Autolus

Full Year 2023 Financial Results and Business Updates

March 14, 2024

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 its product candidates, including the obe-cel program; the profile and potential application of obe-cel in additional disease settings; the future clinical development, efficacy, safety and therapeutic potential of the Company's product candidates, including progress, expectations as to the reporting of data, conduct and timing and potential future clinical and preclinical activity and milestones; expectations regarding the initiation, design and reporting of data from clinical trials and preclinical studies; the extension of the pipeline beyond obe-cel; expectations regarding the regulatory approval process for any product candidates; the benefits of the collaboration between Autolus and BioNTech, including the potential and timing of milestone payments and royalties under the terms of the strategic collaboration; the Company's current and future manufacturing capabilities; 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; and possible safety and efficacy concerns. 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, or the SEC, on March 7, 2023 and in Autolus' Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2023, 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 presentation, 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.

Agenda

- Welcome and Introduction: Olivia Manser, Director, Investor Relations
- Operational Highlights: Dr. Christian Itin, CEO
- Financial Results: Rob Dolski, CFO
- Upcoming Milestones and Conclusion: Dr. Christian Itin, CEO
- Q&A: Dr. Christian Itin and Rob Dolski

Strategic updates

Strong cash position: Year-end 2023 cash of $240M & gross proceeds of $600M from activities in February 2024

Financing

- **In February 2024 completed an underwritten registered direct equity financing**
  - Gross proceeds of $350M

BioNTech collaboration

- **In parallel established strategic collaboration with BioNTech aimed at advancing both companies' autologous CAR T programs**
  - $200M equity, $50M cash upfront
  - Up to $582 million in further option exercise and milestones payments
  - BioNTech to support launch and expansion of obe-cel in adult ALL for royalty on net sales
  - BioNTech has option to use Autolus' manufacturing capacity for BNT211
  - BioNTech has co-commercialization options for Autolus' AUTO1/22 and AUTO6NG programs and option on Autolus target binders and cell programming technologies

Obe-cel highlights in r/r B-ALL

FELIX data, regulatory review and preparation for launch

Clinical

- **Obe-cel in relapsed / refractory (r/r) adult ALL - pooled analysis presented at ASH in December 2023**
  - FELIX Phase 1b/2 study - prolonged event free survival and low overall immunotoxicity across all cohorts particularly in patients with low leukemic burden at lymphodepletion
  - ALLCAR19 study and FELIX Phase 1b - durable remissions with obe-cel as a stand-alone therapy in a subset of patients after a median follow up of >3 years

Manufacturing

- **Robust manufacturing process and state of the art commercial manufacturing**
  - Completed first facility inspection in February 2024 – the Nucleus manufacturing facility in Stevenage has obtained a Manufacturer's Importation Authorization (MIA) together with accompanying GMP certificate
  - Poster presentation at ASH on obe-cel manufacturing performance

Regulatory

- **Biologics License Application (BLA) accepted by US Food and Drug Administration (FDA)**
  - PDUFA target action date of November 16, 2024
- **Marketing Authorization Application (MAA) recently submitted to EMA**

Commercial Readiness

- **Commercial capability and infrastructure preparation on track**
  - Commercial systems setup on track
  - Focus on clinical center onboarding and medical affairs

Other pipeline highlights

Expanding opportunity beyond ALL

Obe-cel in Autoimmune Diseases

- **Obe-cel in B-cell mediated autoimmune diseases – Phase 1 CARLYSLE Study**
  - Phase 1 dose confirmation study in refractory SLE patients – first trial site opened for enrollment in Q1 2024
  - Potential best-in-class risk/benefit profile, based on data from pivotal FELIX trial in adult ALL

AUTO8

- **AUTO8 in Multiple Myeloma – Phase 1 MCARTY Study**
  - Initial data in multiple myeloma presented at ASH in December 2023 demonstrated AUTO8 was well tolerated, with responses observed in all patients

AUTO6NG

- **AUTO6NG in Neuroblastoma – Phase 1 MAGNETO Study**
  - A Phase 1 clinical study in children with r/r neuroblastoma was opened for enrollment in Q4 2023

Organizational changes

- **Promotions of Dr Chris Williams to Chief Business Officer and Alex Driggs to Senior Vice President, Legal Affairs and General Counsel**
- **Dr. Edgar Braendle to step down as Chief Development Officer to pursue other opportunities. Edgar will continue to advise the Company through the BLA and MAA review process**
- **Miranda Neville, Senior Vice President and obe-cel Program Leader, to run Development team**
- **Strengthening of the Board with the appointments of Dr. Elisabeth (Lis) Leiderman and Robert W. Azelby**

LEAD CLINICAL PROGRAM

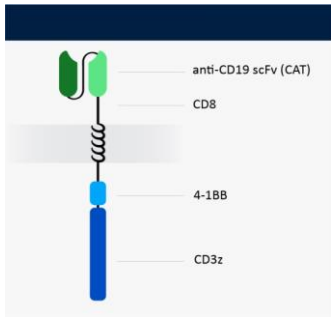
Obe-cel

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

We believe obe-cel has a unique mechanism of action

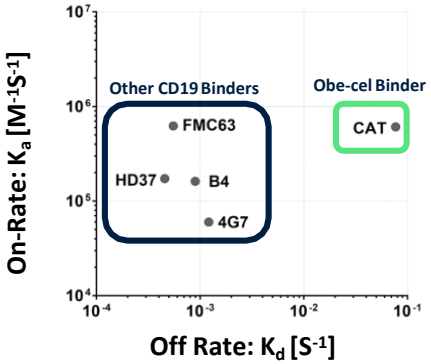
Designed for increased activity and reduced toxicity

