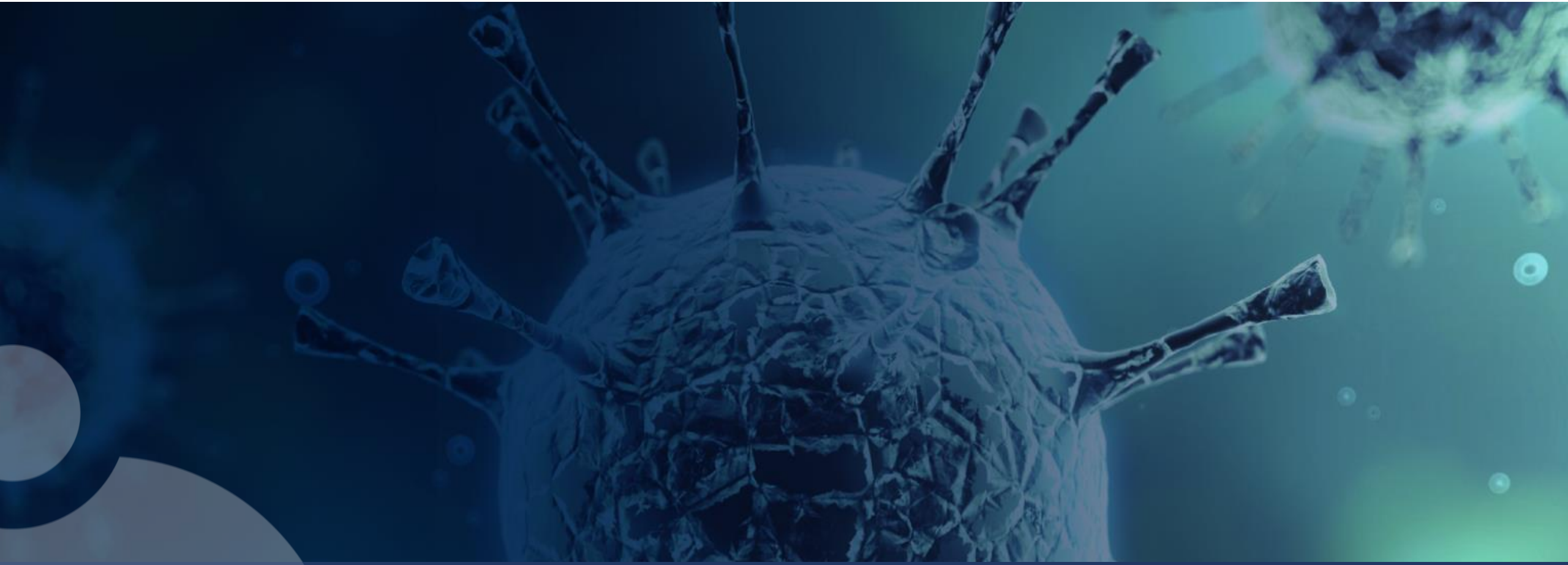
Autolus

Nasdaq: AUTL



Third Quarter Financial Results and Operational Progress

November 3, 2021

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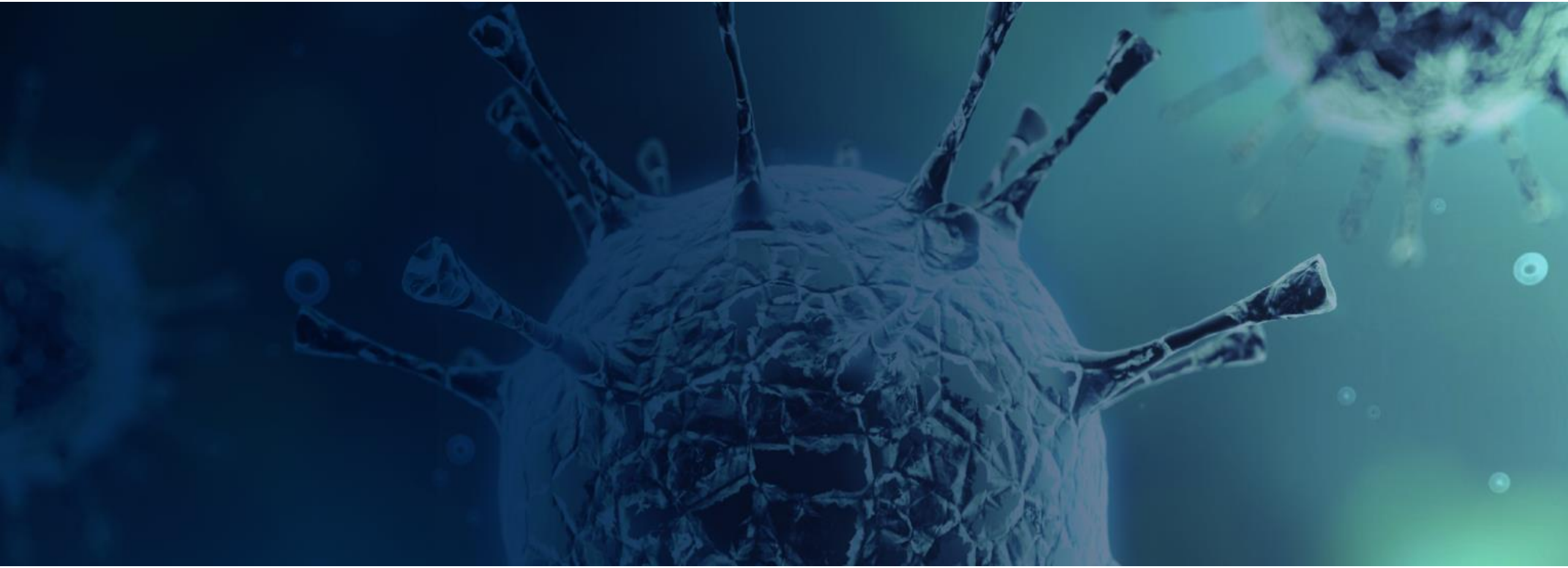
Agenda

