34)	0	0	0
Long Term Liabilities	0	(4,019)	(24,019)	(39,019)
Long term borrowings	0	0	(20,000)	(35,000)
Other long-term liabilities	0	(4,019)	(4,019)	(4,019)
Net Assets	(64)	25,131	14,360	3,118
CASH FLOW				
Operating Cash Flow	(34)	(8,835)	(10,928)	(11,424)
Net Interest	0	0	0	0
Tax	0	0	0	0
Capex	0	(5,307)	(3,419)	(3,452)
Acquisitions/disposals	0	0	0	0
Financing	0	36,585	0	0
Dividends	0	0	0	0
Other	0	0	0	0
Net Cash Flow	(34)	22,443	(14,347)	(14,876)
Opening net debt/(cash)	0	34	(22,410)	(8,063)
HP finance leases initiated	0	0	0	0
Exchange rate movements	0	(9)	0	0
Other	0	10	0	0
Closing net debt/(cash)	34	(22,410)	(8,063)	6,813

Source: company reports, Edison Investment Research

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