Differentiated CD19 binder



CD19 binder with fast off-rate

Fast off-rate



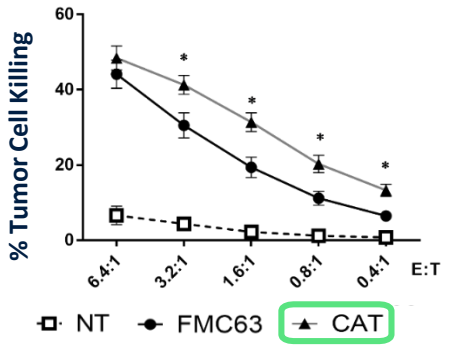
Shorter half-life of interaction compared to binders used in approved products

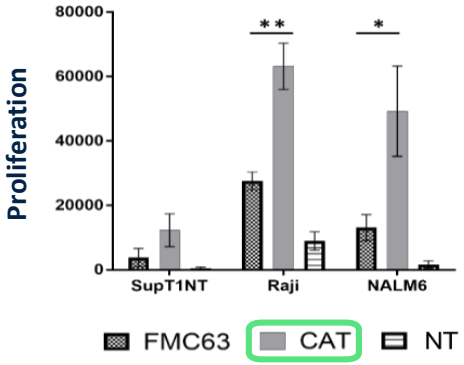
- obe-cel = 9.8 seconds
- Kymriah® = 21 minutes

Potential for improved potency, reduced toxicity

- Avoided over-activation of CAR T cells → Reduced toxicities
- Increased CAR T peak expansion → Improved persistence
- Avoided exhaustion of CAR T-cells → Improved engraftment, Improved persistence

Enhanced cytotoxicity and proliferation





Ghorashian et al. *Nature Medicine 2019*

ASH 2023

Obe-cel pooled analysis

FELIX Phase 1b/2 trial

FELIX Phase 1b/2 pooled analysis: patient disposition

127/153 (83%) enrolled patients received obe-cel*

Enrolled**
N = 153

Discontinued	n (%)
	26 (17)
Death	15 (10)
Manufacturing-related	7 (5)
Adverse event	2 (1)
Physician decision	1 (0.7)
Progressive disease	1 (0.7)

Infused
N = 127 (83%)

Morphologic disease*** (n = 98)
- 74% of patients had CR/CRi (n = 73)
- 95% of evaluated responders were MRD-negative‡

No morphologic disease (n = 29)
- 100% of evaluable patients were MRD-negative§

Cohort A
n = 107
(84%)
≥5% BM blasts
at screening

Cohort B
n = 13
(10%)
MRD-positive
at screening

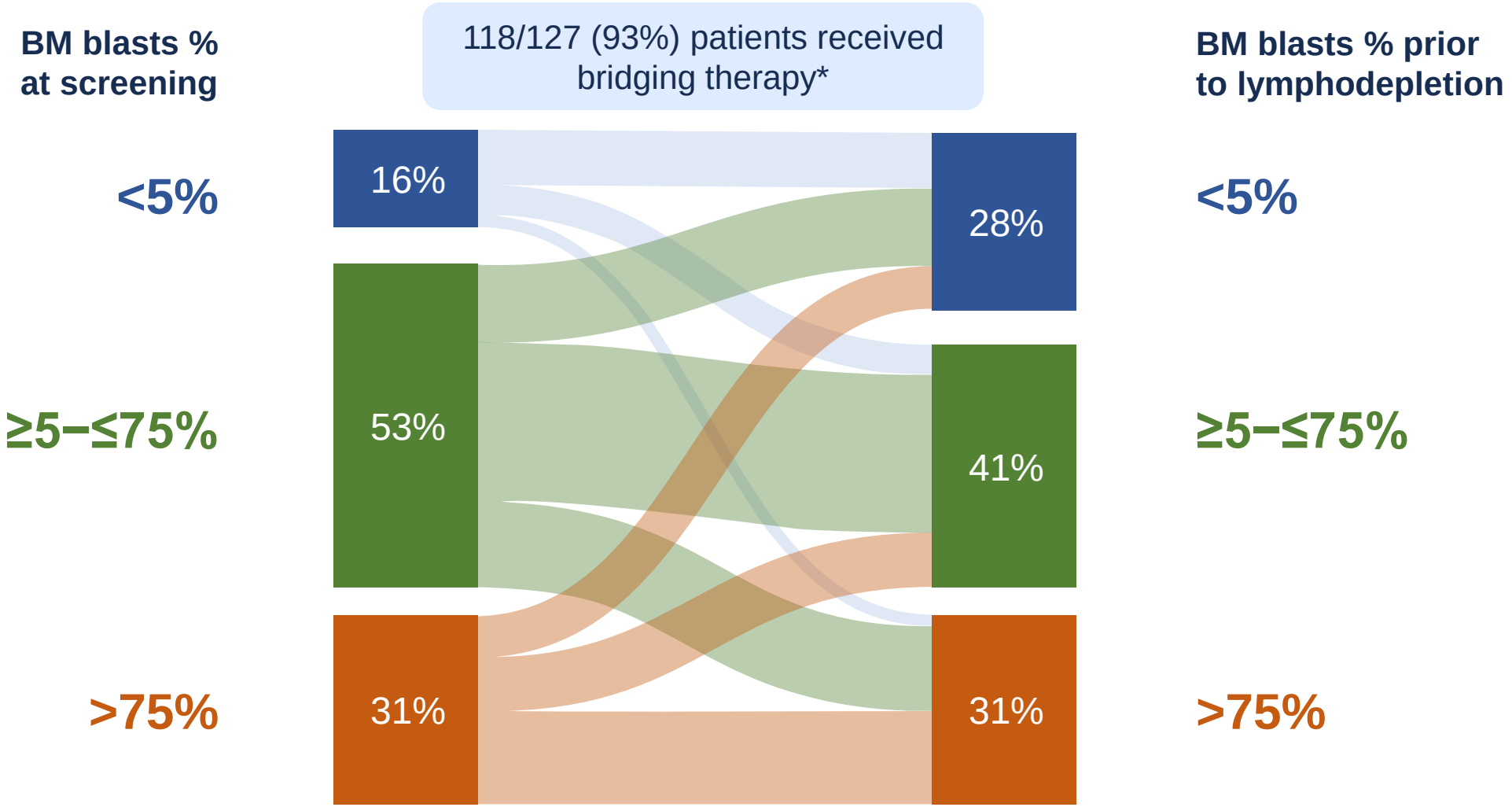
Cohort C
n = 7
(6%)
Isolated EMD
at screening

