Autolus

Developing Next Generation Programmed T Cell Therapies

June 2022

Disclaimer

These slides contain forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts, and in some cases can be identified by terms such as "may," "will," "could," "expects," "plans," "anticipates," and "believes." These statements include, but are not limited to, statements regarding Autolus' development of the obe-cel program; the future clinical development, efficacy, safety and therapeutic potential of its product candidates, including progress, expectations as to the reporting of data, conduct and timing and potential future clinical activity and milestones; expectations regarding the initiation, design and reporting of data from clinical trials; expectations regarding regulatory approval process for any product candidates; the collaboration between Autolus and Blackstone; the discovery, development and potential commercialization of potential product candidates including obe-cel using Autolus' technology and under the collaboration agreement; the therapeutic potential for Autolus in next generation product developments of obe-cel in B-cell malignancies; the potential and timing to receive milestone payments and pay royalties under the strategic collaboration; and the Company's anticipated cash runway. Any forward-looking statements are based on management's current views and assumptions and involve risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in such statements. These risks and uncertainties include, but are not limited to, the risks that Autolus' preclinical or clinical programs do not advance or result in approved products on a timely or cost effective basis or at all; the results of early clinical trials are not always being predictive of future results; the cost, timing and results of clinical trials; that many product candidates do not become approved drugs on a timely or cost effective basis or at all; the ability to enroll patients in clinical trials; possible safety and efficacy concerns; and the impact of the ongoing COVID-19 pandemic on Autolus' business. For a discussion of other risks and uncertainties, and other important factors, any of which could cause Autolus' actual results to differ from those contained in the forward-looking statements, see the section titled "Risk Factors" in Autolus' Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 10, 2022, as well as discussions of potential risks, uncertainties, and other important factors in Autolus' subsequent filings with the Securities and Exchange Commission. All information in this presentation is as of the date of the release, and Autolus undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise, except as required by law. You should, therefore, not rely on these forward-looking statements as representing the Company's views as of any date subsequent to the date of this presentation.

Autolus Overview

Building a fully integrated CAR T company

Best-in-class lead asset

- Lead product obe-cel potentially best-in-class for relapsed/ refractory adult acute lymphoblastic leukemia (ALL)
- Phase 2 FELIX ALL initial data expected H2 22
- Updated exploratory data in NHL from Phase 1 studies expected in 2022

Pipeline

- Pipeline built on modular innovation addressing cancers with limited treatment options
- AUTO1/22 in paediatric ALL
- AUTO4 /5 in T cell lymphoma
- AUTO6NG in neuroblastoma
- AUTO8 in multiple myeloma

Scalable manufacturing

- In house cell manufacturing for clinical trial conduct
- Commercial fit-for-purpose cell manufacturing facility under construction with planned annual capacity of 2000 patient products

Collaboration

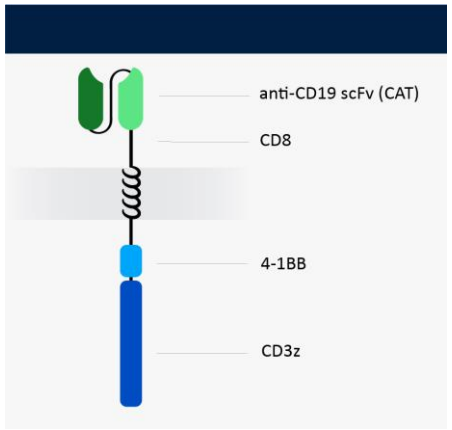
- Collaboration with Blackstone Life Sciences to develop obe-cel in adult ALL
- Moderna granted exclusive license for binders to up to four IO targets
- Pipeline programs not partnered

LEAD CLINICAL PROGRAM

obe-cel

A standalone, potentially best-in-class CD19 CAR T cell therapy

obe-cel has a unique mechanism of action



CD19 binder with fast off-rate

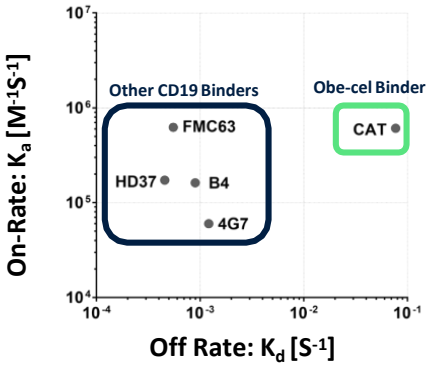
- **Improved potency, reduced toxicity**

Avoids over-activation of CAR T cells
-> Reduced toxicities

Increased CAR T peak expansion
-> Improved persistence

Avoids exhaustion of CAR T cells
-> Improved engraftment
-> Improved persistence

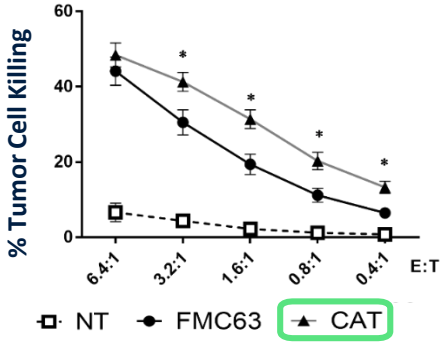
- **Fast off-rate**

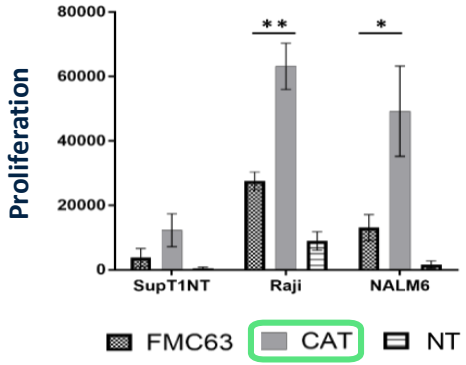


obe-cel has a shorter half-life of interaction compared to binders used in approved products

- obe-cel = 9.8 seconds
- Kymriah® = 21 minutes

- **Enhanced cytotoxicity and proliferation**



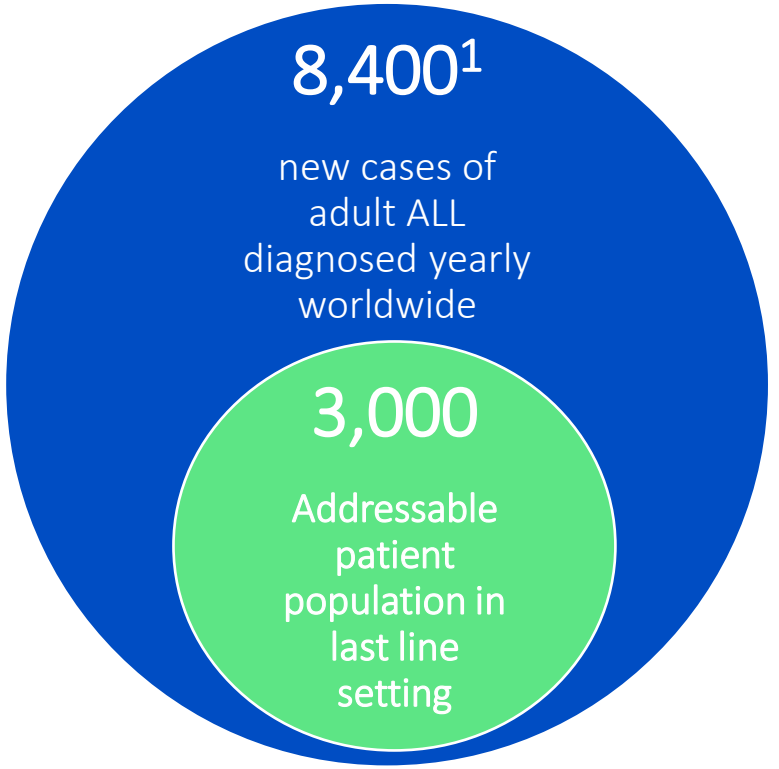


Ghorashian et al. *Nature Medicine* 2019

obe-cel for adult Acute Lymphoblastic Leukemia (ALL): high unmet need

Successful therapy requires high level of activity and sustained persistence paired with good tolerability

- Median overall survival is < 1 year in r/r adult ALL
- Combination chemotherapy enables 90% of adult ALL patients to experience Complete Response (CR)
  - Only 30% to 40% achieve long-term remission
- Current T cell therapies for adult patients are Blincyto® and Tecartus™
  - Therapies are highly active, but require subsequent allograft to achieve durability
  - Notable toxicity with high incidences of severe CRS and cases of fatal neurotoxicity
- Opportunity to expand the addressable patient population in earlier lines of therapy



NOTES

1. SEER and EUCAN estimates (respectively) for US and EU epi

obe-cel is a potentially transformational therapy for adult ALL

Unique CAR T design drives differentiated product profile

- Unique mechanism of action built on a fast off-rate from CD19 target antigen
- High Overall Response Rate (ORR) across all patient populations evaluated[1]
- Sustained morphological Event Free Survival (EFS) of 46% with a median follow-up of 29.3 months[2]
- Long term CAR T persistence drives durability of effect
- Favorable safety profile:
  - No high-grade Cytokine Release Syndrome (CRS)
  - Limited immune effector cell-associated neurotoxicity syndrome (ICANS)

obe-cel

Orphan Drug designation by FDA for B-ALL

Orphan Medical Product designation by EMA in ALL

RMAT designation by FDA in R/R B-ALL

Prime designation by EMA in R/R B-ALL

ILAP designation by MHRA in Adult R/R B-ALL

NOTES
1. FELIX study
2. ALLCAR19 study

obe-cel shows consistent clinical profile across three clinical studies

Data from 3 studies - range of ages and patient conditions

- obe-cel has a favourable safety profile with no high-grade CRS and limited ICANS

	CARPALL #1 Peds ALL	ALLCAR19 #2 Adult ALL	FELIX 1b #3 Adult ALL
n	14	20	16
ORR (CR & CRi) (95% CI)	86% (57%, 98%)	85% (62%, 97%)	75% (48%, 93%)
CRS [1] ≥ Grade 3	0%	0%	0%
CRS [1] any grade	93%	55%	56%
Neurotox [2] ≥ Grade 3	7%	15%	6%
Neurotox [2] any Grade	50%	20%	13%
Median Age	9	42	42
Bone marrow blast >20% at LD	21%	60%	75%
Bone marrow blast <5% at LD	71%	35%	25%
Prior blinatumomab	7%	25%	56%

