Autolus

Developing Next Generation Programmed T Cell Therapies

January 2025

Disclaimer

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Autolus is positioned for commercial execution and market expansion

Obe-cel product franchise supports multiple growth opportunities

NOW APPROVED

AUCATZYL®
obecabtagene autoleucel
suspension for IV infusion

- EU/UK approvals expected 2H 2025
- Expanding obe-cel opportunity in hem-oncology and autoimmune diseases
- Developing early-stage pipeline of novel CAR-T therapies

Obe-cel product family

Product	Indication	Target	Preclinical	Phase 1	Phase 2/ Pivotal	Approved
AUCATZYL®	Adult ALL	CD19				
obe-cel	Systemic Lupus Erythematosus	CD19				
obe-cel	Pediatric ALL	CD19				
obe-cel*	B-NHL & CLL	CD19				
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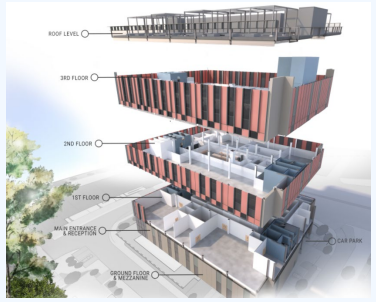
AUTO1/22*§	Pediatric ALL	CD19 & CD22				
AUTO8*	Multiple Myeloma	BCMA & CD19				

Commercial execution and market expansion supported by:

In-house, purpose-built manufacturing facility

Design



Build

Operations

Strategic collaborations and strong cash position

$657M as of Q3 2024

BIONTECH

moderna

Bristol Myers Squibb

AUTOLUS' FIRST APPROVED PRODUCT

AUCATZYL®

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

AUCATZYL® now FDA approved

- ✓ **AUCATZYL indicated for the treatment of adults with relapsed or refractory B-cell precursor acute lymphoblastic leukemia (B-ALL)**
- ✓ **First chimeric antigen receptor T-cell (CAR T) therapy approved by the FDA with no requirement for a REMS program (Risk Evaluation Mitigation Strategy)**
- ✓ **Novel and differentiated mechanism of action: first and currently only approved CD19 CAR T with a fast off-rate**
- ✓ **First and currently only approved CAR T therapy with customized, tumor-burden guided dosing**

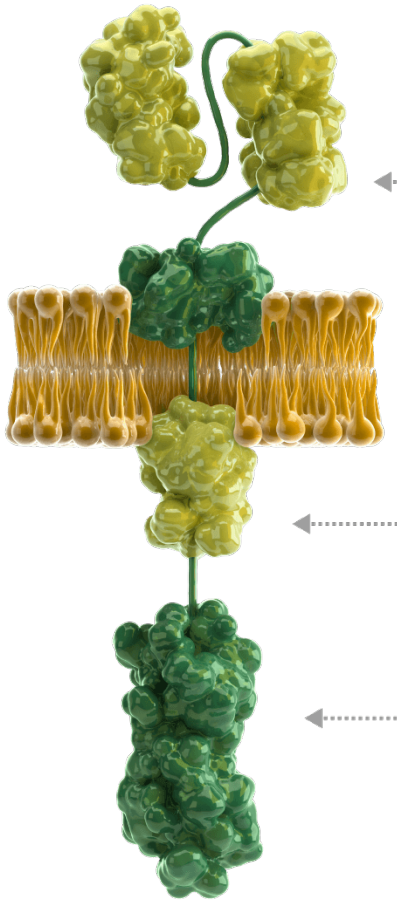
Please see full prescribing information Prescribing information

Important Safety Information

- The safety of AUCATZYL includes a boxed warning for CRS, neurologic toxicities, and secondary hematological malignancies. ICANS, including fatal or life-threatening reactions, occurred in patients receiving AUCATZYL. T-cell malignancies have occurred following treatment of hematologic malignancies with BCMA- and CD19-directed genetically modified autologous T-cell immunotherapies.
- In the FELIX trial, severe, including life-threatening and fatal infections occurred in patients after AUCATZYL infusion. The non-COVID-19 infections of all grades occurred in 67% (67/100) of patients. Grade 3 or higher non-COVID-19 infections occurred in 41% (41/100) of patients.
- Please see full Prescribing Information, including **BOXED WARNING** and Medication Guide.