*Seven patients received Dose 1 only; **All eligibility criteria met and the leukapheresate accepted for manufacturing; obe-cel, obecabtagene autoleucel; Roddie et al., ASH 2023, Data cut-off date: September 13, 2023

***Morphologic disease defined as ≥5% BM blasts or presence of EMD regardless of BM blast status; ‡MRD status available for 64/73 patients, as assessed by NGS or flow cytometry; §MRD status available for 27/29 patients, as assessed by NGS or flow cytometry; BM, bone marrow; CR, complete remission; CRi, CR with incomplete hematologic recovery; EMD, extramedullary disease; MRD, measurable residual disease; NGS, next-generation sequencing; obe-cel, obecabtagene autoleucel

FELIX Phase 1b/2 pooled analysis: leukemic burden in all treated patients

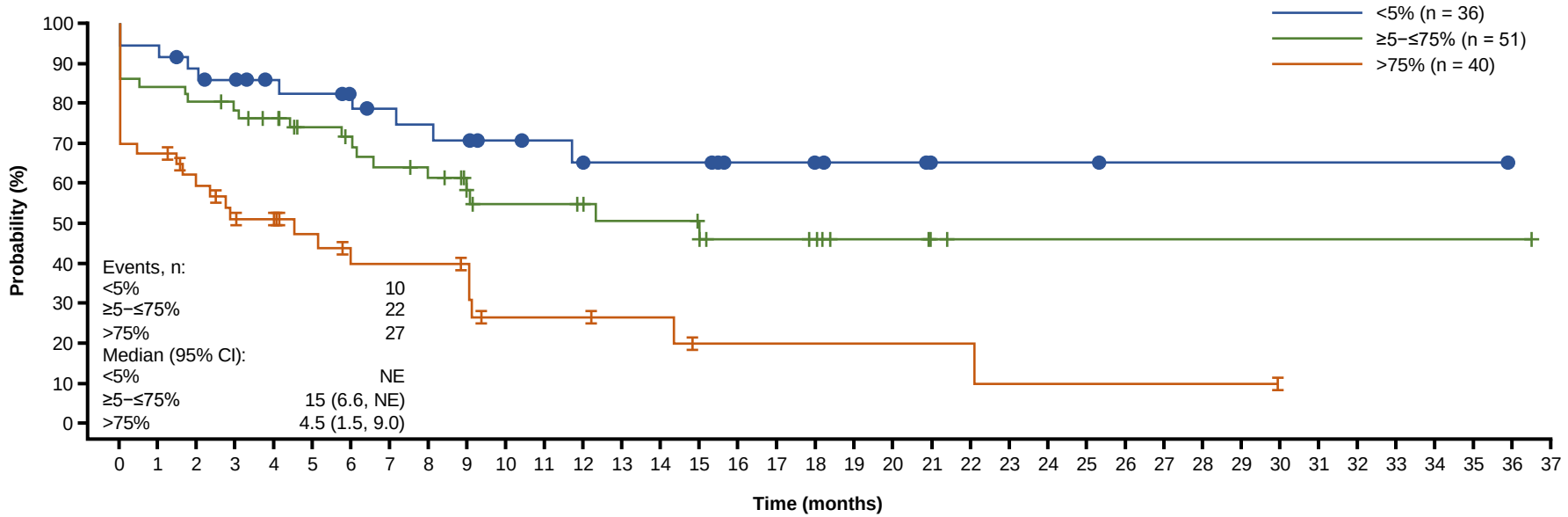
Leukemic burden at screening is not predictive of leukemic burden prior to lymphodepletion