- Welcome and Introduction: Dr. Lucy Crabtree, VP Business Strategy
- Operational Highlights: Christopher Vann, COO
- Financial Results: Andrew J. Oakley, CFO
- Upcoming Milestones and Conclusion: Dr. Christian Itin, CEO
- Q&A: Dr. Christian Itin, Christopher Vann and Andrew J. Oakley



Operational Highlights

Christopher Vann – COO

Pipeline update – third quarter 2021

FELIX study progressing on track, Phase 1b data consistent with ALLCAR19, reiterate guidance for full data in 2022

- Obe-cel in adult ALL
  - FELIX Study – Phase 1b Initial response rate and safety data consistent with the data reported from the ALLCAR19 trial in r/r adult ALL. Data update at American Society of Hematology (ASH) in December, 2021
  - FELIX Study Phase 2 – Enrollment on track, primary endpoint data expected mid 2022, full data expected in 2022
  - ALLCAR19 Study – Data published in the Journal of Clinical Oncology in September, 2021
  - Data from ALLCAR19 extension study in patients with B-NHL at ASH in December, 2021
- AUTO1/22 in Pediatric ALL
  - Non-clinical data and initial data from CARPALL extension study to be presented at ASH in December, 2021
- AUTO4 in Peripheral T Cell Lymphoma
  - Phase 1 clinical trial progressing through dose escalation with next data update expected in H1 2022

Corporate update – third quarter 2021

Continued progress on building a leading ALL company

- Appointment of John H. Johnson as Non-Executive Chairman
- Chris Williams, Ph.D. was promoted to Senior Vice President, Corporate Development
- Alexander Swan was promoted to Senior Vice President, Human Resources
- Planning approval granted to build the Company's new manufacturing facility in Stevenage, UK
- As previously announced:
  - Appointment of Edgar Braendle M.D., Ph.D., as Chief Development Officer
  - Appointment of Wolfram Brugger M.D., Ph.D. as VP, Head of Clinical Development
  - Option and License Agreement with Moderna Inc., granting Moderna an exclusive license to develop and commercialize mRNA-based therapeutics incorporating Autolus' proprietary binders to up to four immuno-oncology targets

Driving value with potential best-in-class adult ALL program

Focused on delivering obe-cel, a potentially transformational treatment for Adult ALL

- Full data for obe-cel (FELIX) trial in adult ALL expected in 2022
- obe-cel data in B-NHL indications in Q4 2021
- Next generation AUTO1/22 data in pALL in Q4 2021

- Additional value steps in T cell lymphoma and first solid tumor indication in 2022 and 2023
- Broad preclinical pipeline of next generation programs expected to transition to clinical stage in 2021/2022
- Building on a scalable, fully enclosed manufacturing platform

Key features of a successful CAR T Cell therapy for adult ALL

Obe-cel is uniquely placed to address current limitations of therapy

Challenge	Product Property	CAR T Feature	Potential Benefit
Fast proliferating disease	Very high level of anti-leukemic activity	Rapid CAR T mediated kill and high level of CAR T expansion	High response rates
Almost stem cell like nature of leukemic cells	Sustain long term pressure on leukemia	Long CAR T persistence	Durable responses
Poor patient condition	Good tolerability	Minimize high grade CRS and NT	Manageable AE profile

High unmet need remains for adult ALL patients

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

Autolus

ALL is a significant opportunity

Up to **8,400*** new cases of adult ALL diagnosed yearly worldwide

Estimated R/R patients in US & EU **3,000** addressable patient population in last line setting

HIGH UNMET MEDICAL NEED

- Combination chemotherapy enables 90% of adult ALL patients to experience CR, but only 30% to 40% will achieve long-term remission
- Median overall survival is < 1 year in r/r adult ALL
- Only redirected T cell therapies for adult patients are blinatumomab and brexucabtagene autoleucel
- CAR T therapies are highly active, but require subsequent allograft to achieve durability
- Patients are generally more fragile with co-morbidities, yet CAR T toxicities in this setting have been notable with high incidences of severe CRS and cases of fatal neurotoxicity
- Opportunity to expand the addressable patient population in earlier lines of therapy