We believe AUCATZYL® has a unique mechanism of action

Clinical data show increased activity and reduced toxicity



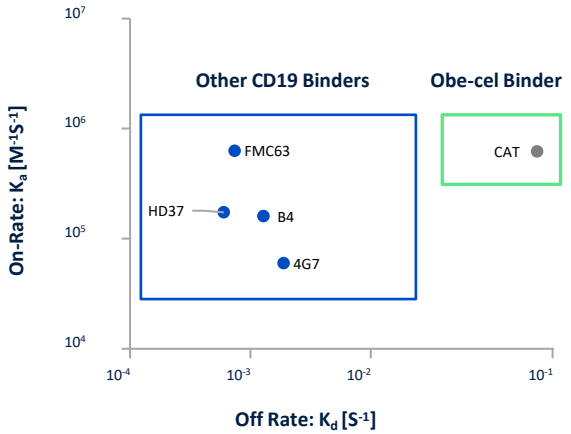
CAT19 fast off-rate binder[2]

CD8-derived hinge region/ transmembrane domain[2]

4-1BB co-stimulatory domain[1,4]
Shown to enhance CAR T-cell expansion and reduce exhaustion compared with CD28 CARs in preclinical studies

CD3ζ activation domain[1]

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

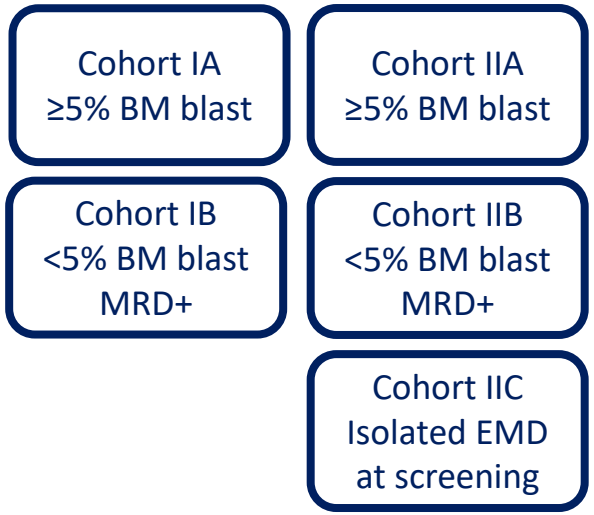
Avoided over-activation of CAR T cells	→	Reduced toxicities
Increased CAR T peak expansion	→	Improved peak activity and persistence
Avoided exhaustion of CAR T-cells	→	Improved engraftment Improved persistence

References:1. AUCATZYL. Prescribing Information. Autolus, Inc. 2024. 2. Ghorashian S, Kramer AM, Onuoha S, et al. Enhanced CAR T cell expansion and prolonged persistence in pediatric patients with ALL treated with a low-affinity CD19 CAR. Nat Med. 2019;25:1408-1414. 3. Data on file. Autolus, Inc. 2024. 4. Zhao X, Yang J, Zhang X, et al. Efficacy and safety of CD28- or 4-1BB-based CD19 CAR-T cells in B cell acute lymphoblastic leukemia. Mol Ther Oncolytics. 2020;18:272-281.

AUCATZYL was approved based on results from the FELIX trial

FELIX 19

FELIX Phase 1b/2



Patients (N)	Ph1b/2 pooled[1]
Enrolled	153
Infused	127

Background

- Open-label, multinational, single-arm Phase 1b/2 trial in adult patients with R/R B-ALL[1-2]; largest CAR T cell therapy trial in R/R B-ALL to date (N=153 enrolled)
- Conducted during COVID-19 pandemic with highly immune compromised patients

Summary of Trial Experience

- High ORR, encouraging EFS/OS and favorable tolerability with low levels of high-grade CRS and ICANS
- Timely and reliable clinical product supply and logistics despite COVID-19 pandemic restrictions
- Across all Phase 1b/2 cohorts, 40% of responders in ongoing remission without subsequent stem cell transplant/other therapy[1]
- Survival outcomes suggesting potential of long-term plateau[1]

[1,2] **Roddie C, et al "Obecabtagene autoleucel in B-cell acute lymphoblastic leukemia" N Engl J Med 2024; DOI: 10.1056/NEJMoa2406526**

FELIX trial published in New England Journal of Medicine[1]

Favourable response rate and tolerability, despite challenging patient population

High overall response rate with deep molecular responses

- Durable responses, particularly in patients with a low-to-intermediate bone marrow burden

Response by disease status at lymphodepletion	Overall Remission Rate (CR/CRi)
All patients (n=127)	77%
Morphological disease (n=91)	75%
Measurable residual disease (n=29)	96%
Isolated extramedullary disease (n=7)	71%

Excellent tolerability profile

- Very low rates of high-grade immunotoxicities
- No high-grade events in low disease burden patients