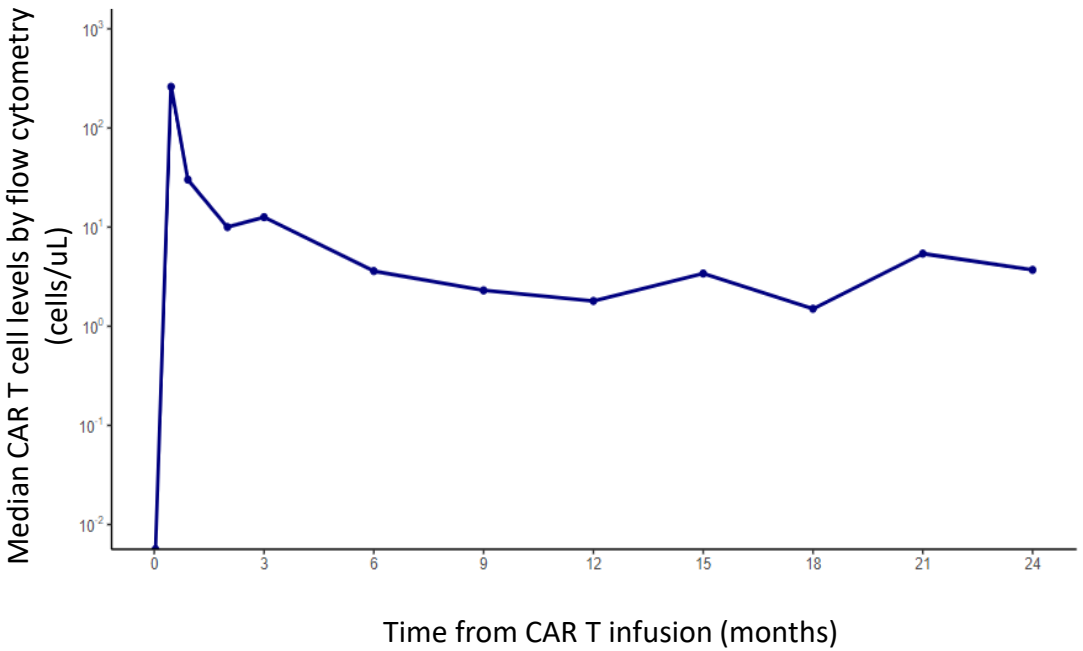
[1] CRS grading based on Lee et al (2014) for CARPALL and ALLCAR19, and ASTCT grading (Lee et al 2019) for FELIX
[2] Neurotoxicity grading based on CTCAE v4.03 for CARPALL and ALLCAR19, and ASTCT ICANS grading (Lee et al 2019) for FELIX

#1 Ghorashian et al. Nature Medicine 2019
#2 Roddie et al. J Clin Oncol, 2021
#3 Culshaw et al, ASH 2021, abstract #477

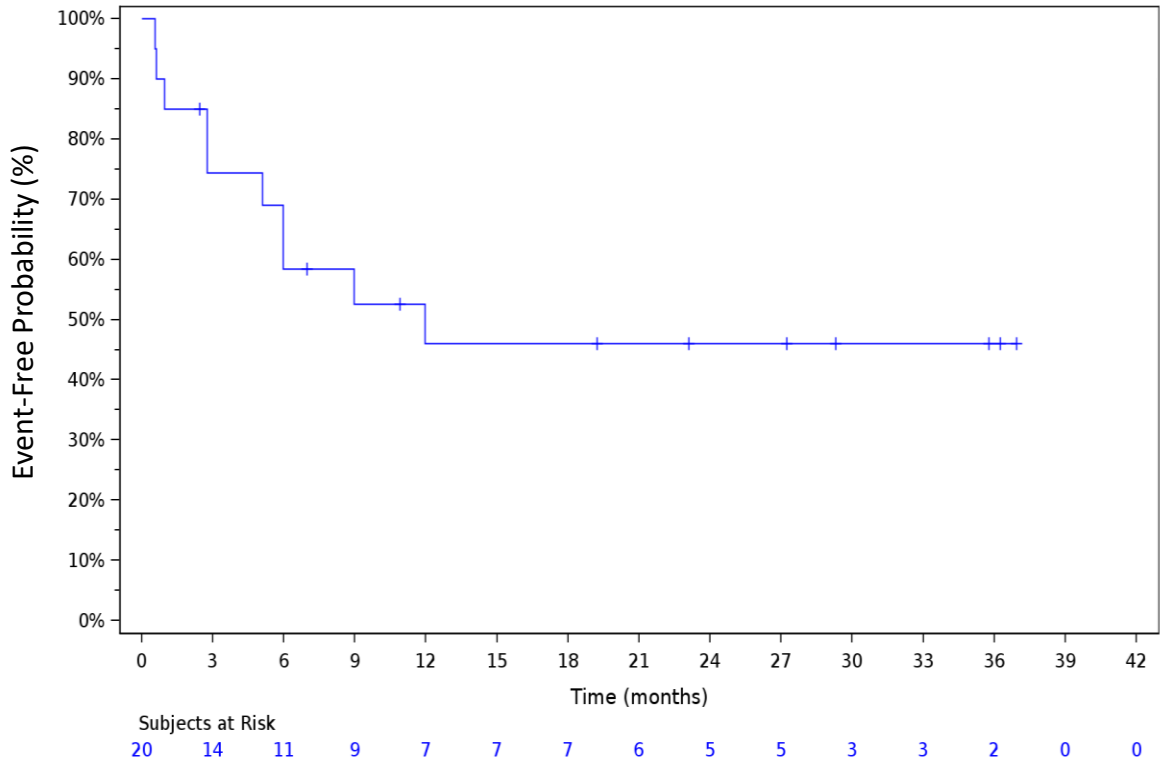
obe-cel shows sustained event-free survival beyond 30 months

Long term CAR T persistence drives durability of effect

Median CAR T cell levels in peripheral blood



ALLCAR19 Event-Free Survival



Median (range) follow-up time: 29.3 months (range 0.6 – 41.5)
Median (95% CI) EFS: 12 months [2.8, NE]
EFS starting from Month 12 going forward: 46% (95% CI [23%, 67%])

Data cut for ALLCAR19 study: 15-OCT-2021;
Patients were received SCT post obe-cel infusion are censored at date of SCT

Unmet medical need in r/r adult ALL despite approved agents

Current standard of care and recently approved agents in r/r adult ALL

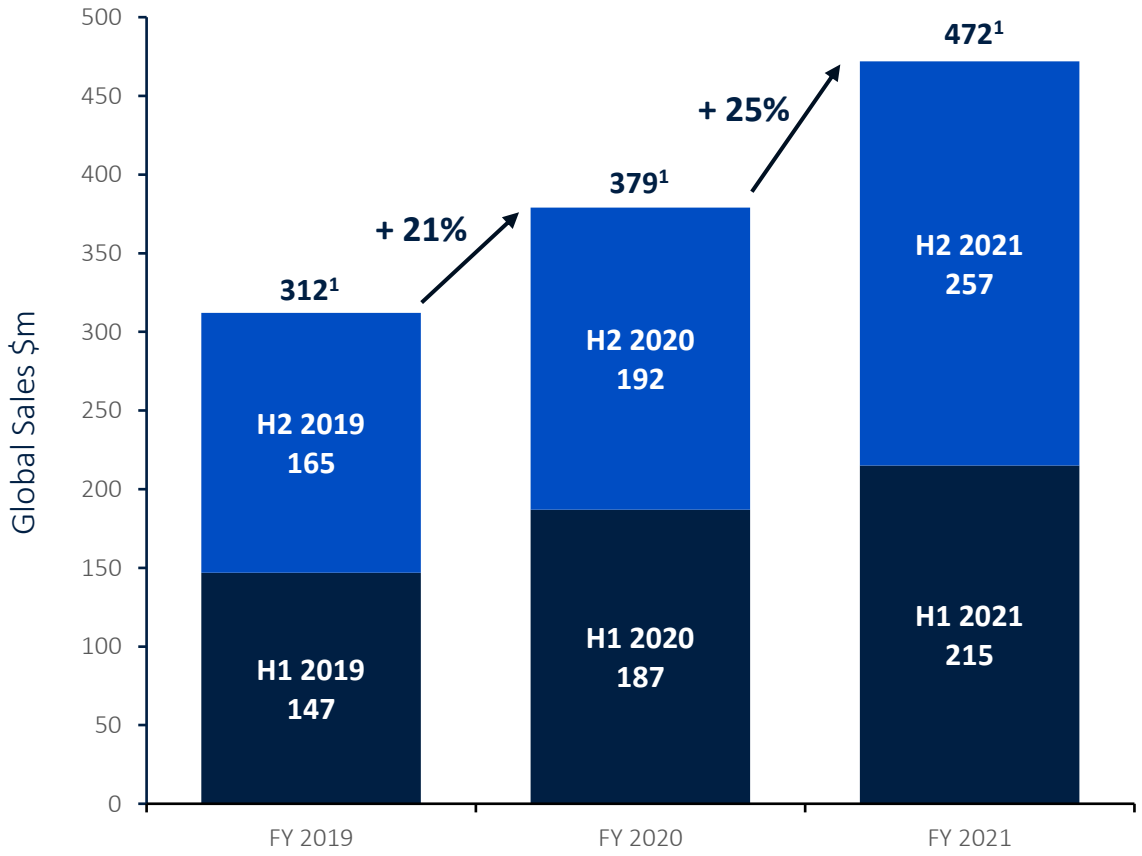
	Standard of Care		Recently FDA approved
	Blincyto[1]	Besponsa[2]	Tecartus[3]
N	271	109	54
ORR	44%	81%	65%
EFS/PFS	31% @ 6m ~10% @ 18m	~45% @ 6m ~20% @ 18m	~65% @ 6m ~25% @ 18m
median DoR	7.3m	4.6m	13.6m
median OS	7.7m	7.7m	18.2m
CRS ≥ Grade 3	5%	Not reported	26%
Neurotox any Grade	65%	Not reported	87%
Neurotox ≥ Grade 3	13%	Not reported	35%
Subsequent SCT post treatment	24%	41%	18%
Other notable observations	NA	14% Hepatic VoD	40% vasopressor use

1. Kantarjian et al., 2017/ USPI (product label) 2. Kantarjian et al., 2016/ USPI (product label) 3. Shah et al. Lancet 2021/ USPI (product label)
The estimates of EFS/PFS are read from the KM curves. The efficacy data in ZUMA-3 are based on the modified ITT population while the blinatumomab and inotuzumab data are based on the ITT population.

obe-cel could launch into an expanding ALL market

Blincyto®, current market leader, shows annual revenue growth of 25%

Reported Blincyto® sales[1]



- Blincyto® sales price estimated to be $178k[3] (for 2 cycles) supporting approx. >2,000 commercial adult ALL patients, growing at a rate of 25%
- Kymriah® is priced at $475k in pediatric ALL. Breyanzi® is priced at $410k in DLBCL[4]. Tecartus™ is priced at $399k for adult ALL.
- Breyanzi® and other CAR T cell therapies are expanding delivery center footprint
- Tecartus™ is expected to establish CAR T use in adult ALL
- obe-cel has the potential to be best-in-class curative therapy expanding use beyond academic transplant centers