*Bridging therapy per physician's choice, including inotuzumab ozogamicin; BM, bone marrow; Roddie et al., ASH 2023

FELIX Ph1b/2 pooled: EFS by leukemic burden prior to lymphodepletion*

Lower leukemic burden is associated with better outcomes



Patients at risk

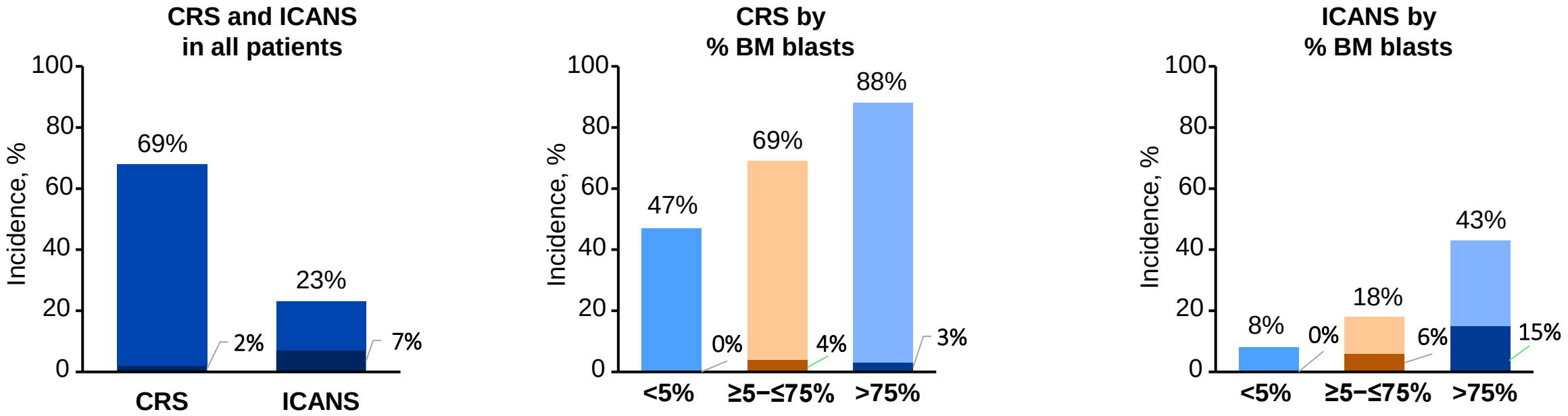
<5% (n = 36)	36	34	31	28	25	24	22	20	19	18	14	13	11	11	11	11	8	8	7	6	6	2	2	2	2	2	1	1	1	1	1	1	1	1	1	0	0
≥5–≤75% (n = 51)	51	43	41	39	36	31	28	25	23	18	15	15	13	12	12	9	8	8	7	4	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
>75% (n = 40)	40	27	22	18	17	13	10	10	10	9	5	5	5	4	4	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0

BM blasts % prior to lymphodepletion	<5% (n = 36)	≥5–≤75% (n = 51)	>75% (n = 40)
Median EFS (95% CI), months	NE	15.0 (6.6, NE)	4.5 (1.5, 9.0)
6-month EFS (95% CI), %	83 (65, 92)	72 (57, 82)	40 (23, 56)
12-month EFS (95% CI), %	65 (44, 80)	55 (38, 69)	27 (12, 44)

*Censoring new non-protocol anti-cancer therapies including SCT with disease assessment by IRRC (data cut-off date: September 13, 2023); BM, bone marrow; CI, confidence interval; EFS, event-free survival; IRRC, Independent Response Review Committee; NE, not evaluable; SCT, stem cell transplant; Roddie et al., ASH 2023

FELIX Phase 1b/2 pooled analysis: CRS and ICANS

Low rates of Grade ≥3 CRS and/or ICANS were observed



- No grade ≥3 CRS and/or ICANS were observed in patients with <5% BM blasts at lymphodepletion
- Vasopressors were used to treat CRS in 2.4% of patients
- The treatment was generally well tolerated
- Two deaths were considered treatment-related per investigator assessment: neutropenic sepsis (n = 1); acute respiratory distress syndrome and ICANS (n = 1)

BM, bone marrow; CRS, cytokine release syndrome; ICANS, immune effector cell-associated neurotoxicity syndrome; ICU, intensive care unit; Roddie et al., ASH 2023