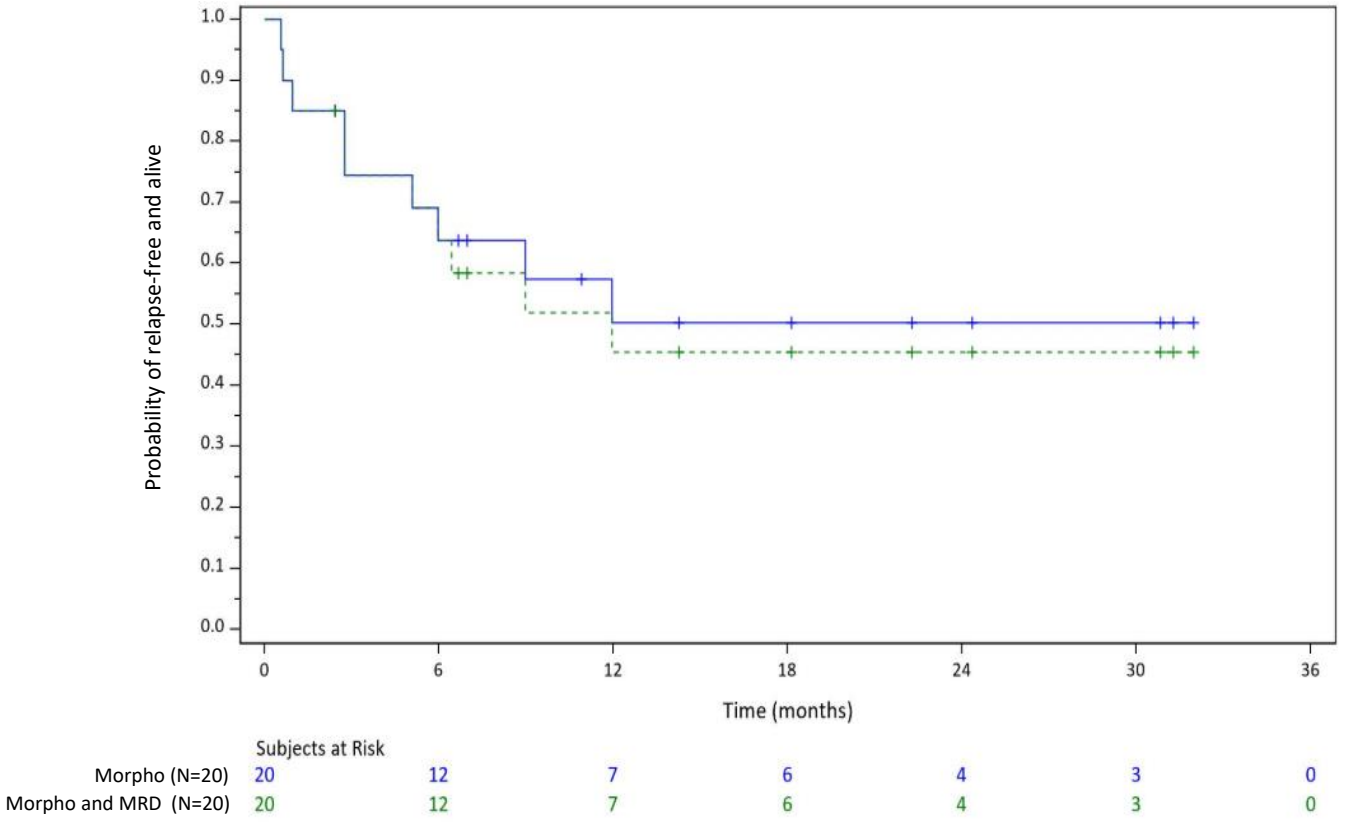
OBE-CEL GRANTED ORPHAN DRUG DESIGNATION BY FDA FOR ALL, PRIME DESIGNATION IN R/R B-ALL BY EMA AND ILAP DESIGNATION BY MHRA IN ADULT R/R B-ALL

*SEER and EUCAN estimates (respectively) for US and EU epi

Obe-cel morphological event-free survival of 50.2% at 24 months

MRD and morphological EFS curves are superimposable with a plateau seen from 12 months

Morphological and Molecular EFS among all infused patients in ALLCAR19



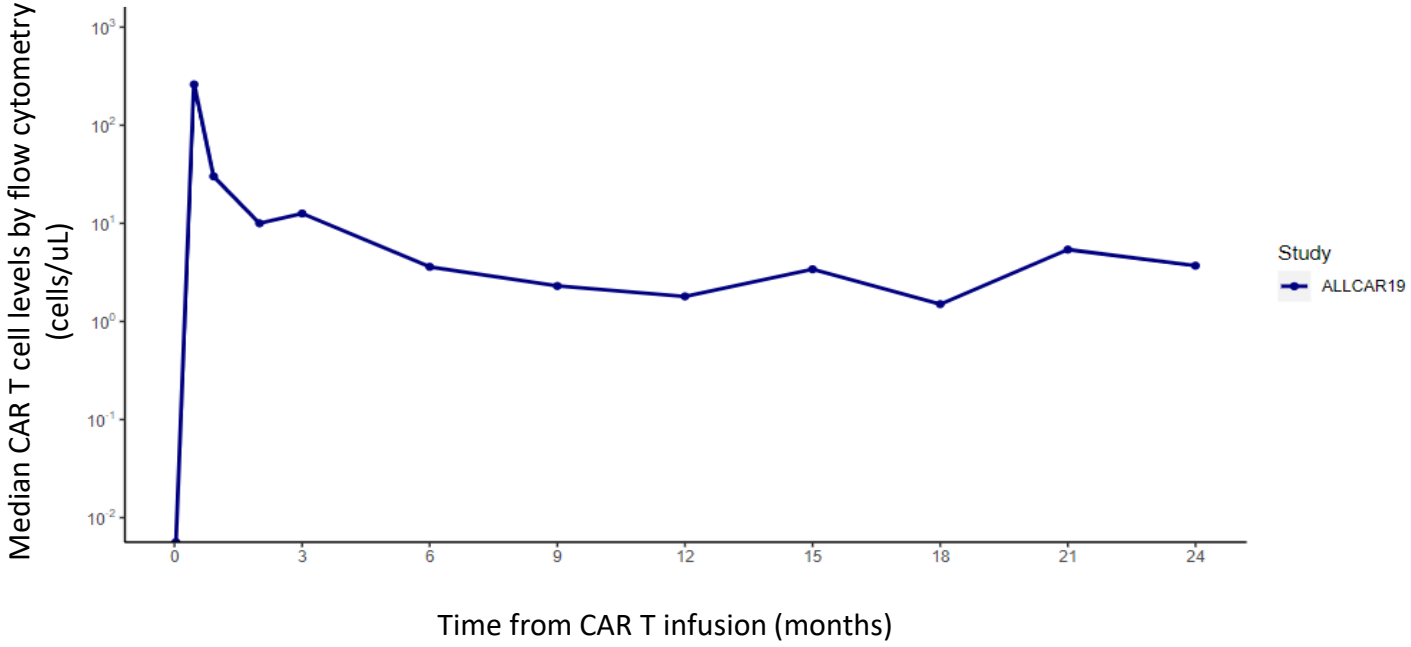
		All infused patients	Closed Process
	N	20	14
	ORR	85%	93%
	MRD Neg CR	85%	93%
DOR			
	Median	Not reached	Not reached
	12 months	64%	64%
Morph. EFS			
	Median	Not reached	Not reached
	12 months	50.2%	60%
	24 months	50.2%	60%
Molecular EFS			
	Median	12 months	Not reached
	12 months	45%	54%
	24 months	45%	54%