NOTES

1. As per Amgen quarterly SEC filings
2. H2 2021 is not yet reported, this is just an extrapolation based on H1 2021 reported sales
3. https://www.medscape.com/viewarticle/836879
4. Bristol Myers finally wins FDA approval for cancer cell therapy | BioPharma Dive – Komodo Health 2015 – 2020

Next steps: obe-cel initial data (FELIX) expected in H2 2022

obe-cel is the first Autolus program to move into a pivotal program: full data in H1 2023

FELIX 19

Pivotal Phase 2 trial in adult ALL ongoing since mid-2021 with sites in UK, Spain and US

Up to 100 relapsed/refractory adult ALL patients

Phase 1b run-in component, prior to single arm Phase 2 potential pivotal trial

Pre-determined futility analysis passed in Q1 2022

H2 2022
Initial data

Primary endpoint: overall complete response rate (CR/Cri)

H1 2023
Full data

Secondary endpoints: include MRD-negative CR EFS and DoR

Data in MRD population will enable obe-cel to maximise outcomes from the study

- Autolus plans to evaluate a separate cohort of up to 50 additional patients with Minimal Residual Disease (MRD)
- Patients to be recruited in parallel to the main Felix cohort
- The additional data aims to establish the profile of obe-cel in patients across all levels of disease burden in adult ALL
- Data from the population has potential to support adoption as earlier line treatment

Building obe-cel into a franchise

Deep value program with broad applicability

Capitalising on the unique profile of obe-cel

- Clinical data supports differentiated product profile
  - High degree of activity and persistence -> drives long term outcomes
  - Potential best-in-class safety profile -> will drive adoption of obe-cel in all clinical settings
  - Initial NHL data is consistent with this profile

- Solid foundation for onward development

PRODUCT	INDICATION	TARGET	STUDY NAME	PHASE
obe-cel	Adult ALL	CD19	FELIX	Pivotal
obe-cel	B-NHL & CLL	CD19	ALLCAR19*	Phase 1
obe-cel	Primary CNS Lymphoma	CD19	CAROUSEL*	Phase 1
AUTO1/22	Pediatric ALL	CD19 & CD22	CARPALL*	Phase 1

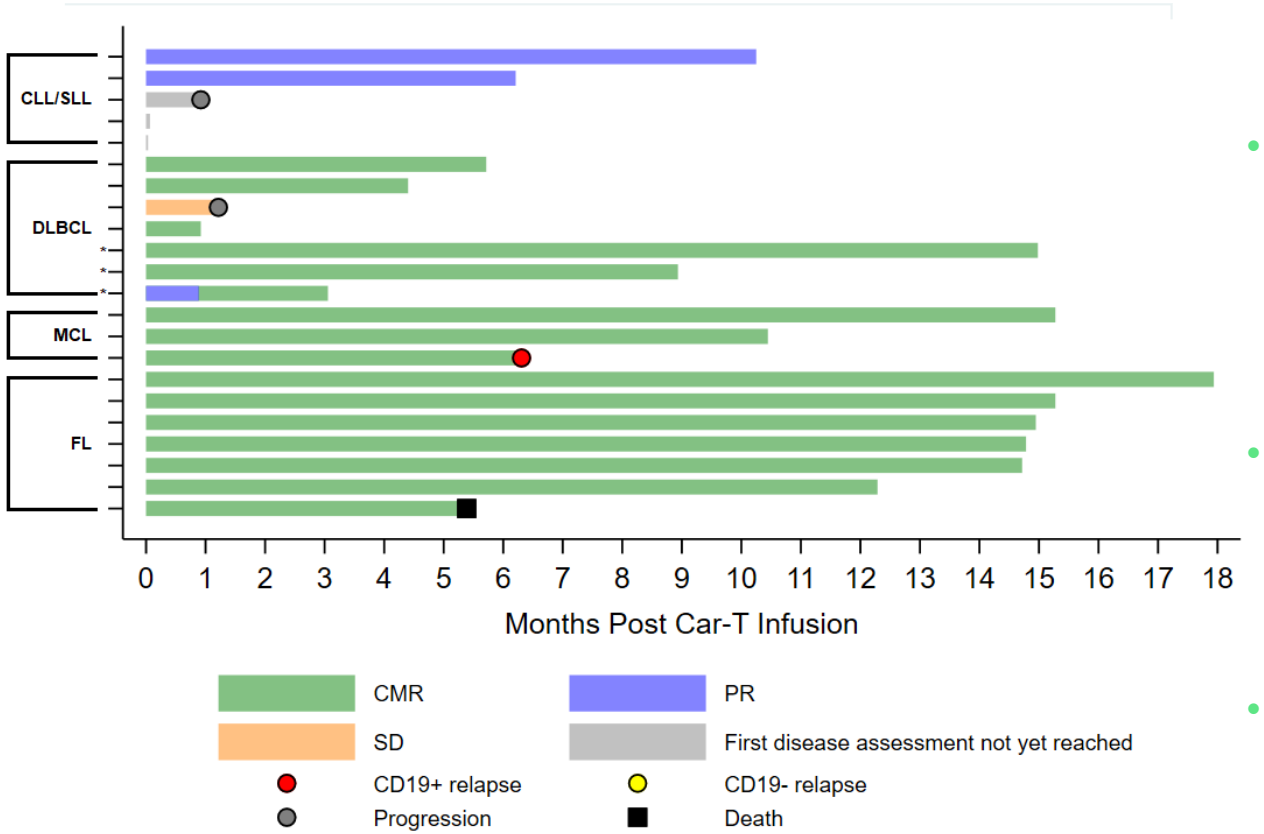
B Cell Malignancies

* Collaboration with UCL

EHA data: encouraging efficacy and duration of response in NHL/CLL

Long term persistence drives durable outcomes

N (%)	
Follicular Lymphoma	
CR + PR	7 (100%)
CR	7 (100%)
	1 death in CR from Covid19
DLBCL	
CR + PR	6 (84%)
CR	6 (84%)
SD	1
	1 PD at day 37
MCL	
CR + PR	3 (100%)
CR	3 (100%)
	1 relapse at 6 months
CLL/SLL	
CR + PR	2 PR (67%) (BM MRD-neg.)
PD	1
Pending	2



- Of 20 patients evaluable for efficacy, the ORR was 18/20 (90%)
- In the B-NHL cohorts the CRR was 16/17 (94%)
  - FL: 7/7
  - MCL: 3/3
  - DBCL: 6/7
- Of the 18 responding patients, 17/18 are without disease progression at last follow-up
- Longer follow-up and enrolment of additional MCL, FL, DLBCL and CLL/SLL patients is ongoing

Median (Range) Follow-Up Time:

- FL/DLBCL: 9.2 Months (Range 1.9-19.1)
- MCL/CLL: 8.9 Months (Range 0.0-19.7)

DLBCL* = transformed follicular lymphoma

Data Cutoff: 12-May-2022

Primary CNS Lymphoma: favorable tolerability profile

- No grade high grade CRS was observed using IV or intraventricular obe-cel administration
- 2 cases of grade 3 ICANS were reported following IV infusion
  - 1 patient improved with steroids / toci
  - 1 patient had several neurological deficits consistent with progressive disease and didn't respond to steroids / toci
- 2 patients died from progressive PCNSL

Adverse Events of Special Interest

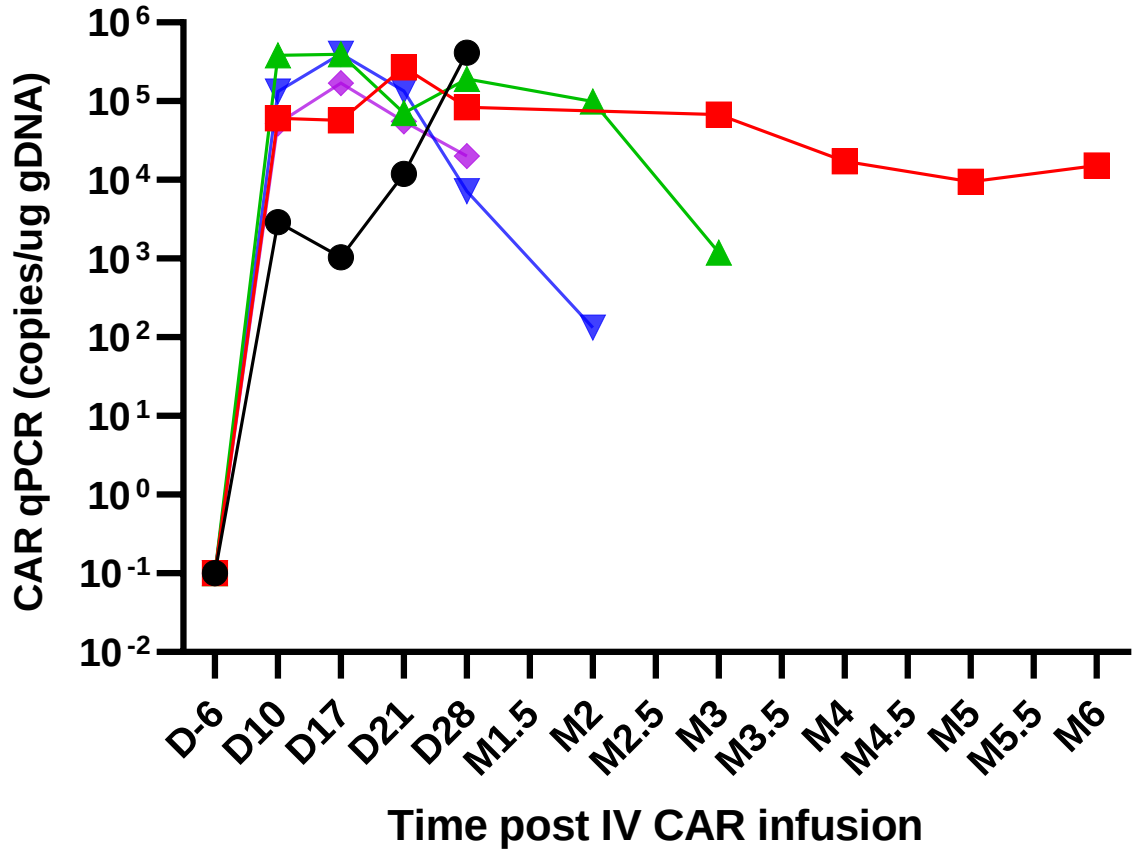
Event N = 6 patients	All Grades n (%)	Grade 1 n (%)	Grade 2 n (%)	Grade 3 n (%)	Grade 4 n (%)
CRS*	6	2	4**	0	0
ICANS	3	1	0	2	0

*CRS grading by grading by ASTCT consensus criteria, Lee et al 2019
**Grade 2 CRS in 3 patients with IV AUTO1 and 1 patient with I-VEN AUTO1