ASH 2023

Obe-cel pooled analysis

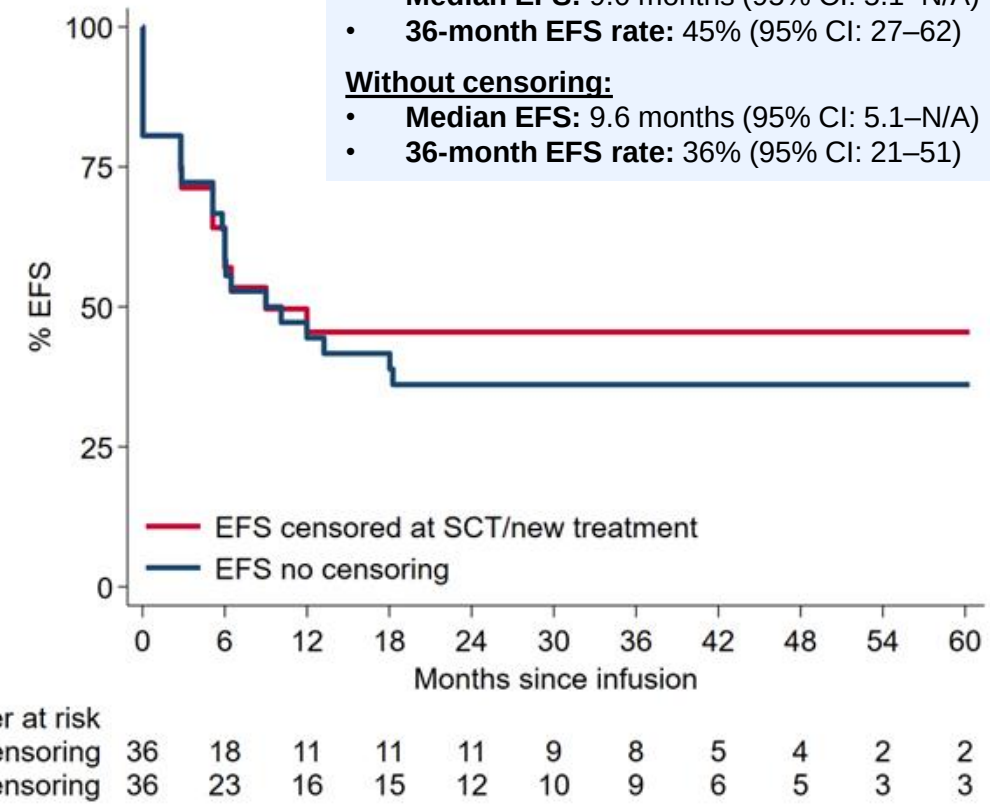
ALLCAR19 Phase 1b /FELIX Ph 1b

Long-term follow up in R/R B-ALL demonstrates favorable EFS and OS

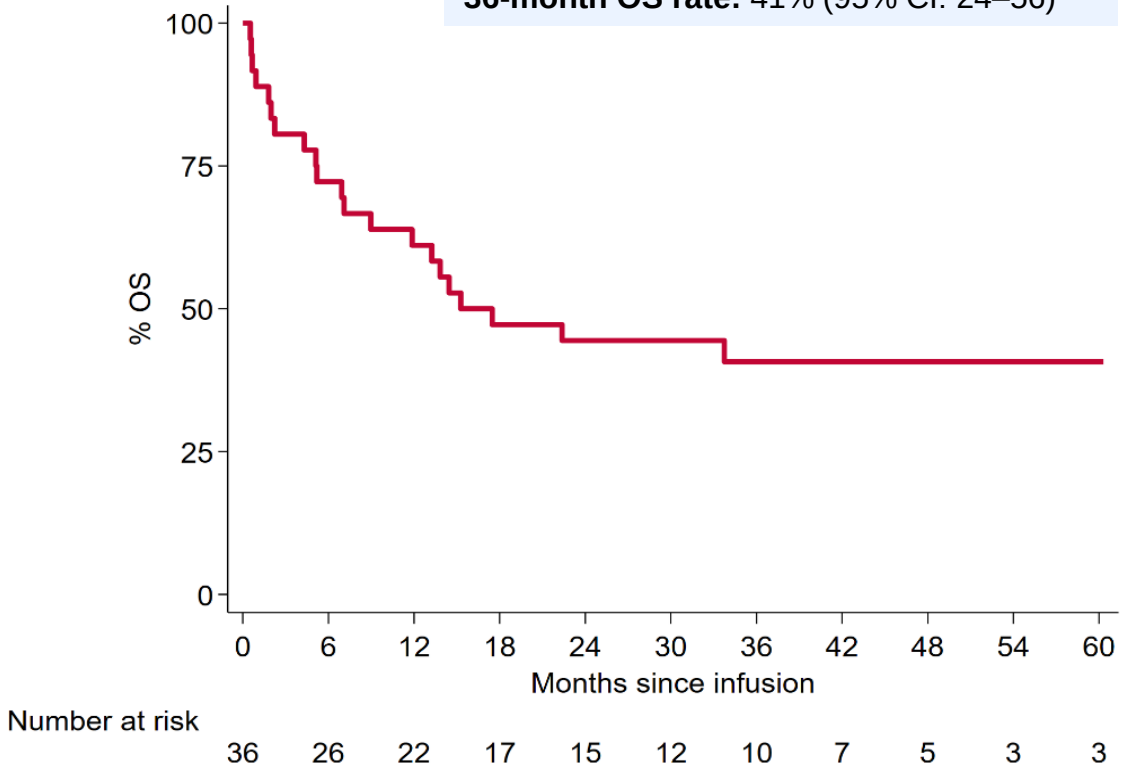
Median follow up 36.5 months; pooled analysis Phase 1b ALLCAR19/Phase 1b FELIX