Event for morphological EFS = death or morphological relapse
Event for molecular EFS = death, morphological relapse, or molecular relapse (i.e. MRD > 0.01%)
Data Cut-off 17-May-2021

Obe-cel expansion characteristics support its differentiated profile

Obe-cel shows long persistence and well manageable safety profile

Median CAR T cell levels in peripheral blood



	ALLCAR-19 trial
N	**20**
CRS Any Grade	**55%**
CRS Grade ≥ 3	**0**
NE / ICANS Any Grade	**20%**
NE / ICANS Grade ≥ 3	**15%**
Treatment for CRS and/or ICANS	
Tocilizumab	35%
Steroids	20%
Vasopressor	0

Current standard of care in r/r adult ALL

Obe-cel showed 50.2% EFS at 24 months

	Standard of Care	
	Blinatumumab[1]	**Inotuzumab[2]**
N	271	109
ORR (CR/CRi)	44%	80.7%
EFS	31% (6 m)	mPFS 5m
median DoR	7.3m	5.4m
median OS	7.7m	7.7m
CRS ≥ Grade 3	3%	0%
Neurotox any Grade	65%	Not reported
Neurotox ≥ Grade 3	13%	0%
Other notable observations	NA Approx. 50% of blinatumumab patients received subsequent HSCT	14% Hepatic VoD Approx. 50% of inotuzumab patients received subsequent HSCT

1. Kantarjian et al., 2017/ USPI (product label)
2. Kantarjian et al., 2016/ USPI (product label)

Footnote: Information presented is based on publicly available data. No head-to-head studies were conducted.

Tecartus ® approved for adults with relapsed or refractory B-cell precursor ALL

Obe-cel showed 50.2% EFS at 24 months

	ZUMA-3 Phase 2 Lancet publication[1]	ZUMA-3 Phase 2 USPI (Label) [2]
N	55	54
ORR (CR/CRi)	71%	65%
EFS[#]	~45% (12 m), ~25% (18 m)	-
median DoR, 95% CI	13.6m (9.4, NE)	13.6m (8.7, NE)
median OS, 95% CI	18.2m (15.9, NE)	-
CRS ≥ Grade 3	24%	24%
Neurotox any Grade	60%	87%
Neurotox ≥ Grade 3	25%	35%
Other notable observations	40% vasopressor use 18% pts received alloSCT after Tecartus infusion	-

[#] EFS for ZUMA-3 were estimated based on the KM curve

1. Shah et al. Lancet 2021
2. Tecartus USPI (label)

Footnote: Information presented is based on publicly available data. No head-to-head studies were conducted.

Preliminary Phase 1 data supports development as a stand-alone therapy

Obe-cel is the first Autolus program to move into a pivotal program

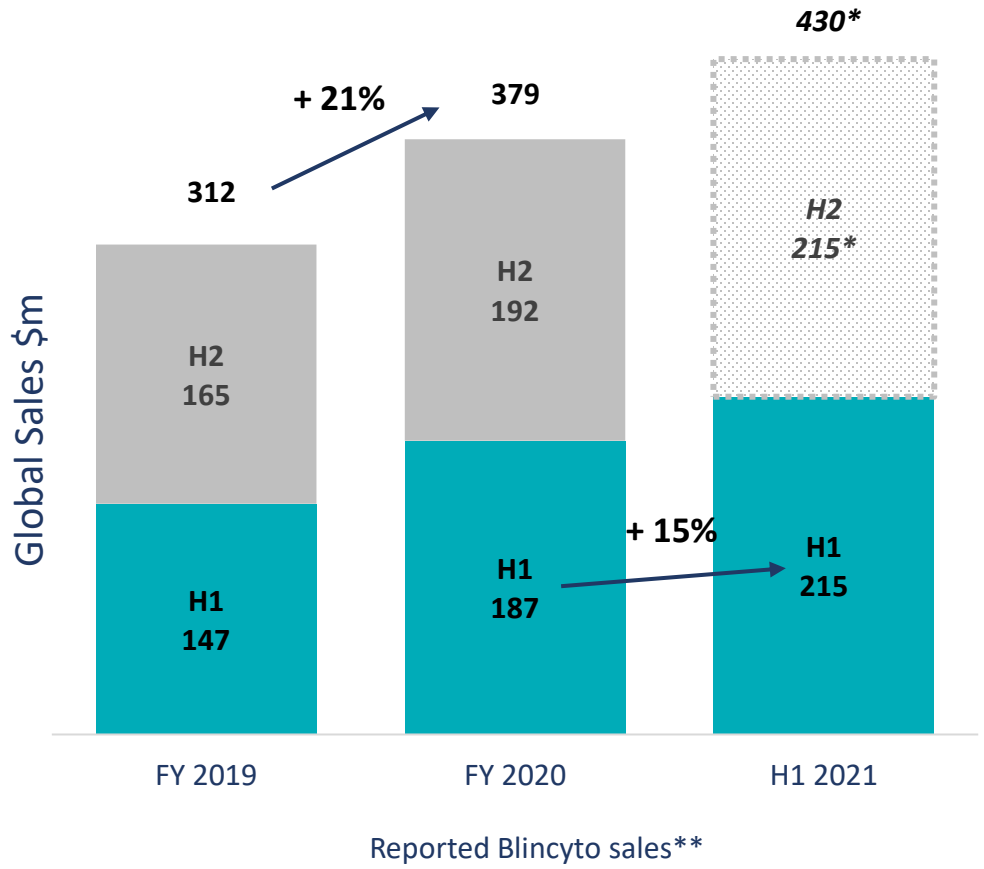
Pivotal program, FELIX, in adult ALL enrolling with full data targeted in 2022