Data Cut-off: 12-May-2022

obe-cel shows excellent T cell expansion and engraftment

Persistence of obe-cel demonstrated by qPCR



- Persistence in all treated patients at last follow-up

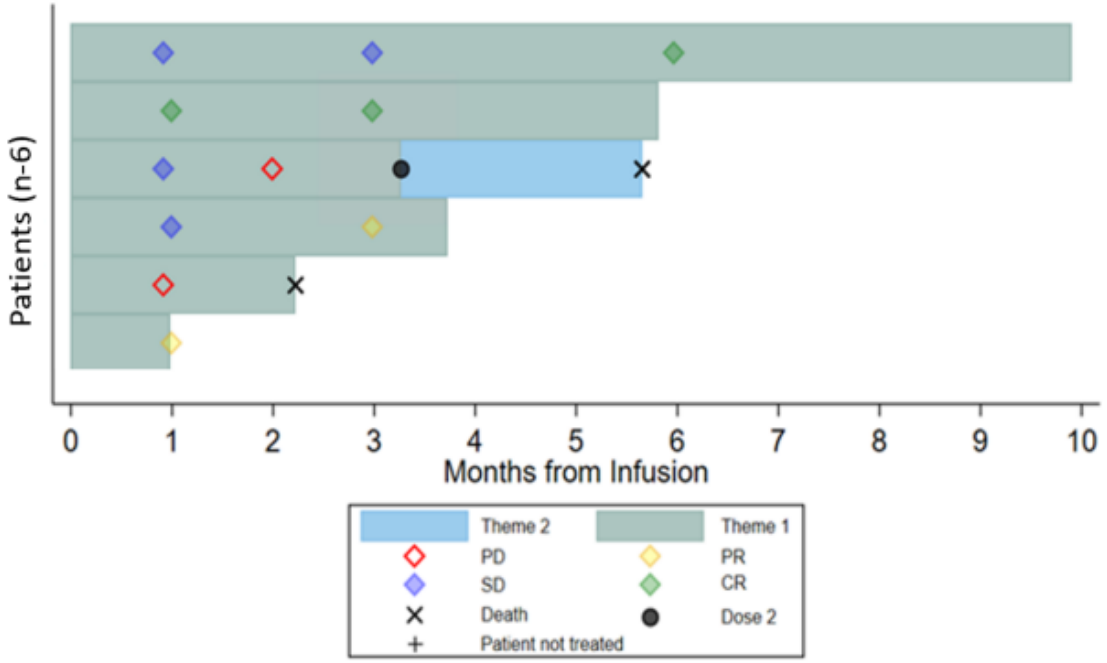
CAR, chimeric antigen receptor; VCN, vector copy number; qPCR, quantitative polymerase chain reaction

Data Cut-off: 12-May-2022

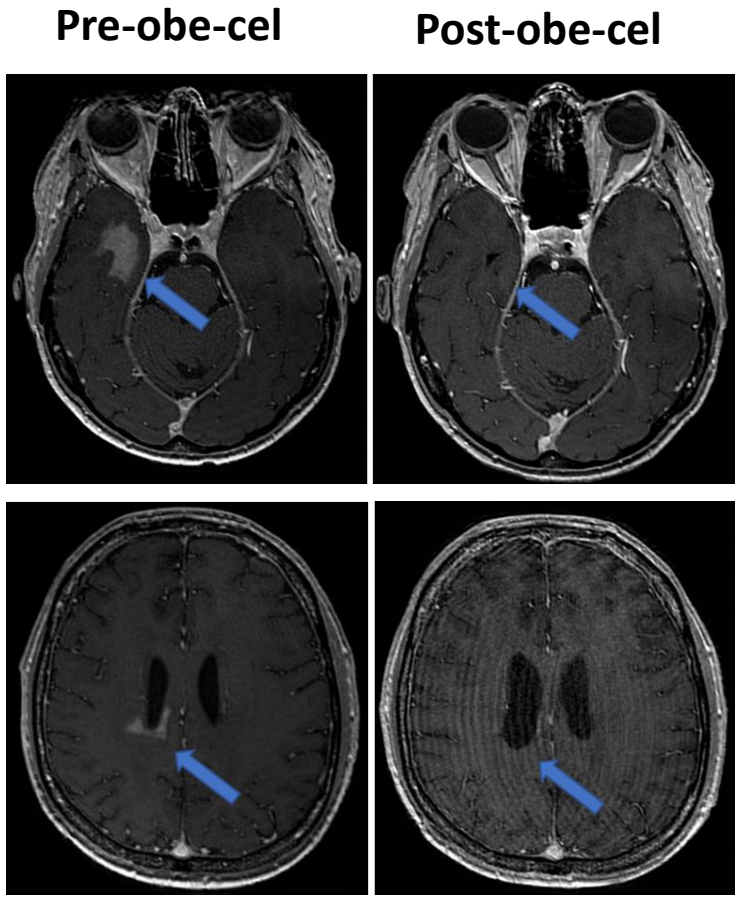
obe-cel shows encouraging initial efficacy and durability in PCNSL

Overall response rate was 4/6 (67%) and these patients are without disease progression at last follow up

	N (%)
CR + PR	4 (67%)
CR	2 (33%) (1 SD -> CR)
PR	2 (33%) (1 SD -> PR)



Median Follow-Up Time: 4.7 Months (Range 1-10)



Disease assessment by MRI imaging

Data Cut-off: 12-May-2022

Summary and next steps for obe-cel

Building a franchise through broad applicability

- ✓ Favourable and consistent safety profile demonstrated across all indications
- ✓ Of patients evaluable for efficacy across MCL, DLBCL, FL and CLL the ORR was 18/20 (90%)
- ✓ In the B-NHL cohorts, the CRR was 16/17 (94%)
- ✓ In the CLL cohort a best response of a PR was achieved in 2/3 patients, notably both achieved MRD-negativity in their marrow and both remain in PR at 10 and 6 months respectively
- ✓ Of the responding MCL, DLBCL, FL and CLL patients, 17/18 (94%) are without disease progression at last follow-up
- ✓ Encouraging initial data in PSNSL with 4/6 patients (2 CR and 2 PR) in ongoing responses at last follow up

Next steps…

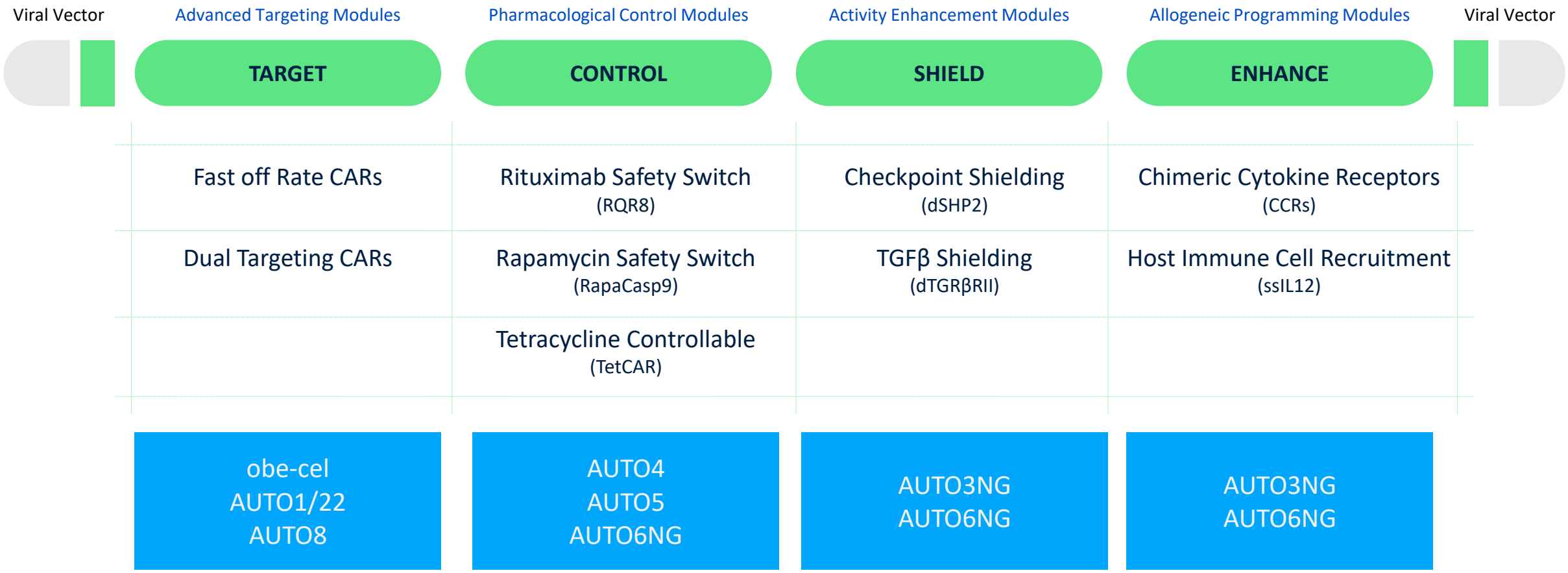
- Longer follow-up and enrolment of additional MCL, FL, DLBCL and CLL/SLL patients is ongoing

Pipeline

A broad portfolio of next generation modular T cell therapies

A broad toolkit which is core to our strategy of modular innovation

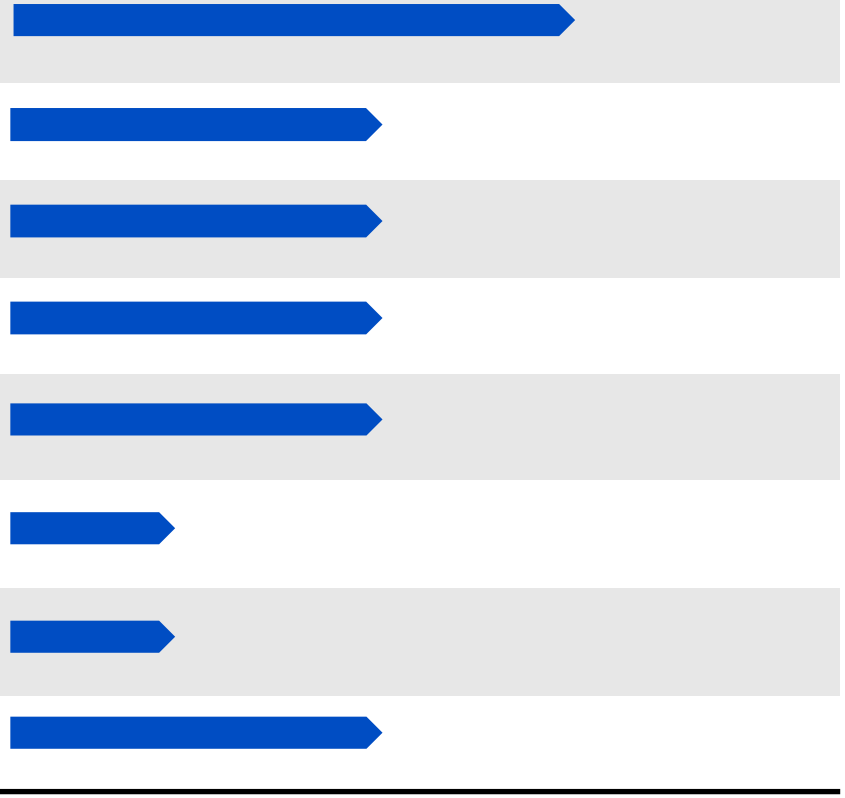
Advanced T cell programming



Pipeline

Designed to address limitations of current T cell therapies

PRODUCT	INDICATION	TARGET	STUDY	PRE CLINICAL	PHASE 1	PHASE 2/ PIVOTAL	BLA
obe-cel	Adult ALL	CD19	FELIX				
obe-cel	B-NHL & CLL	CD19	ALLCAR19 Ext*				
obe-cel	Primary CNS Lymphoma	CD19	CAROUSEL*				
AUTO1/22	Pediatric ALL	CD19 & CD22	CARPALL*				
AUTO4	TRBC1+ Peripheral TCL	TRBC1	LibrA T1				
AUTO5	TRBC2+ Peripheral TCL	TRBC2					
AUTO6NG	Neuroblastoma; Other tumour types	GD2					
AUTO8	Multiple Myeloma	BCMA & CD19	MCARTY*				