With censoring*:
- **Median EFS:** 9.0 months (95% CI: 5.1–N/A)
- **36-month EFS rate:** 45% (95% CI: 27–62)

Without censoring:
- **Median EFS:** 9.6 months (95% CI: 5.1–N/A)
- **36-month EFS rate:** 36% (95% CI: 21–51)



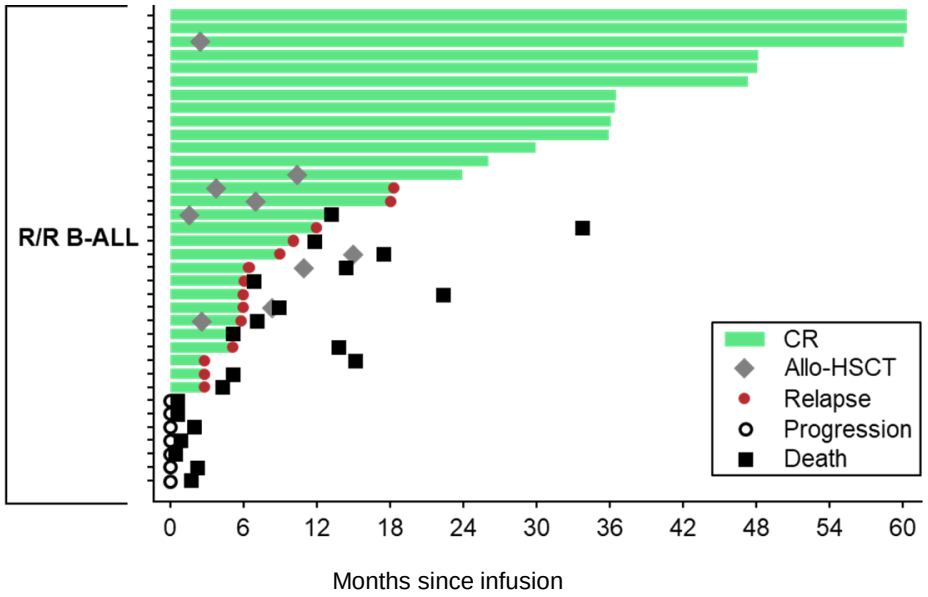
Median OS: 16.4 months (95% CI: 7.1–N/A)
36-month OS rate: 41% (95% CI: 24–56)

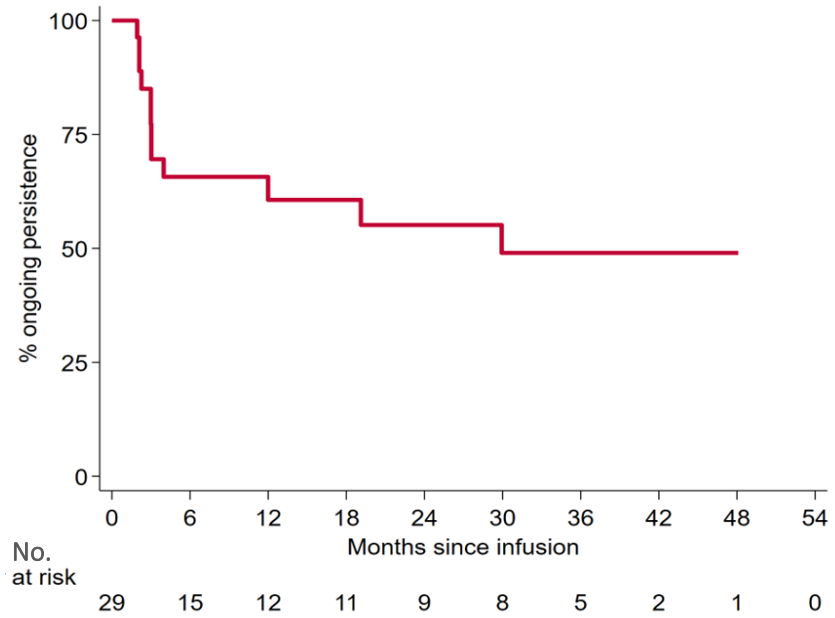


*Censored for allo-HSCT and other anti-cancer treatment. Investigator-assessed disease evaluations were performed locally by CT and BM biopsy for B-ALL. Allo-HSCT, allogeneic hematopoietic stem cell transplant; B-ALL, B-cell acute lymphoblastic leukemia; BM, bone marrow; CI, confidence interval; CT, computed tomography; EFS, event-free survival; N/A, not available; obe-cel, obecabtagene autoleucel; OS, overall survival; R/R, relapsed/refractory. Roddie et al, ASH 2023, Poster 2114.