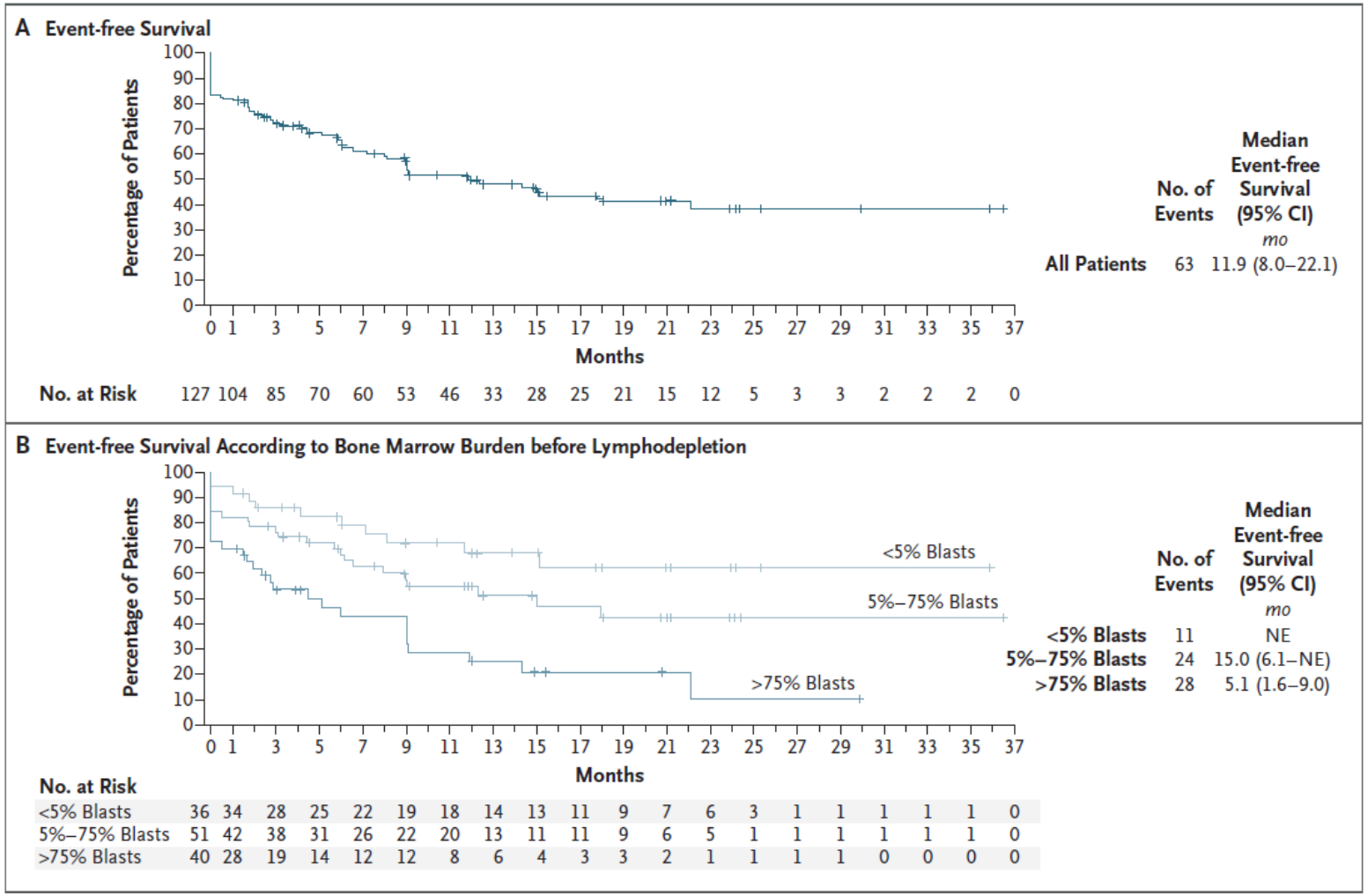
Safety by disease burden at lymphodepletion	Grade ≥3 CRS	Grade ≥3 ICANS
All patients (n=127)	2%	7%
>75% Blasts (n=40)	2%	12%
5-75% Blasts (n=51)	4%	8%
<5% Blasts (n=36)	0%	0%

1. Roddie C, et al "Obecabtagene autoleucel in B-cell acute lymphoblastic leukemia" N Engl J Med 2024; DOI: 10.1056/NEJMoa2406526

Deep molecular responses result in long term remissions in adult ALL

Survival outcomes show potential of long-term plateau with 12-month EFS rates 49.5%

- In all patients, the median EFS was 11.9 months
- Lower disease burden at lymphodepletion was associated with better outcomes