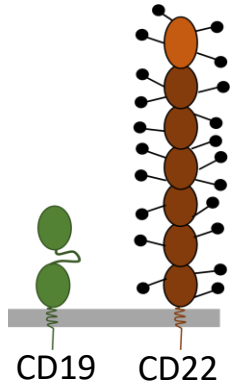
*Collaboration with UCL

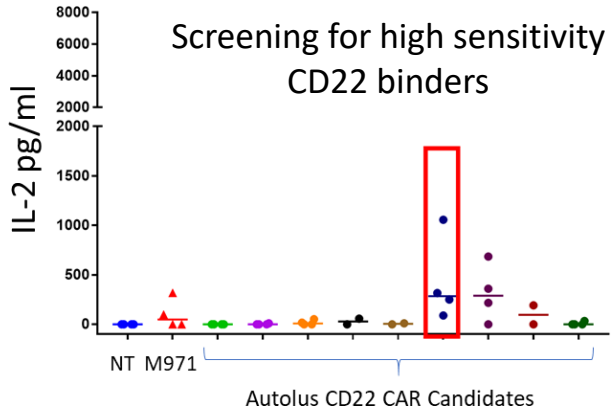
AUTO1/22: Pediatric Acute Lymphoblastic Leukemia

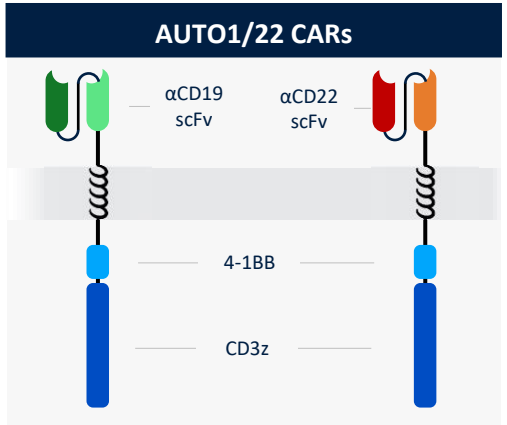
CD19 negative antigen escape is a common cause of treatment failure

CARPALL Study	
n	14
CR Rate	86%
EFS 12m	52% (95% CI, 16% to 72%)
No. of CD19 negative relapses	5/6
CRS ≥ G3	0%

- obe-cel (AUTO1) in r/r pALL is highly active and has a favourable safety profile - CARPALL study[1,2]
- Medical need in pALL is to minimize rates of antigen-loss–driven relapses and improve long-term outcomes – points to need for a dual targeting CAR T







AUTO1/22 is a next generation program that builds on obe-cel and adds a highly potent CD22 CAR, capable of targeting low levels of CD22

- AUTO1/22 is being evaluated in Phase 1 in r/r paediatric patients

(1) NCT02443831 (2) Ghorashian et al., Nat Med 2019 (3) Shah et al., JCO 2020, Spiegel et al., Nat Med 2021

AUTO1/22 in pediatric Acute Lymphoblastic Leukemia

Patient characteristics

Total Median age at registration	n=11 (%) 12 yrs (range = 3.7-20.5)
Indication	
Post SCT relapse	**6 (55%, 3 isolated extramedullary)**
1st relapse	2 (18%)
2nd relapse	8 (73%)
>2nd relapse	1 (9%)
Median number of lines of prior Rx	**3 (range 2-6)**
Prior Inotuzumab/Blinatumomab	6 (55%)
Prior CD19 CAR T cell therapy	4 (36%)
CD19-ve disease	3 (27%)
BM status pre-lymphodepletion	
Morphological relapse (>5% blasts)	4 (36% + 1 NE with 6% mol MRD)
MRD 2-5%	1 (9%)
MRD 10^{-2}-10^{-5}	3 (27%)
MRD negative	2 (18%)

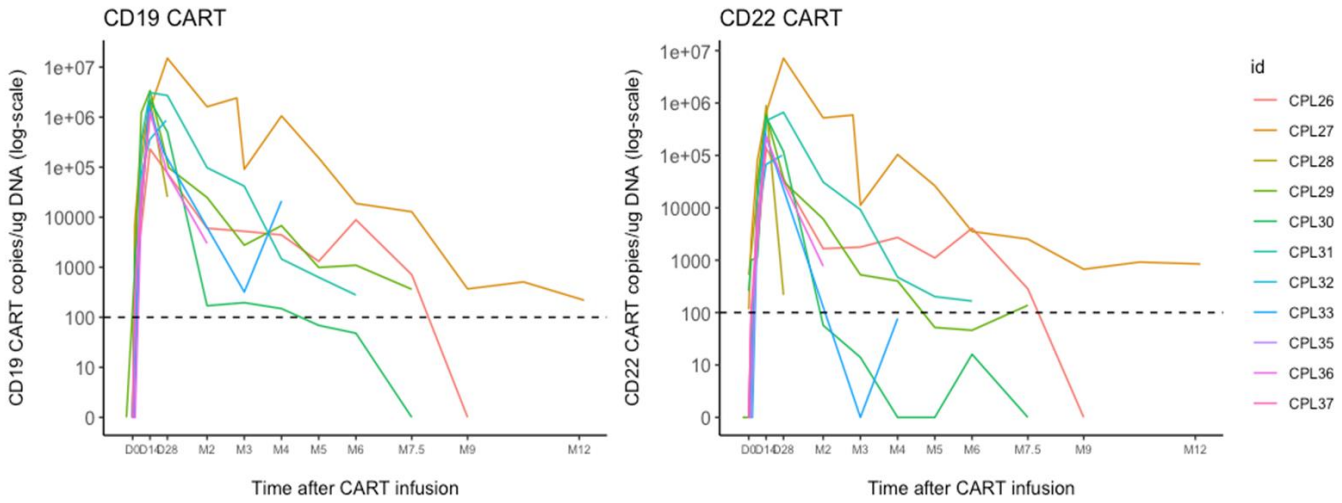
None eligible for Kymriah (4 previous Kymriah, 5 EM disease, 3 CD19-ve component at enrolment)

Data Cutoff: 27-May-2022

EHA data: AUTO1/22 in pediatric Acute Lymphocytic Leukemia

Phase 1 trial: Dose escalation trial – safety profile

qPCR (blood)



- AUTO1/22: reproducibly generate product balanced in CD19 vs CD22CAR with predominantly central memory phenotype
- Safety profile acceptable to date: no severe CRS, 1 Grade 4 ICANS but atypical
- Excellent CAR T expansion - 4 patients have lost CAR T persistence

Data Cutoff: 27-May-2022

AUTO1/22 in pediatric Acute Lymphoblastic Leukemia

Efficacy data

Total	N=11
Molecular MRD neg CR/Cri by d60	9 (82%)
Disease progression	2 (18%)
Events in responders	3
Emergence of molecular MRD	1
CD19+/CD22+ relapse	2

- No antigen-ve relapse was seen in responding patients
- At median follow up of 8.7 months, 6 of 9 responding patients were in MRD-ve complete response (1-12 mo)

Data Cut-off: 27-May-2022

Summary for AUTO1/22 phase 1 study in r/r pALL

Initial data presented at EHA, June 2022

- ✓ CD19/CD22 targeting CAR T cells generated by co-transduction show robust expansion and persistence
- ✓ Favorable safety profile demonstrated, with no severe CRS
- ✓ Demonstration of efficacy of CD22 CAR
- ✓ Early efficacy in a heavily pre-treated cohort with 9/11 (82%) MRD negative CR rate
- ✓ To date with limited follow-up we have not observed antigen negative relapse

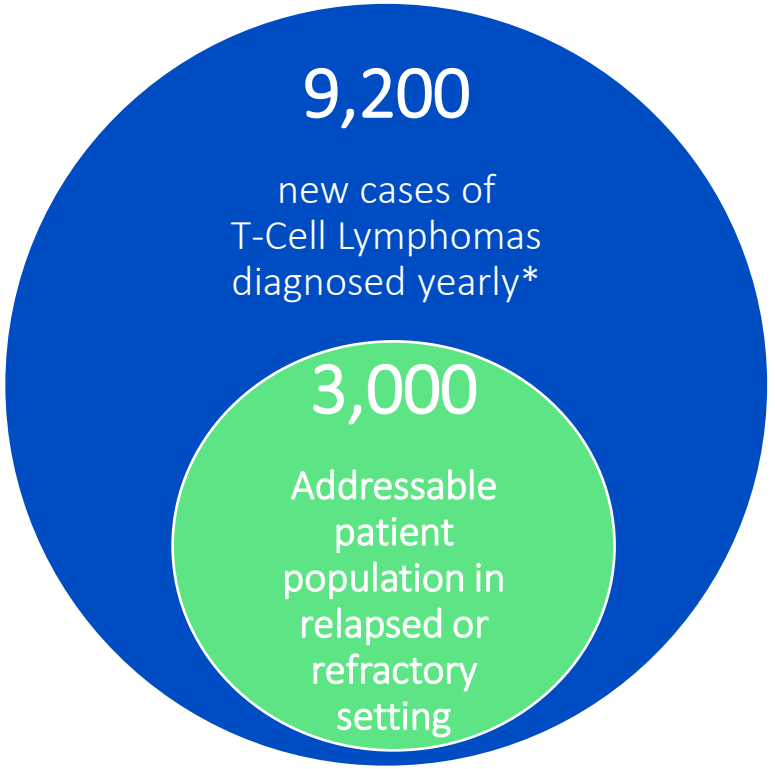
Next steps:

- Enrol additional patients
- Longer follow-up

AUTO4 and AUTO5 for Peripheral T-Cell Lymphoma

T-Cell Lymphoma is an aggressive disease with a very poor prognosis

- A large portion of T-Cell Lymphoma patients are refractory/relapse following first-line treatment (68%)[3]
- Standard of care is variable and often based on high-dose chemotherapy and stem cell transplants:
  - Median 5 yrs OS: 32% [1]
- Relapsed/refractory patients have a worse prognosis
  - Median PFS approximately 3 months/ Median OS < 6 months [2,3]
- Brentuximab survival benefit restricted to CD30 positive ALCL subtype[4]
  - approx. 12% of total PTCL patient population[4,5]
- T cell lymphoma has not benefited from advances in immunotherapy
  - Pan T-cell depletion highly toxic; few/no tumor-specific antigen targets



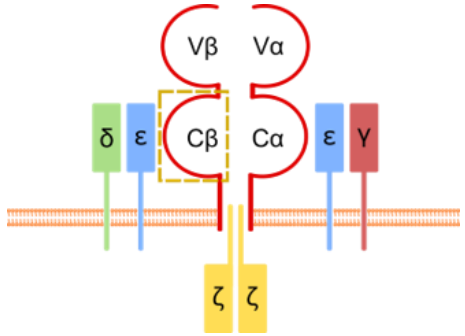
*Japan, US and EU5 (DRG Epidemiology Data)

[1] Weisenburger et al., Blood 2011; [2]Mak et al, JCO 2013; [3]Bellei M et al, Haematologica 2018, [4]Horwitz et al, Lancet, 2019, [5]Vose et al., JCO 2008

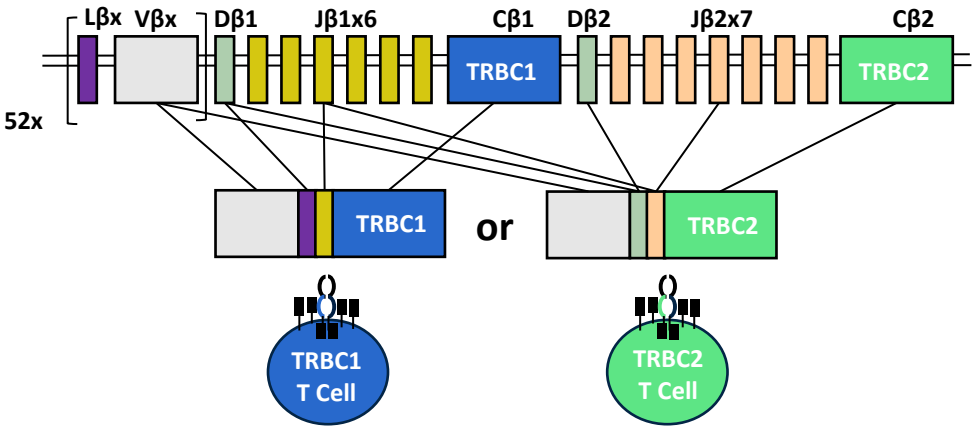
Mature T cells express either TRBC1 or TRBC2

T-Cell Lymphomas are also clonal and express either TRBC1 or TRBC2

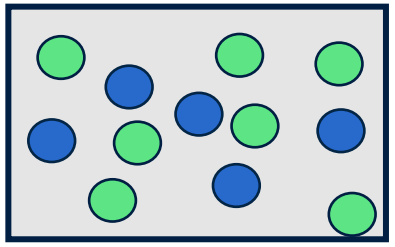
Structure of the T Cell Receptor or TCR



Duplication of β chain constant region gene



Healthy T Cells

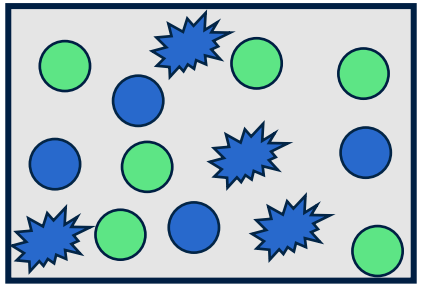


Contain mixture of

TRBC1+ cells

TRBC2+ cells

TRBC1+ T cell lymphoma

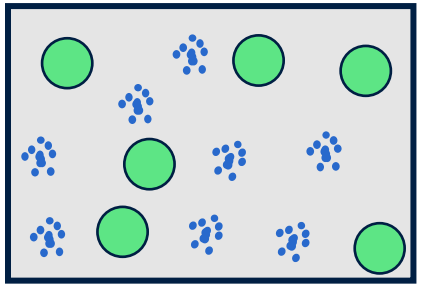


TRBC1+ tumour cell

TRBC1 CAR

TRBC2+ normal T cells retained

(immunity maintained)

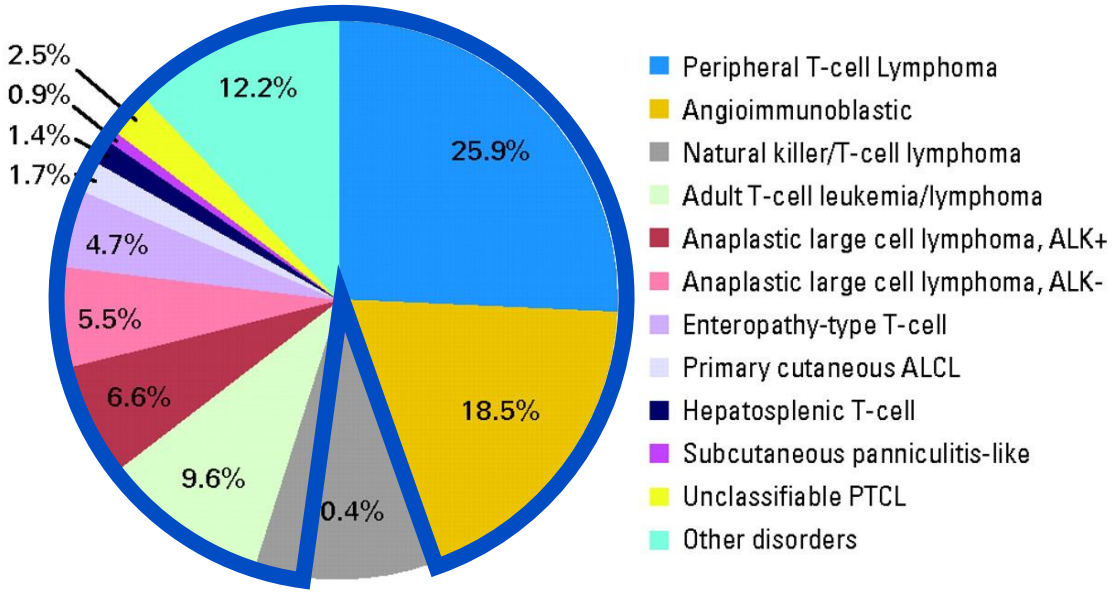


TRBC1+ cells killed
(tumour & healthy)

Maciocia et al., Nature Medicine, 2017

TRBC1/TRBC2 targeting approach applicable to 95% of TCL subtypes

Distribution of cases by subtype



Subtypes that are TRBC1 or TRBC2 positive

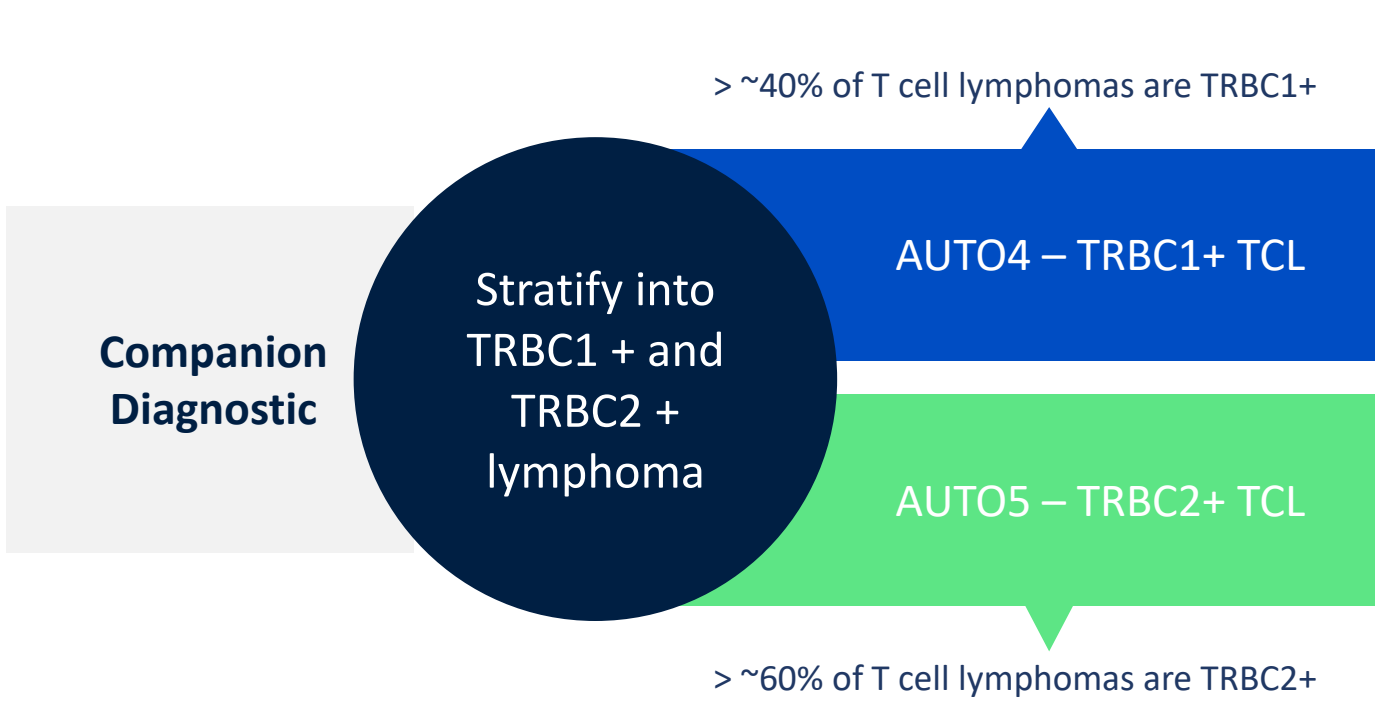
- High and homogeneous expression of TRBC1 or TRBC2 is seen in the majority of TCL subsets - 95% of cases
- TRBC1 and TRBC2 will not be expressed in NK cell lymphomas or rare gamma delta t-cell lymphomas
- Other potential TCL targets:
  - Highly restricted in their expression
  - High and homogenous expression of CD30 is restricted to ALCL subset - 12% of cases
  - Widely expressed on normal T cells and therefore come with a significant risk of toxicities