CTA approved by the MHRA in January 2020 and US IND has been open since April 2020

- Phase 1b run-in component, prior to single arm Phase 2 potential pivotal trial
- 100 relapsed/refractory adult ALL patients
- Primary endpoint: Overall Complete Response Rate (CR/CRi)
- Secondary endpoints: include MRD-negative CR EFS and DoR

Obe-cel could potentially launch into an expanding ALL market

Blincyto revenues show growth of c.15-20%



- Blincyto sales price estimated to be $178k± (based on 2 cycles) supporting approx. 2,000 commercial adult ALL patients, growing at a rate of c.15-20%
- Kymriah is priced at $475k in pediatric ALL. Breyanzi (lisocabtagene maraleucel) is priced at $410k in DLBCL±±. Tecartus is priced at $399k for adult ALL.
- Breyanzi and other CAR T cell therapies are expanding delivery center footprint
- Tecartus (brexucabtagene autoleucel) 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

**As per Amgen quarterly SEC filings
* H2 2021 is not reported, this is just an extrapolation based on H1 2021 reported sales

Komodo Health 2015 – 2020
± https://www.medscape.com/viewarticle/836879
± ± Bristol Myers finally wins FDA approval for cancer cell therapy | BioPharma Dive

Obe-cel has potential for transformational outcomes in Adult ALL

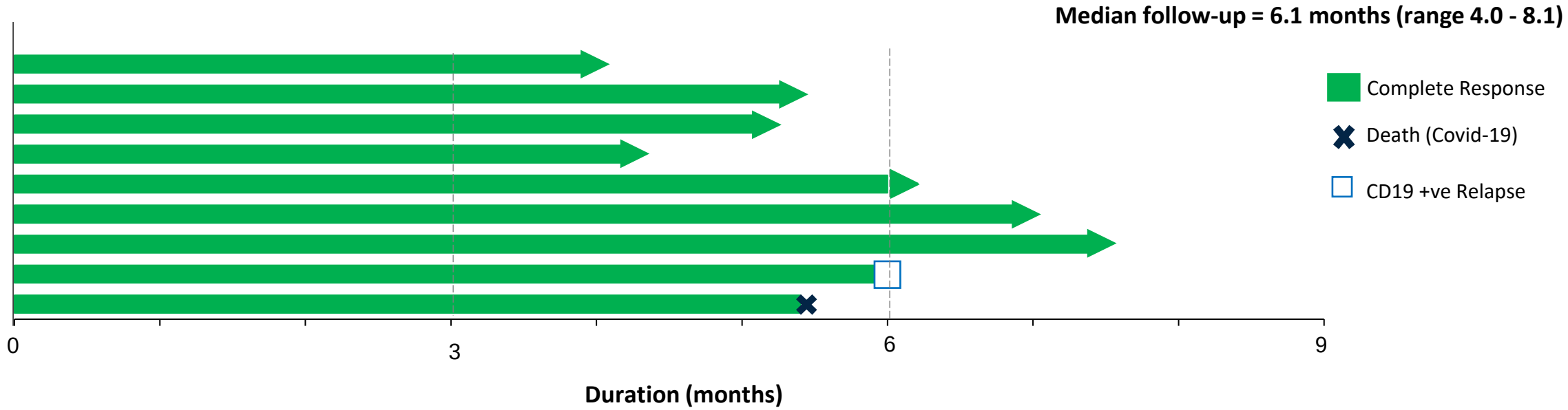
Data cut-off date May 17, 2021

- In a subset of patients sustained CRs are without subsequent stem cell transplant
- Durability of remissions highly encouraging
  - Across all treated patients, EFS at twelve and twenty-four months of 50%
- Obe-cel well tolerated, despite heavily pre-treated patients with high disease burden
  - No patients experienced ≥ Grade 3 cytokine release syndrome (CRS)
  - 20% of patients experienced any grade ICANS*, swiftly resolved with steroids
- Initial phase 1b data of Felix trial is consistent with the data from ALLCAR19
- Phase 2 trial underway, expect full data in 2022
- Adult ALL represents a sizeable market opportunity addressable with focused commercial footprint