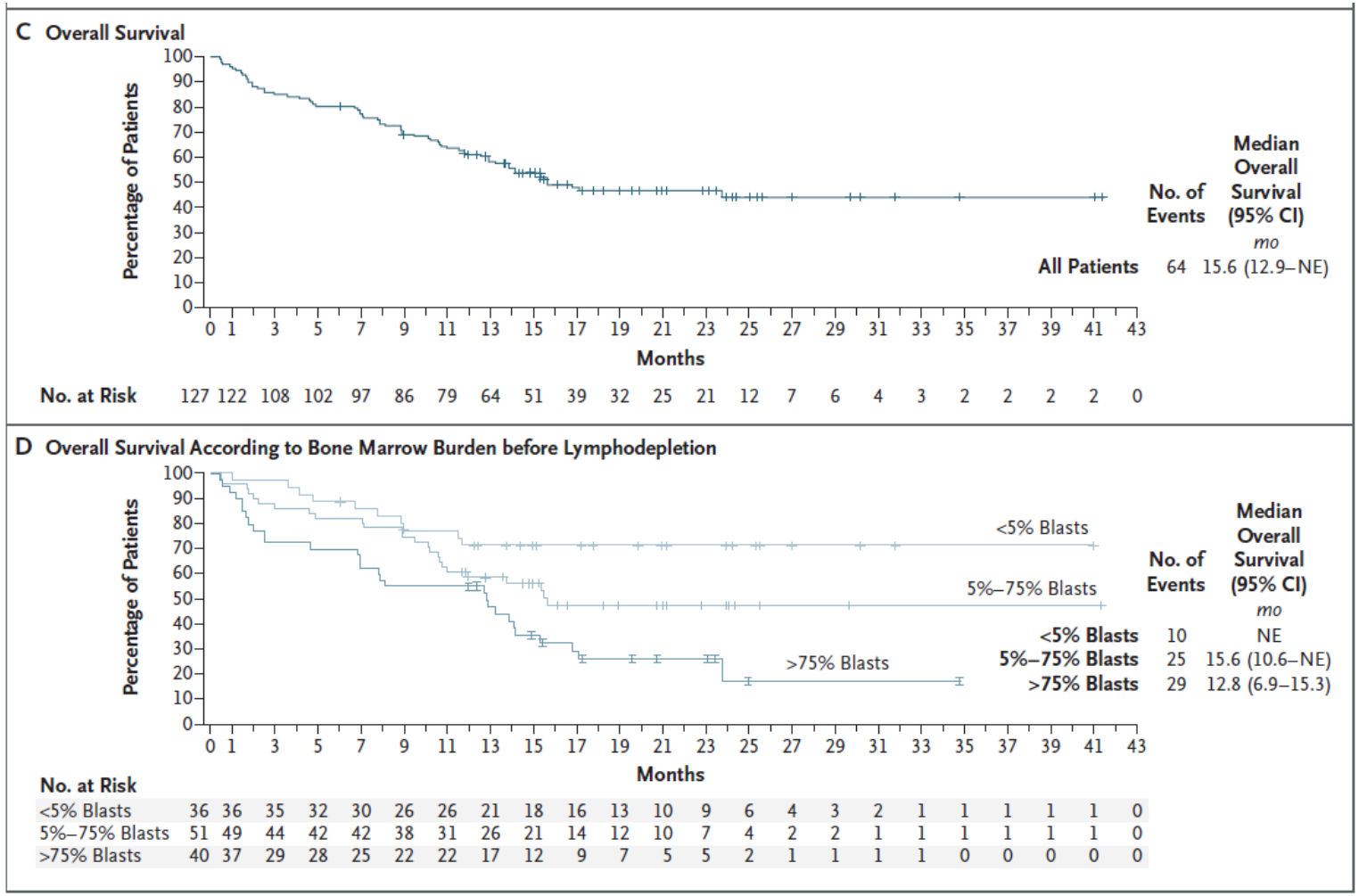


1. Roddie C, et al "Obecabtagene autoleucel in B-cell acute lymphoblastic leukemia" N Engl J Med 2024; DOI: 10.1056/NEJMoa2406526

Deep molecular responses result in long term remissions in adult ALL

Estimated 6- and 12-month overall survival rates were 80.3% and 61.1%, respectively

- In all patients, the median OFS was 15.6 months
- Lower disease burden at lymphodepletion was associated with better outcomes



1. Roddie C, et al "Obecabtagene autoleucel in B-cell acute lymphoblastic leukemia" N Engl J Med 2024; DOI: 10.1056/NEJMoa2406526

AUCATZYL® is poised to fill the unmet need for r/r ALL patients

- We believe AUCATZYL is a transformative product in the r/r ALL space
- Unique MOA designed to deliver potency and persistency that results in deep and durable efficacy
- Favorable tolerability profile
- Customized tumor-burden guided dosing
- Well-positioned to deliver therapy globally with Autolus' proven reliable manufacturing