Source: International T-Cell Lymphoma Project published in Journal of Clinical Oncology 2008 264124-4130

Three key elements to address T-Cell Lymphomas

A companion diagnostic: AUTO4 and AUTO5

Multiple approaches de-risked for development



Current Development Milestone

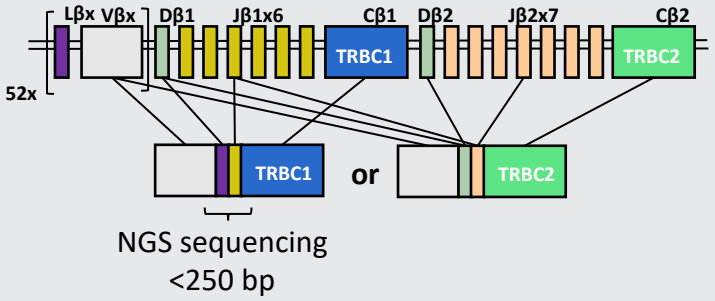
Phase 1 dose escalation

Candidate selected

Companion Diagnostic

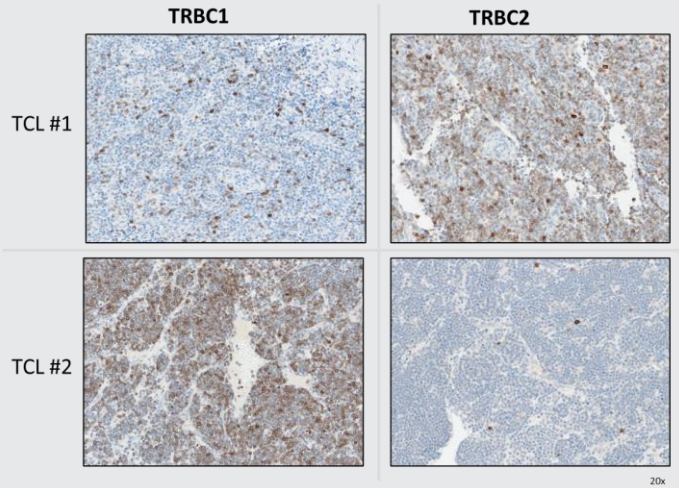
Multiple approaches de-risked for development

Next Generation Sequencing



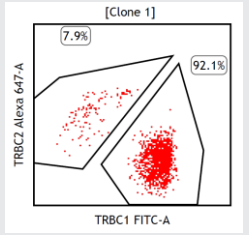
T cell clonality NGS assay currently used in AUTO4 Phase 1

Immunohistochemistry

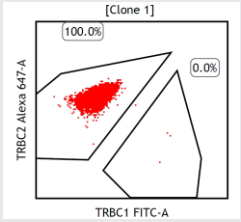


FFPE specific antibodies can discriminate between TRBC1 and TRBC2 patient tumors

Flow Cytometry



TRBC1 positive T-cell Prolymphocytic Leukemia



TRBC2 positive small Sezary cell cutaneous T-Cell Lymphoma

Flow specific antibodies can discriminate between TRBC1 and TRBC2 in patient tumors

EHA data: Key Safety Data

AUTO4 findings / clinical data

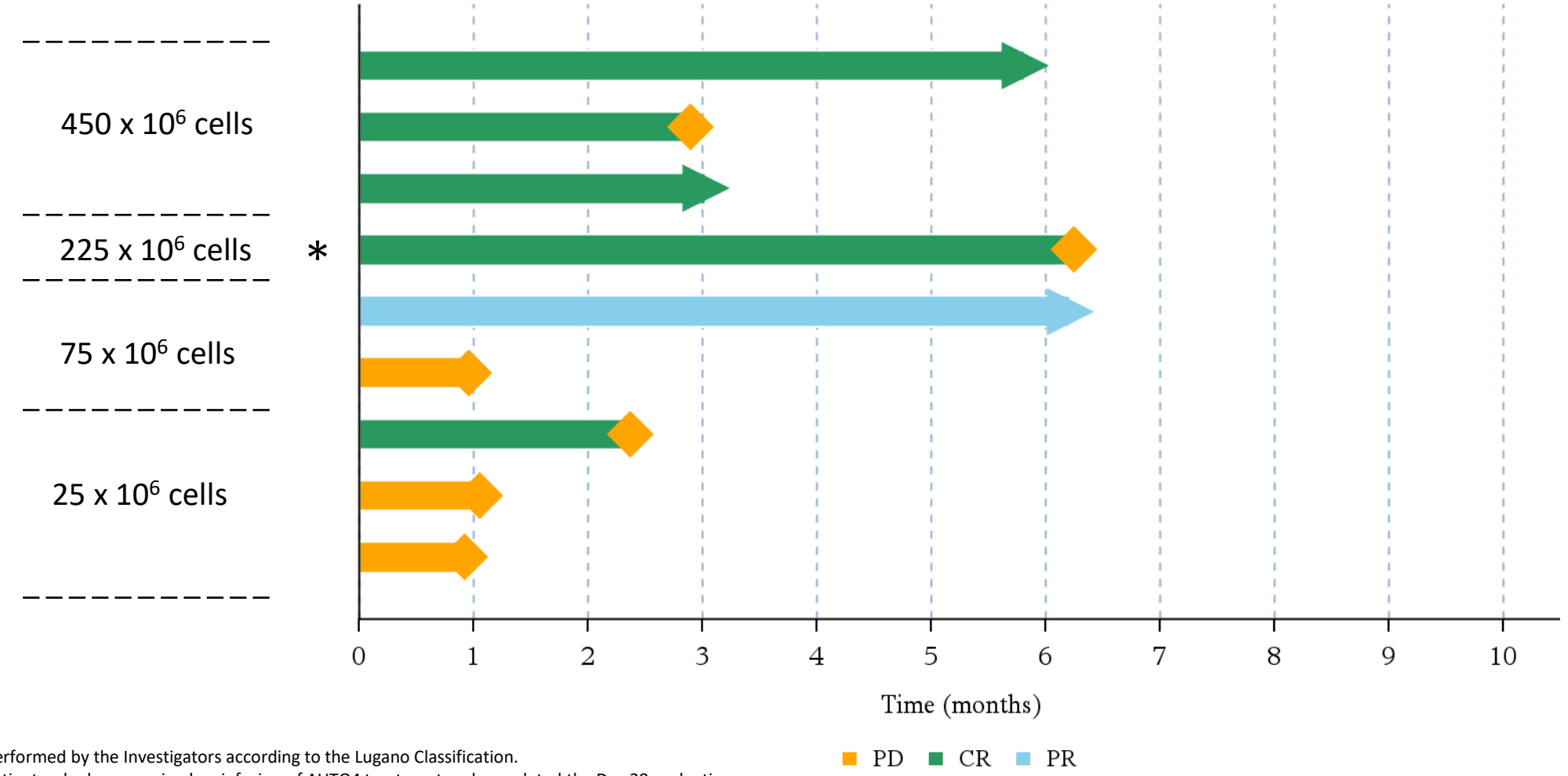
	Cohort 1 $25x10^6$ cells (N = 3)	Cohort 2 $75x10^6$ cells (N = 2)	Cohort 3 $225x10^6$ cells (N = 1)	Cohort 4 $450x10^6$ cells (N = 4)	Total (N = 10)
Dose Limiting Toxicity (DLT)	0	0	0	0	0
Grade 3 or 4 TEAE within 60 days	3 (100%)	2 (100%)	1 (100%)	4 (100%)	10 (100%)
Neutropenia	3 (100%)	2 (100%)	0	3 (75%)	8 (80%)
Infections and Infestations	0	0	0	0	0
Serious TEAE	2 (67%)	0	0	2 (50%)	4 (40%)
Any grade CRS	0	0	0	4 (100%)	4 (40%)
Grade 3 CRS	0	0	0	1 (25%)	1 (10%)
Any grade ICANS	0	0	0	0	0

TEAE - **Treatment-emergent adverse events;** CRS - cytokine release syndrome; ICANS - Immune Effect Cell-Associated Neurotoxicity Syndrome

Data Cutoff: 26 April 2022

Initial data encouraging

All patients treated at highest dose level had a complete metabolic response

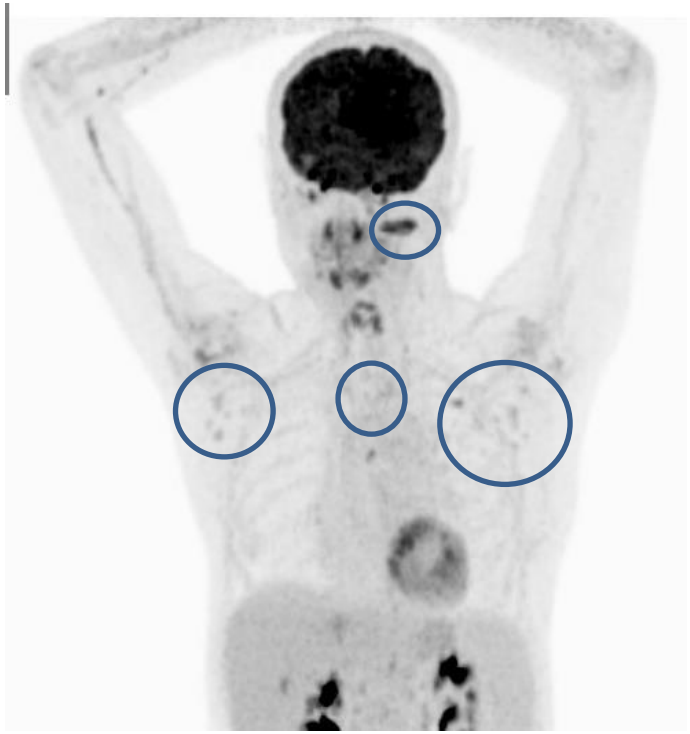


Efficacy assessments were performed by the Investigators according to the Lugano Classification.
† Evaluable Set consists of patients who have received an infusion of AUTO4 treatment and completed the Day 28 evaluation.
All patients had relapsed/refractory disease at time of Part B screening and enrolment.
* Patient was PET-negative at the start of pre-conditioning therapy.