*Immune effector cell-associated neurotoxicity syndrome

ALLCAR-19 extension – clinical responses in indolent relapsed/refractory B-NHL

All patients treated achieved a metabolic Complete Response (CR)



- 9/9 patients in the indolent B-NHL cohort achieved metabolic CR by month 3
- 8/9 disease-free at last follow-up (median F/U = 6.1 months; range 4.0 - 8.1 months)
- 1/9 patients died on study from COVID-19 whilst in remission at month 6 of follow-up
- 1/9 relapsed with small volume subcutaneous CD19+ disease, salvaged with radiotherapy
- 0/9 patients experienced ICANS of any grade or ≥ grade 3 CRS

Data cut-off date May 17, 2021

Unique profile of obe-cel offers potential across broader indications

Evaluation of obe-cel activity in additional B-Cell malignancies to capitalize on potential market opportunity

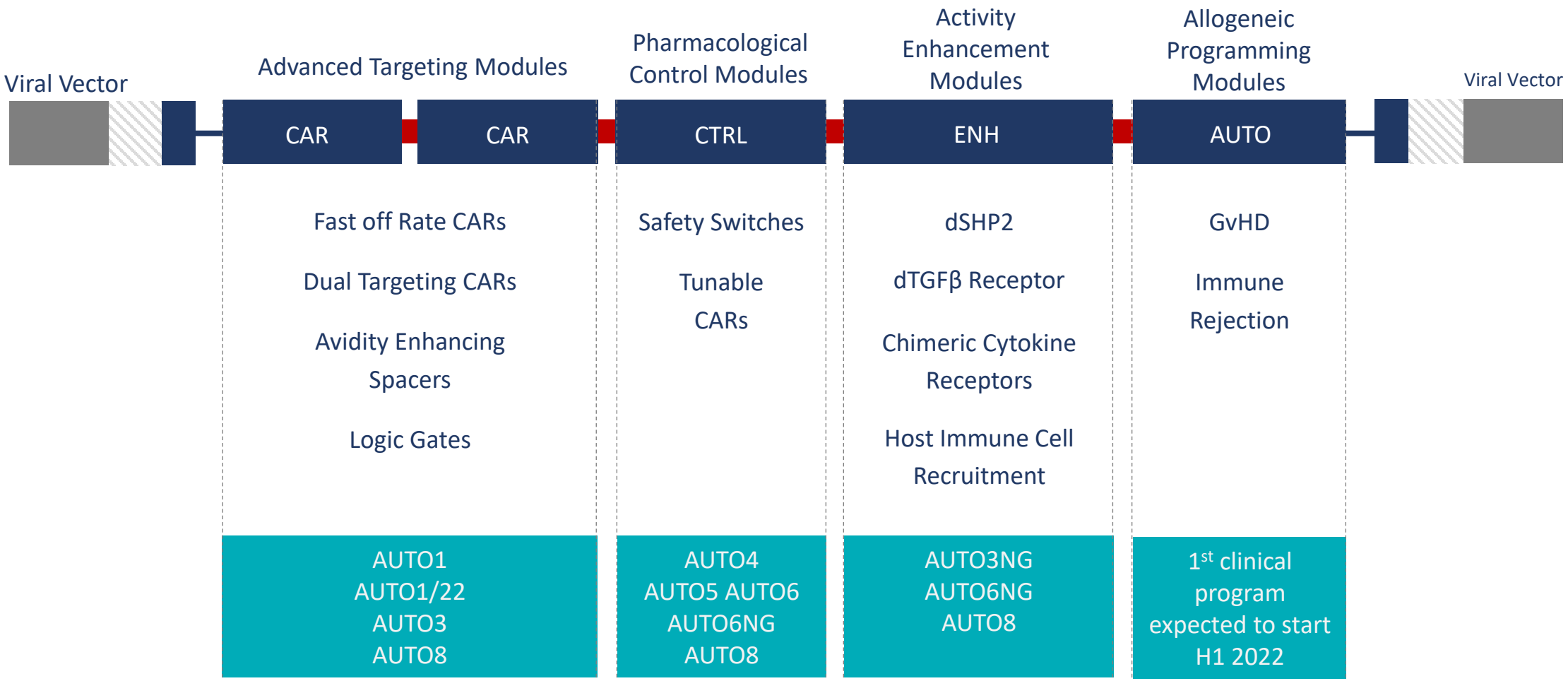
PRODUCT	INDICATION	TARGET	PHASE 1	PHASE 1B/2
Obe-cel	Adult ALL	CD19	**ALLCAR-19 ***	**FELIX**
Obe-cel	B-NHL & CLL	CD19	**ALLCAR-19 Ext ***	
Obe-cel	Primary CNS Lymphoma	CD19	**CAROUSEL ***	
AUTO1/22	Pediatric ALL	CD19 & CD22	**CARPALL ***	