Commercial Launch

Pillars to drive commercial success

Prioritizing authorization of centers Post-approval

30 key centers primed for activation
covering ~ 60% of r/r B-ALL target population
with **~30** additional centers to follow by end 2025

Scalable, efficient and reliable supply

The Nucleus: Autolus' state-of-the-art, dedicated purpose-built facility

Target vein-to-release time
of **~16 days**

Team dedicated to successful commercial efforts

Experienced team with multiple CAR T launches

Strong **scientific communication** and **physician engagement** within medical affairs

Dedicated single point-of-contact for every center

Pricing strategy focused on delivering value to customers and achieving broad coverage

$525,000
WAC[1]

Pricing reflects clinical evidence, differentiated safety profile, economic value

[1]Wholesale acquisition cost, or WAC, before any discounts, rebates or other price concessions

AUCATZYL® Authorized Treatment Centers

24 Centers Authorized as of January 10, 2025

Near-Term Plan:

30 centers
covering
60% of target population

End of 2025:

~60 centers
covering
90% of population

Autolus™ Assist

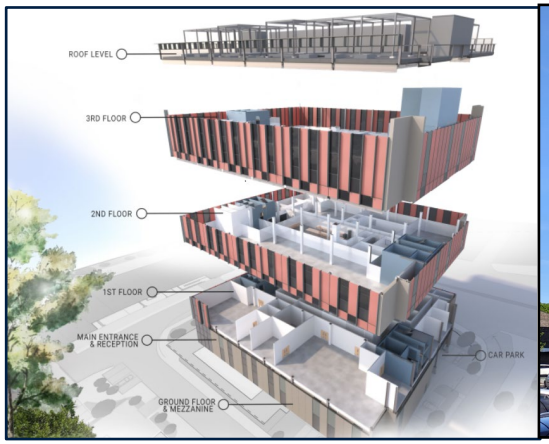
https://www.autolusassist.com/find-a-treatment-center/

The Nucleus: Manufacturing facility supports commercial execution

State of the art design and in-house operations established – groundbreaking to complete validation in 2 years

- Designed for 2,000+ batches per year
- Timeline to validation reduced by ~60% compared to prior CAR T facilities
- Target vein to delivery 16 days at launch

Design



Build

Operations

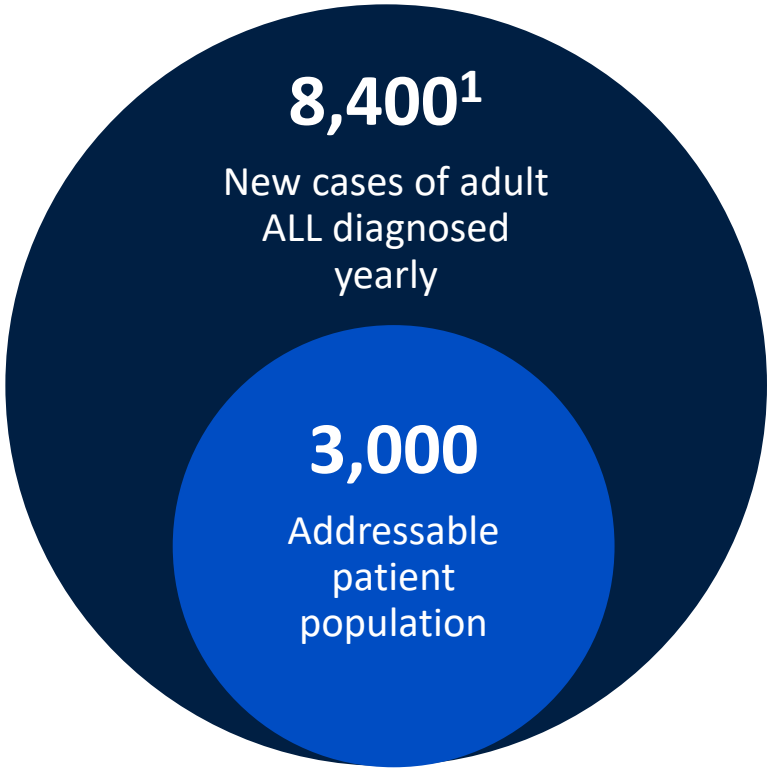
Purpose-built facility can be efficiently replicated as supply demands increase

ALL: unmet need and market overview

Over 8,000 new cases of adult ALL annually worldwide

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
- 1st line therapy is based on high dose chemotherapy cycles given over a period of 12 – 36 months
- In 1st line therapy approx. 90% of patients achieve a CR, but most patients relapse
- Blincyto® is incorporated into frontline therapy as an additional component
- Aucatzyl® offers opportunity as a standalone therapy for patients in 2nd and subsequent lines of therapy