Durable remissions and prolonged persistence in patients with R/R B-ALL

Pooled analysis Phase 1b ALLCAR19 / Phase 1b FELIX





- ORR: 80.6% (95% CI: 64.0–91.8)
- All patients in ongoing remission were MRD-negative at last assessment
- Median DOR: Not reached (95% CI: 5.1–N/A)

- Ongoing CAR T persistence
  - 12 months: 60.6% (95% CI: 38.9–76.8)
  - 24 months: 55.1% (95% CI: 33.1–72.6)

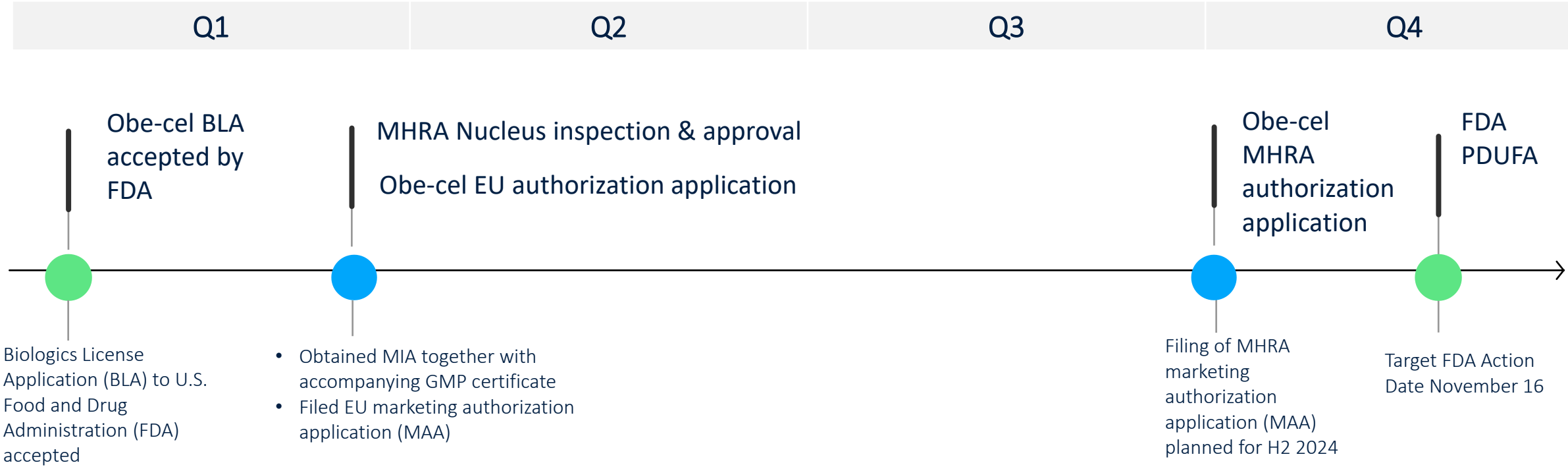
Safety: No ≥ grade 3 CRS reported; 4/36 ≥ grade 3 ICANS; No new safety signals or deaths related to obe-cel

MRD status was determined using flow cytometry or IgH PCR/NGS (MRD-negative: $<10^{-4}$ [<0.01%]). Loss of CAR T persistency was defined as the time from first obe-cel infusion to undetectable CAR T transgene (copies/µg DNA) in peripheral blood. Patients who proceeded to allo-HSCT with ongoing CAR T persistency were censored at the last result prior to receiving allo-HSCT. Allo-HSCT, allogeneic hematopoietic stem cell transplant; B-ALL, B-cell acute lymphoblastic leukemia; BM, bone marrow; CI, confidence interval; CR, complete remission; CT, computed tomography; DOR, duration of response; MRD, measurable residual disease; N/A, not available; NGS, next-generation sequencing; ORR, overall response rate; PCR, polymerase chain reaction; R/R, relapsed/refractory. Roddie et al, ASH 2023, Poster 2114.

Commercial Launch Readiness

Obe-cel steps to commercialization in r/r adult B-ALL

Roadmap to a 2024 commercial launch



Medical affairs engagement, value and HEOR evidence generation and center onboarding
US launch preparation and execution

Expanding the obe-cel opportunity

Deep value program with potentially broad applicability

The obe-cel product family and franchise opportunity

Obe-cel
CD19

- Optimized CD19 CAR design
- Potential best-in-class efficacy and safety profile
- Supported by state-of-the-art manufacturing
- Supported by mature FELIX clinical/CMC package

→ B-ALL and B-NHL
→ B-cell mediated autoimmune disease

AUTO1/22
CD19/CD22

- Dual CD19 & CD22 Targeting
- Designed to prevent antigen negative escape
- Supported by Phase 1 data in pediatric B-ALL

→ B-ALL and B-NHL

AUTO8
CD19/BCMA

- Dual CD19 & BCMA Targeting
- Designed to induce deep and durable responses
- Initial Phase 1 data presented at ASH 2023

→ Multiple Myeloma
→ B-cell and plasma cell mediated autoimmune

Phase 1 SLE study – CARLYSLE trial

A Single-Arm, Open-Label, Phase I Study to Determine the Safety, Tolerability and Preliminary Efficacy of Obecabtagene Autoleucel in Patients with Severe, Refractory Systemic Lupus Erythematosus (SLE)

- **Study details**
  - **Number of patients**: 6
    - (option to add further cohort of 6 patients)
  - **Primary endpoint:** to establish the tolerability and safety of obe-cel in patients with severe, refractory SLE
  - **Secondary endpoints**: to evaluate the preliminary efficacy of obe-cel using measures of SLE disease activity
  - **Dosing:** 50 x 10^6 CD19 CAR-positive T cells
  - **Follow up**: up to 12 months