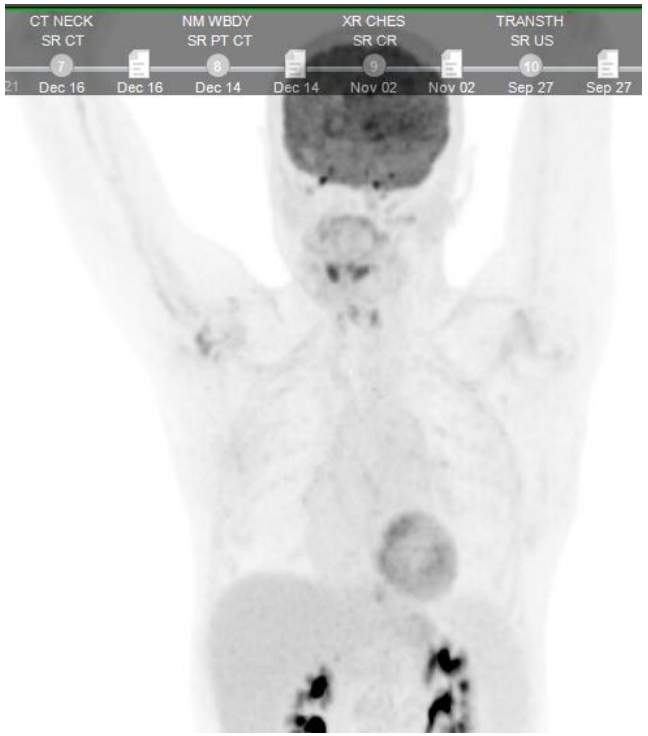
Data Cut off: 26 April 2022

PET scans for patient given 450 x 10^6 CAR T cells

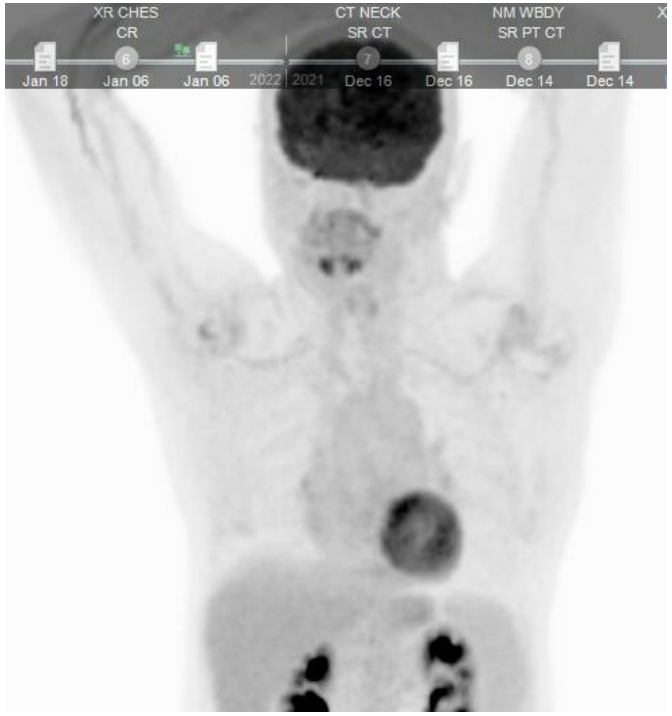
Patient refractory to prior therapies achieved a metabolic complete response



Baseline



Day 28 post-infusion



3 months post-infusion

Data Cutoff: 26 April 2022

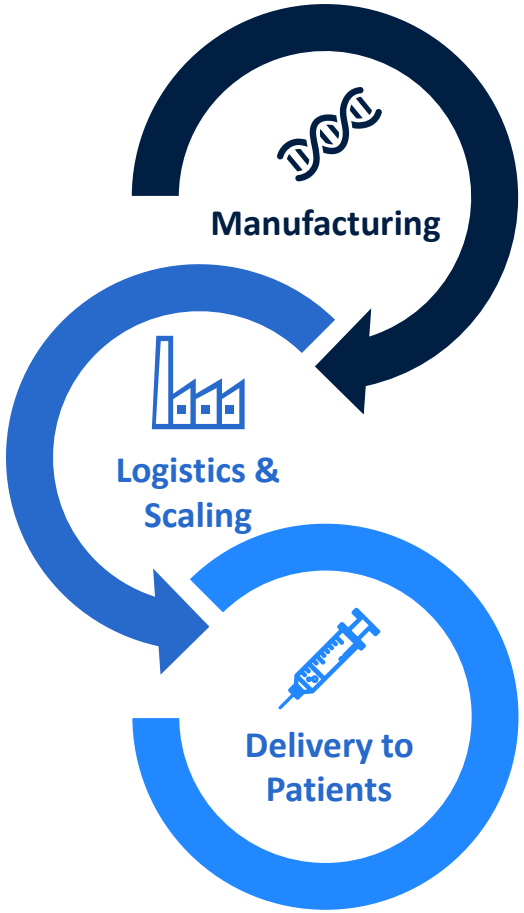
AUTO4 summary and next steps

- AUTO4 treatment generally well tolerated
- Early efficacy is encouraging, particularly with all patients responding at higher dose levels
- CAR T-cells detected in lymph node but no expansion observed in peripheral blood
- Study ongoing, with additional patients due to be treated to define recommended Phase 2 dose

Manufacturing

Manufacturing capabilities to accelerate assets into the clinic and beyond

Building a fully integrated manufacturing and logistics platform that aims to bring assets to market



Product Delivery

- **Highly skilled Autolus manufacturing operations** housed in UK at the Cell and Gene Therapy Catapult
- Established clinical supply and launch capacity – industrial 4 shift / 7d operation

- **Strategic and long term supply arrangements** with all critical supply partners
- Purpose built Autolus facility to for commercial scale supply – GMP certified by mid-2023

- Pilot systems for product delivery at product launch
- **High level of service and scientific engagement at specialised treatment centres**

150+ highly skilled manufacturing staff

Clinical capacity of 350 batches p.a.

70,000 sq. foot manufacturing facility

Commercial capacity of 2000 batches p.a.

Robust UK/EU/US vein to delivery platform

In collaboration with treatment centers network

Blackstone Collaboration

Blackstone Life Sciences to invest up to $250m to develop obe-cel in adult ALL

Investment of $100m in equity and up to $150 million in product financing

- Blackstone agreed to purchase $100 million of Autolus' American Depositary Shares (ADS') in a private placement, priced at market
- Blackstone also committed to invest up to $150 million in product financing to support obe-cel development and preparation for commercialization
  - $50 million paid upon closing of the transaction
  - Remainder payable based on achievement of certain development and regulatory milestones
- Blackstone received a warrant to purchase up to $24 million worth of Autolus ADSs at an exercise price premium to market
- Autolus to pay Blackstone a capped single digit royalty plus milestone payments based on net sales of obe-cel
- Transaction provides runway into 2024[1]

NOTES

1. Assuming all milestones received

Summary

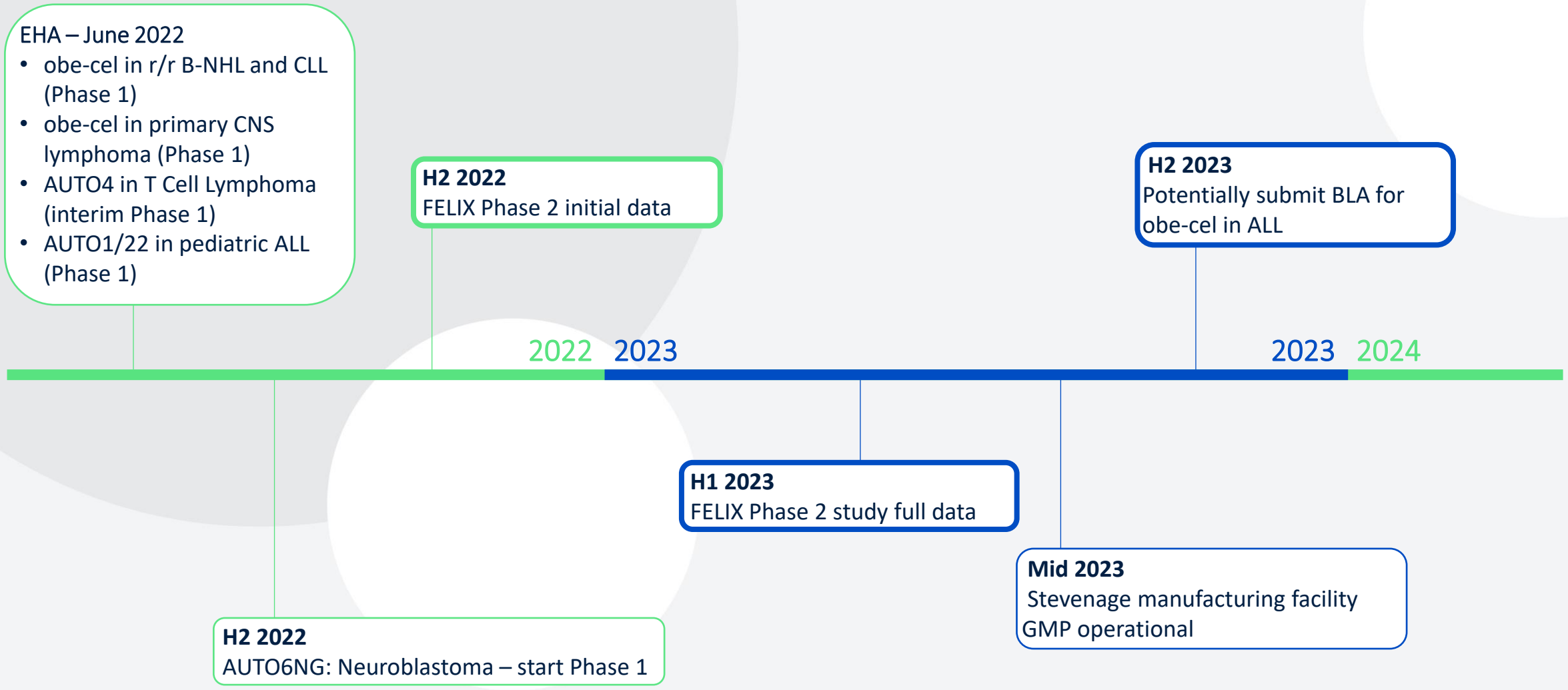
Multiple catalysts in H2 2022

Autolus poised for potential value inflection

obe-cel pivotal data in adult ALL in 2022

- obe-cel
  - FELIX Phase 2 study in adult ALL ongoing; initial data expected in H2 2022 and full data in H1 2023
  - Evaluation in r/r B-NHL and CLL ongoing
  - Evaluation in Primary CNS Lymphoma ongoing
- AUTO1/22
  - AUTO1/22 Phase 1 (CARPALL) study in Pediatric ALL ongoing
  - Longer term follow-up data in H2 2022
- AUTO4 /AUTO5
  - AUTO4 Phase 1 (LibrA T1) study in Peripheral T cell lymphoma ongoing
- Pipeline transitioning to Phase 1 in 2022
  - AUTO8 Phase 1 study has started
  - AUTO6NG in Neuroblastoma – start Phase 1 H2 2022
- Cash balance at March 31, 2022, $268.6 million

Autolus key newsflow timeline



Autolus

Thank you