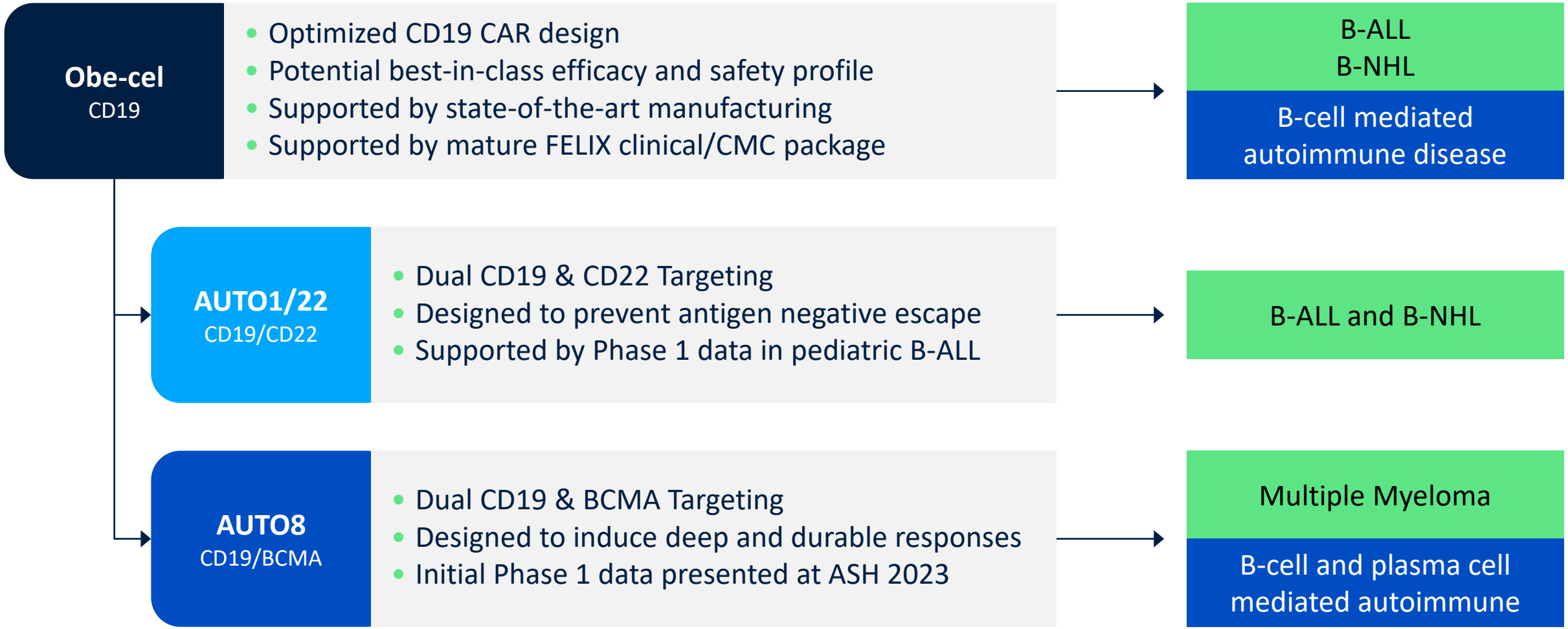
1. SEER and EUCAN estimates (respectively) for US and EU

Expanding the obe-cel opportunity

Deep value program with potentially broad applicability

The obe-cel product family and franchise opportunity

Potential value-creation through multiple life-cycle management and market expansion opportunities



MOA and established commercial capabilities are key differentiators

Obe-cel is the only CD19 CAR with an FDA approval outside of autoimmune disease

Autolus Potential Advantage

- Favorable tolerability to drive acceptability in non-oncology indications
- Deep cut into the CD19+ B and plasma cell
- Robust, economical and scalable manufacturing and established commercial infrastructure
- Potential for accelerated clinical program
- Only FDA-approved CAR-T therapy in development for autoimmune indications

Supports differentiated approach and potential for obe-cel in autoimmune disease areas

Phase 1 study in r/r SLE – enrollment ongoing

Primary goal of the Phase 1 study will be confirming the fixed dose in adult SLE patients

CARLYSLE Study

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 design summary

- n: 6 (option to add cohort of 6 patients)
- Primary endpoint: establish tolerability and safety of obe-cel in patients with severe, refractory SLE
- Secondary endpoints: evaluate 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
- 3 centers enrolling in UK and Spain

Status and updates

- Initial cohort (n=6); expect completion of patient dosing in Q1 2025
- Initial patient data in Q1 2025
- Presentation of full data with follow-up targeted for 2H 2025 at a medical conference