OPPORTUNITY TO PURSUE IN EARLIER LINES OF THERAPY AND INDICATIONS OF ADULT ALL

* Collaboration with UCL

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

Advanced T cell programming



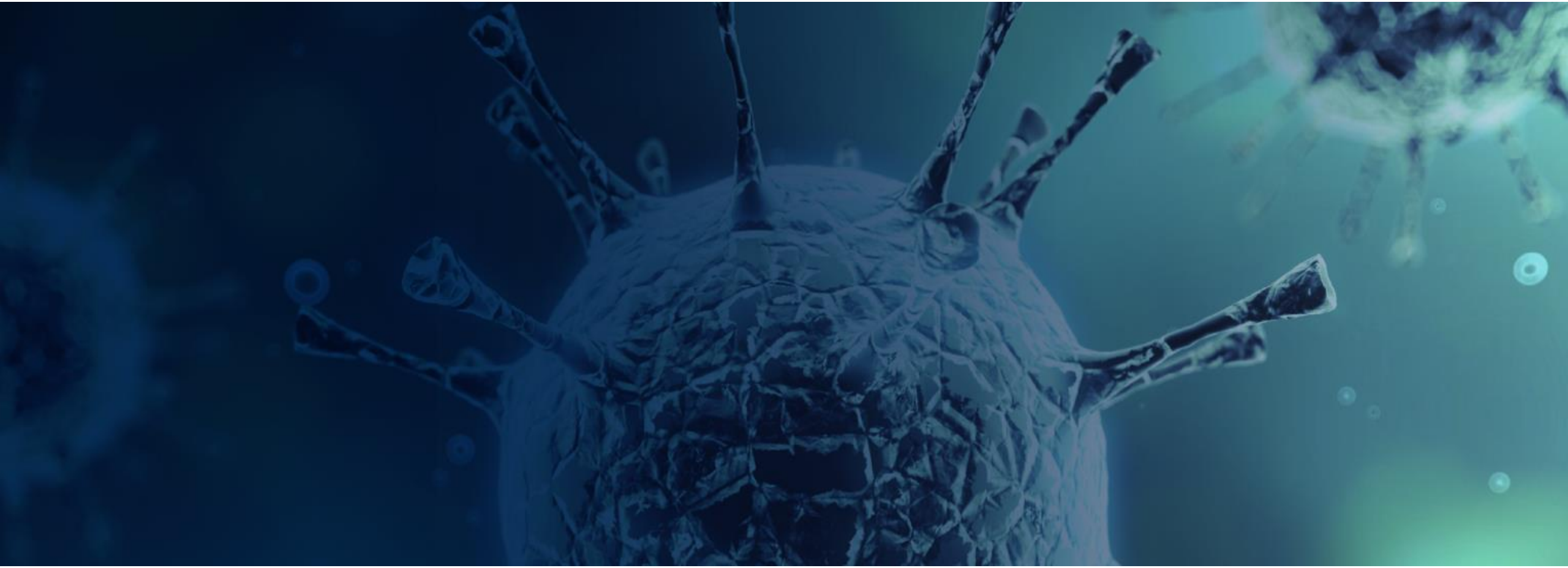
Broad pipeline of next generation programs

Designed to address limitations of current T cell therapies

PRODUCT	INDICATION	TARGET	PRECLINICAL	PHASE 1*
AUTO1/22 **	Pediatric ALL	CD19 & CD22		Started Q4 2020
AUTO5	TRBC2+ Peripheral TCL	TRBC2		H1 2022
AUTO6NG **	Neuroblastoma; Other tumor types	GD2		H1 2022
AUTO8	Multiple Myeloma	BCMA & CAR X		Q4 2021