Other pipeline programs and technologies

A broad portfolio of potential next generation modular T cell therapies

Autolus pipeline

Obe-cel product family

PRODUCT	INDICATION	TARGET	STUDY NAME	PARTNER	PHASE	STATUS/EXPECTED MILESTONES
Obe-cel	Adult B-ALL	CD19	FELIX		Pivotal	H1 2024: MAA Application to EMA November 16, 2024: PDUFA date
Obe-cel	Systemic Lupus Erythematosus	CD19	CARLYSLE		Phase 1	Study open for enrollment
Obe-cel	B-NHL and CLL	CD19	ALLCAR19	UCL	Phase 1	Data in peer reviewed journal
Obe-cel	PCNSL	CD19	CAROUSEL	UCL	Phase 1	Data in peer reviewed journal
AUTO1/22	Pediatric ALL	CD19 & CD22	CARPALL	UCL BIONTECH *	Phase 1	Data in BLOOD August 2023
AUTO8	Multiple Myeloma	CD19 & BCMA	MCARTY	UCL	Phase 1	Updated clinical data in 2024

Additional pipeline programs

AUTO4	TRBC1+ Peripheral TCL	TRBC1	LibrA T1		Phase 1	Data in peer reviewed journal
AUTO5	TRBC2+ Peripheral TCL	TRBC2	-		Preclinical	Data in peer reviewed journal
AUTO6NG	Neuroblastoma	GD2	MAGNETO	UCL BIONTECH *	Phase 1	Study open for enrollment
AUTO9	Acute Myeloid Leukemia	CD33, CD123 & CLL1	TBD	UCL	Preclinical	Estimated Phase 1 start 2025

Oncology Autoimmune

* BioNTech holds an option to co-fund and co-commercialize

Financial Results

Financial summary (unaudited)

USD	Q4 2023 YTD ($ '000)	Q4 2022 YTD ($ '000)	Variance ($ '000)
Grant Income	-	166	(166)
License revenues	1,698	6,194	(4,496)
R&D[1]	(130,481)	(117,354)	(13,127)
G&A	(46,745)	(31,899)	(14,846)
Loss on disposal of property and equipment	(3,791)	(515)	(3,276)
Impairment of right-of-use and related assets	(382)	-	(382)
Total operating expense, net	(179,701)	(143,408)	(36,293)
Other income (expense), net	2,861	2,038	823
Interest Income	13,505	1,708	11,797
Interest expense	(45,067)	(8,905)	(36,162)
Income tax benefit (expense)[1]	19	(272)	291
Net loss after tax	(208,383)	(148,839)	(59,544)

USD	Q4 2023 ($ '000)	Q4 2022 ($ '000)	Variance ($ '000)
Cash and cash equivalents	239,566	382,436	(142,870)

[1]Includes the presentation of our U.K. SME R&D Tax Credit with Income tax benefit as contra research and development expense in the amounts of $19.5 million and $24.6 million for the years ended December 31, 2023 and 2022, respectively.

Upcoming news flow

Autolus planned news flow

Anticipated Milestone or Data Catalysts	Anticipated Timing
Obe-cel FELIX data update at ASCO, EHA & ASH 2024	**June & December 2024**
Obe-cel Marketing Authorization Application to MHRA	**Second half 2024**
Obe-cel U.S. FDA PDUFA target action date	**November 16, 2024**
Obe-cel in autoimmune disease – initial data from SLE Phase 1 study	**Late 2024**

Summary

Building a leading CAR T company developing therapies for cancer and autoimmune diseases

Scaling company toward commercialization

Obe-cel potentially best in class CAR T for r/r adult ALL

- FELIX pivotal trial showed high ORR, encouraging EFS and favorable tolerability with low levels of high-grade CRS and ICANS
- PDUFA target action date November 16, 2024
- EMA filing submitted

Pipeline expansion strategy

- Expand obe-cel opportunity in B cell malignancies, autoimmune diseases & life cycle strategy
  - SLE
  - B-NHL indications
  - Bi-specific therapies (CD19 /CD22; CD19/BCMA)
- Expand to additional indications with novel CAR T therapies, alone or with partners

Scalable manufacturing and in-house facility

- Demonstrated reliable clinical trial supply (96% target dose reached in FELIX pivotal study)
- New commercial cell manufacturing facility in qualification stage; planned annual capacity 2,000+ batches
- Expected vein-to-delivery time at launch of ~16 days

Strategic collaborations

- Strategic multi-platform R&D collaboration with BioNTech
- Established technology collaborations with Moderna, BMS and Cabaletta
- Long-standing academic collaboration with University College London

Strong cash position

- Cash $240M (Q4 2023) and gross proceeds of $600m from financing and BioNTech transaction
- Fully funds obe-cel launch and allows for autoimmune program acceleration

Abbreviations and notes: r/r ALL - relapsed/refractory acute lymphoblastic leukemia; B-NHL – B-cell non-Hodgkin's lymphoma; SLE – systemic lupus erythematosus.

Autolus

Thank you