* A Study of CD19 Targeted CAR T Cell Therapy in Patients With Severe, Refractory Systemic Lupus Erythematosus (SLE) – Full Text View – ClinicalTrials.gov

Partnerships, pipeline programs and technologies

A broad portfolio of potential next generation modular T cell therapies

Pipeline supports growth with multiple development opportunities

Obe-cel product family

Product	Indication	Target	Preclinical	Phase 1	Phase 2/Pivotal	Approved	Status
AUCATZYL®	Adult ALL	CD19					MAA review EMA & MHRA
obe-cel	Systemic Lupus Erythematosus	CD19					Initial data Q1 2025
obe-cel	Pediatric ALL	CD19					Initial data H2 2025
obe-cel*	B-NHL & CLL	CD19					Data in peer reviewed journal
obe-cel*	Primary CNS Lymphoma	CD19					Data in peer reviewed journal
AUTO1/22*§	Pediatric ALL	CD19 & CD22					
AUTO8*	Multiple Myeloma	BCMA & CD19					

Additional programs

Product	Indication	Target	Preclinical	Phase 1	Phase 2/Pivotal	Approved	Status
AUTO4	TRBC1+ Peripheral TCL	TRBC1					Data in peer reviewed journal
AUTO5	TRBC2+ Peripheral TCL	TRBC2					Data in peer reviewed journal
AUTO6NG*§	Neuroblastoma	GD2					Open and recruiting
AUTO9*	Acute Myeloid Leukemia	CD33,123,CLL1					Initiate Ph1 2025

*UCL Collaboration UCL

§ BioNTech holds option to co-fund and co-commercialise BIONTECH

Oncology Autoimmune

Leveraging our industry leading technology platform via partnerships

Technology partnerships

Leveraging our modular programming technology to generate safer and more effective therapies

Tumor targeting, pharmacological control and activity enhancement for cellular therapies

Validating collaborations with leading pharma and biotech companies

Potential for value creation through near term option exercise fees, milestone payments and royalties from net sales

BIONTECH

Leveraging technology platform for BioNTech's programs

Bristol Myers Squibb

Access to the RQR8 safety switch for selected cell therapy programs for the treatment of cancer

moderna

Access to proprietary binders for the development of mRNA-based therapeutics for the treatment of cancer

Upcoming news flow

Autolus planned news flow

Anticipated Milestone or Data Catalysts	Anticipated Timing
Obe-cel FELIX data update at ASH 2024	**December 2024**
Initial data from SLE Phase 1 trial	**Q1 2025**
Obe-cel UK and EU approvals	**2H 2025**
Initial data from PY01 trial in pediatric ALL	**2H 2025**
SLE Phase 1 trial presentation at medical conference	**2H 2025**

Oncology **Autoimmune**

Summary

Autolus is positioned for commercial execution and market expansion

Obe-cel product franchise supports multiple growth opportunities

- EU/UK approvals expected 2H 2025
- Expanding opportunity for obe-cel in hem-oncology and autoimmune diseases
- Developing early-stage pipeline of novel CAR-T therapies

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Commercial execution and market expansion supported by:

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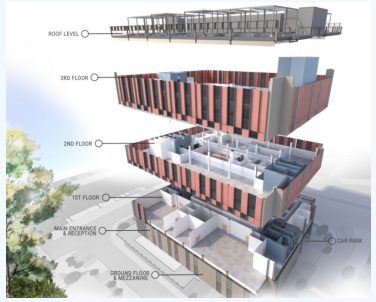
Design