B Cell Malignancies T Cell Lymphoma GD2+ Tumors Multiple Myeloma

*Planned Trial Initiations
** Collaboration with UCL
NG = Next Generation



Financial Results

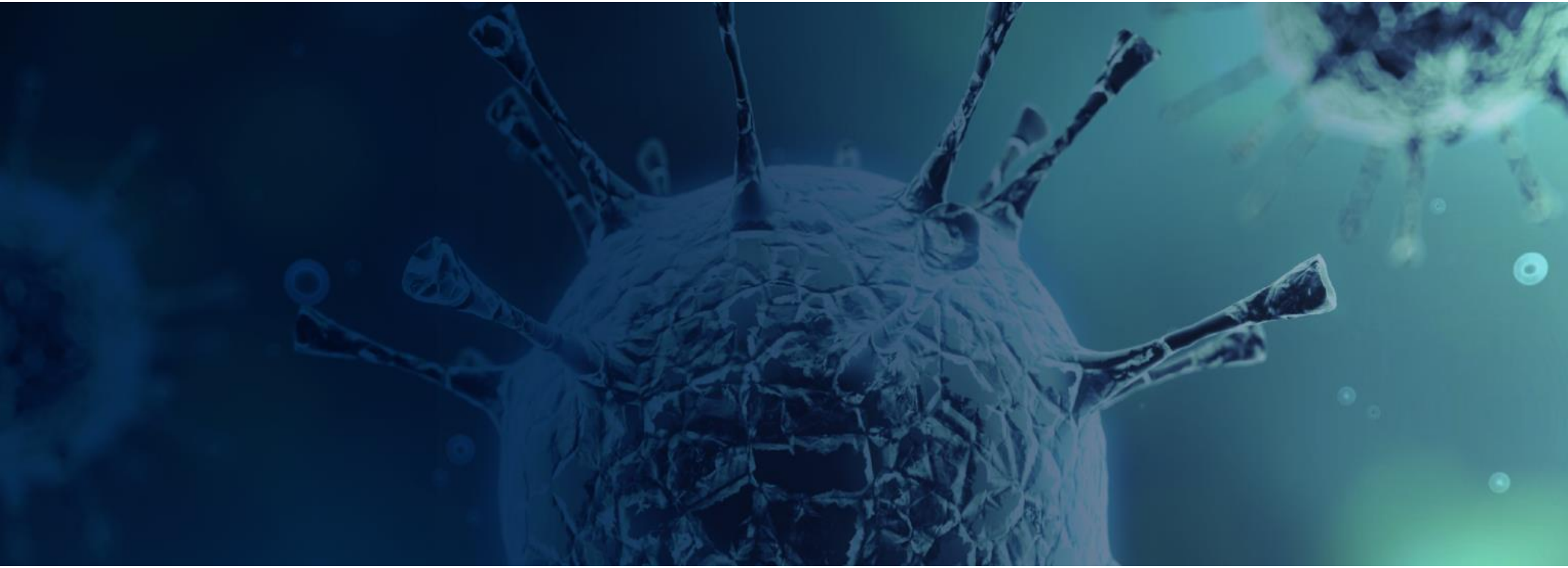
Andrew Oakley – CFO

Financial summary

USD m	3Q 2020	3Q 2021	Variance
Grant Income	0.4	0.2	(0.2)
License Income	0.2	-	(0.2)
R&D	(33.5)	(32.3)	1.2
G&A	(9.8)	(8.3)	1.5
Total Op Expense, Net**	(42.7)	(40.4)	2.3
Interest Income	-	-	-
Other (Expense)/Income	(2.5)	1.0	3.5
Tax Benefit	7.9	5.4	(2.5)
Net Loss	(37.3)	(34.0)	3.3
USD m	**2Q 2021**	**3Q 2021**	**Variance**
Cash Balance	216.4	173.1*	(43.3)

*Not including R&D tax credit received in October 2021 of $25.0m

Cash runway into H1 2023



Upcoming Milestones and Conclusions

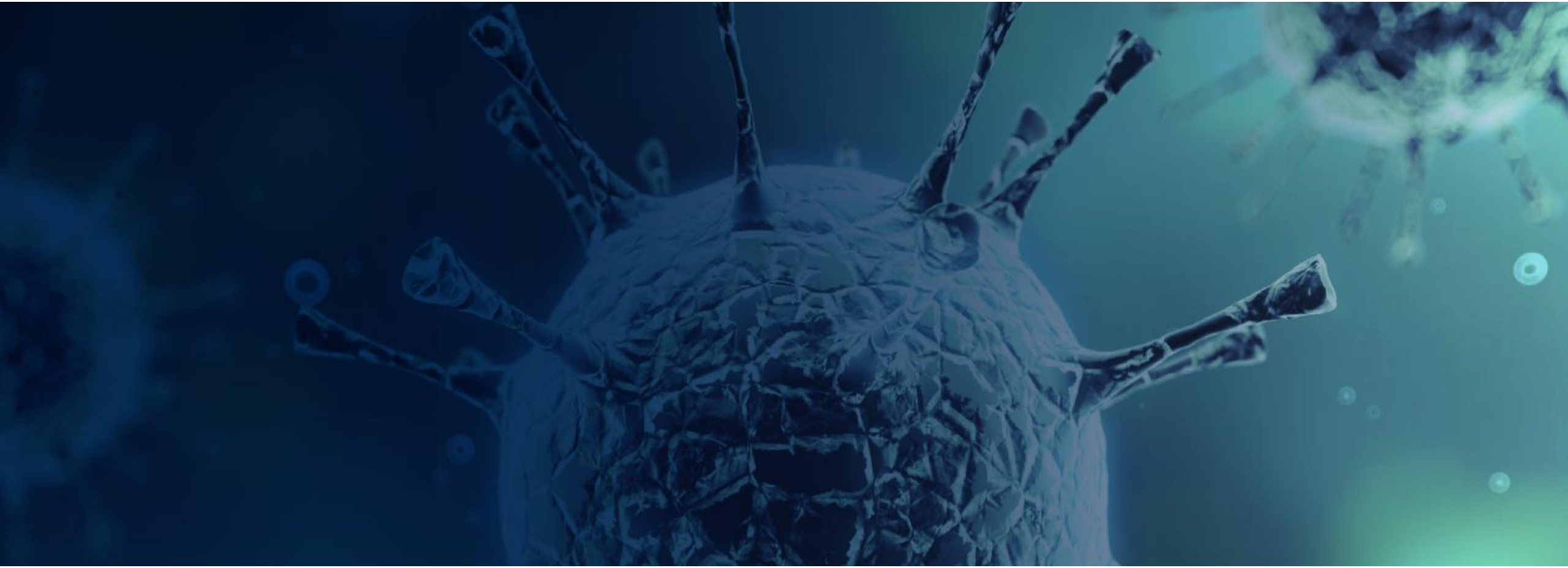
Dr. Christian Itin – CEO

Autolus poised for potential value inflection

- Obe-cel and AUTO1/22
  - Autolus' potential pivotal trial (FELIX) in adult ALL progressing well. Enrollment continues with initial data on the Phase 1b portion of the trial expected at ASH in December, 2021. Company reiterates guidance to expect full data in 2022
  - Pediatric ALL – AUTO1/22 Phase 1 trial started in December, 2020. Update expected at ASH in December, 2021
  - ALLCAR study extension in other relapsed/refractory B-NHL and CLL ongoing. Update expected at ASH in December, 2021
  - Opportunity to develop AUTO1 in Primary CNS Lymphoma, CAROUSEL study update expected in Q1 2022
- AUTO4
  - AUTO4 continues in dose escalation in a Phase 1 trial, interim data expected in H1 2022
- Autolus' solid tumor program, AUTO6NG, to enter clinic in H1 2022
- Cash balance at September 30, 2021 was approx. $173.1 million*, anticipate cash runway into H1 2023

*Not including R&D tax credit received in October 2021 of $25.0 million

Autolus



Thank you