Build

Operations

Strategic collaborations and strong cash position

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BIONTECH

moderna

Bristol Myers Squibb

Autolus

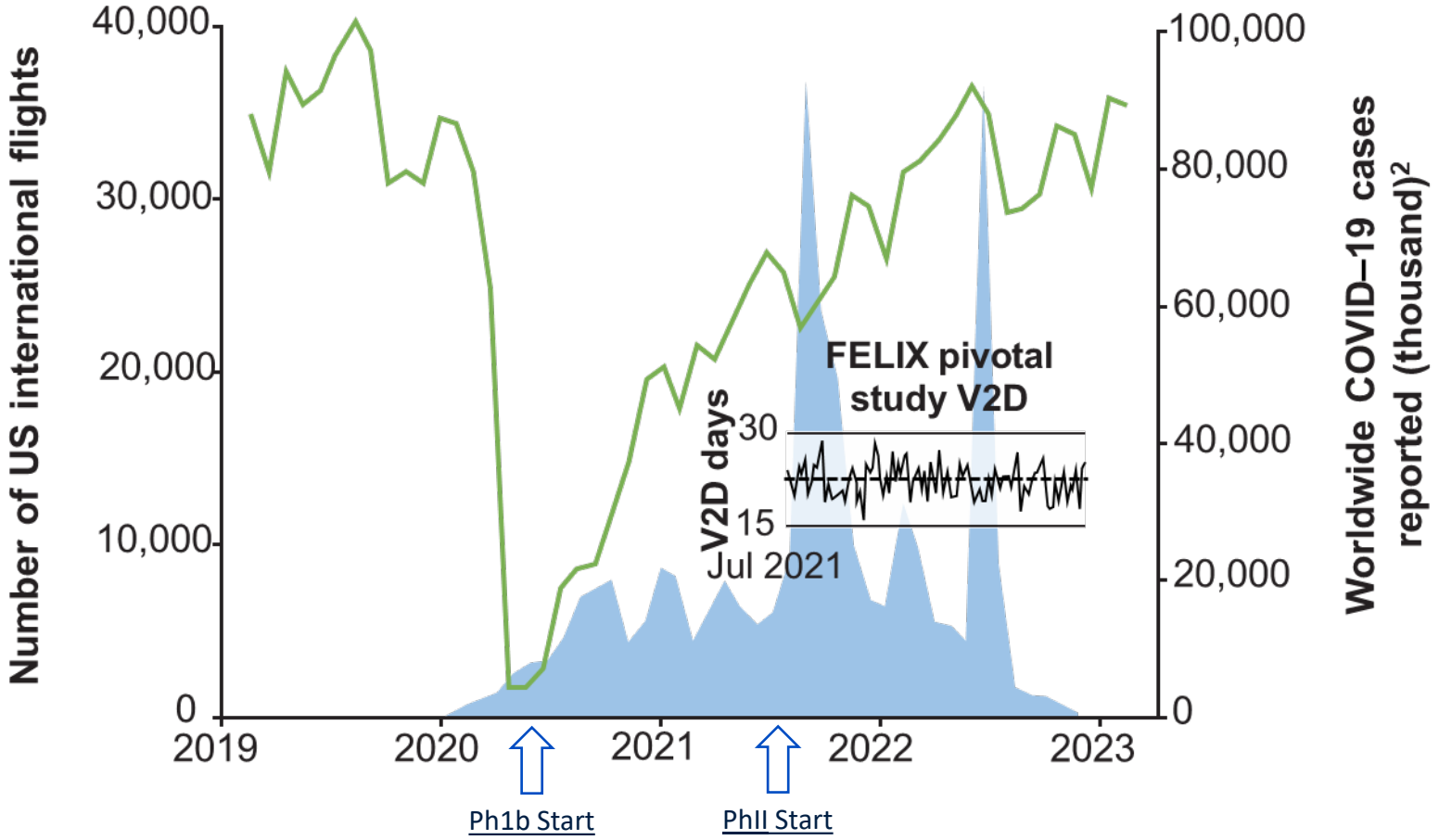
Thank you

Autolus

Appendix

The FELIX phase 1b/2 pivotal study

Reliable obe-cel supply for FELIX despite the COVID–19 pandemic



- US international airline flights decreased by 41% compared to flights from pre-COVID–19 pandemic1
- BUT international flights are reliable and on time
- Sample collection and drug product delivery were successfully maintained, with no batches impacted

1United States Department of Transportation, Bureau of Transportation Statistics 2021 [online]. Available at: https://www.bts.gov/data-spotlight/commercial-aviation-2020-downturn-airline-passengers-employment-profits-and-flights Accessed October 2023;
2World Health Organization COVID–19 dashboard [online]. Available at: https://covid19.who.int/ Accessed October 2023

Strategic multi-platform R&D collaboration with BioNTech

CAR T Cell Therapies

BioNTech to financially support obe-cel planned/potential commercial launch in adult ALL (Acute Lymphoblastic Leukemia) and expansion of development program

Development Product Options

BioNTech to receive co-development and co-commercialization options for AUTO1/22 (CD19/22) and AUTO6NG (GD2) programs

Commercial Infrastructure Access

BioNTech to receive option to access Autolus' GMP product supply and commercial infrastructure for their CAR T program, BNT211

Technology Platform License

BioNTech to receive license and options to access proprietary binders, safety switches and technologies for certain BioNTech programs

Deal Financials

Upfront Payments

- $200 million upfront for equity
- $50 million upfront cash

Downstream Economics

- Up to $580 million in further option exercise and milestones payments
- BioNTech to receive up to mid-single digit royalty on obe-cel project financing
- Autolus eligible for an additional equity investment of $20m, an option exercise payment and profit share based on products manufactured for BioNTech's BNT211 program
- BioNTech has option to co-fund and co-commercialize AUTO1/22 and AUTO6NG, if approved, in return for profit share
- Technology license and options provided in exchange for milestones and royalties