EDITING LIFE

Commitment to a Cure

Corporate Presentation

March 2024

NASDAQ: CLLS
EURONEXT GROWTH: ALCLS.PA

Forward-Looking Statements

This presentation contains “forward-looking” statements within the meaning of applicable securities laws, including the Private Securities Litigation Reform Act of 1995. Forward-looking statements may be identified by words such as “designed to”, “anticipate,” “expected,” “on track,” “plan,” “scheduled,” "should", and “will,” "would", or the negative of these and similar expressions.

These forward-looking statements, which are based on our management’s current expectations and assumptions and on information currently available to management, including information provided or otherwise publicly reported by our licensed partners. Forward-looking statements about advancement, timing and progress of clinical trials (including with respect to patient enrollment and follow-up), the timing of our presentation of data and submission of regulatory filings, the adequacy of our supply of clinical vials, the operational capabilities at our manufacturing facilities, the sufficiency of cash to fund operations, the potential benefit of our product candidates and technologies, the potential payments for which Cellectis is eligible under the agreements signed between Cellectis and each of its partners, including AstraZeneca, Servier, Allogene and Iovance; the possible size of the equity investment by AstraZeneca; and the financial position of Cellectis.

These forward-looking statements are made in light of information currently available to us and are subject to numerous risks and uncertainties, including with respect to the numerous risks associated with biopharmaceutical product candidate development, the risk that conditions to closing of the AstraZeneca potential additional equity investment, including necessary regulatory approvals, are not satisfied in a timely manner or at all.

With respect to our cash runway, our operating plans, including product development plans, may change as a result of various factors, including factors currently unknown to us. Furthermore, many other important factors, including those described in our Annual Report on Form 20-F and the financial report (including the management report) for the year ended December 31, 2022 and subsequent filings Cellectis makes with the Securities Exchange Commission from time to time, as well as other known and unknown risks and uncertainties may adversely affect such forward-looking statements and cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons why actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future.

Cellectis at a Glance

3 **Clinical Trials**

70+ patients dosed in Cellectis-sponsored trials

Global GMP Facilities

End-to-end manufacturing autonomy

Near-Term Clinical Catalysts

Multiple near-term UCART clinical data updates

$72M

*as of September 30, 2023

Cash Runway into 2026

Diversified Partnerships with Industry Leaders

~220 patients dosed to date

- Revenues > $6B in milestones + royalties
- 5 clinical trials sponsored by Cellectis' licensed partners

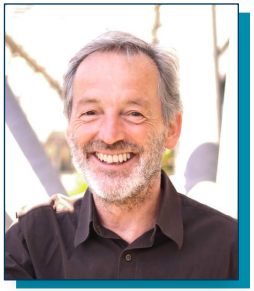
AstraZeneca, SERVIER, Allogene THERAPEUTICS, IOVANCE, primera THERAPEUTICS

* Cash position includes cash, cash equivalents and restricted cash. Restricted cash was $5 million as of September 30, 2023.

A Highly-Experienced Executive Committee

André Choulika, Ph.D.
Founder & CEO

Steven Doares, Ph.D.
SVP, US Manufacturing
& Site Head



Phillippe Duchateau, Ph.D.
Chief Scientific Officer

Mark Frattini, M.D., Ph.D.
Chief Medical Officer

Kyung Nam-Wortman
EVP, Chief Human
Resources Officer

Stephan Reynier
Chief Regulatory &
Compliance Officer

David Sourdive, Ph.D.
EVP CMC & Manufacturing
& Co-Founder

Arthur Stril
Chief Business Officer

Marie-Bleuenn Terrier
General Counsel

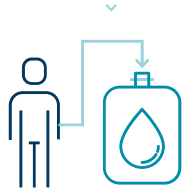
Bing Wang, Ph.D., MBA
Chief Financial Officer

UCARTs are Designed to be “Off-The-Shelf”

Scalable Manufacturing

Reduced cost
Scalable manufacturing:
1 batch = 100s doses

Robustness



The goal is to provide potency and consistency to each patient

Market Access

Immediately available to all eligible patients

Control Production, Costs and Patients Safety

Strategic Partnership with AstraZeneca

AstraZeneca

Cell & Gene Therapy R&D Collaboration

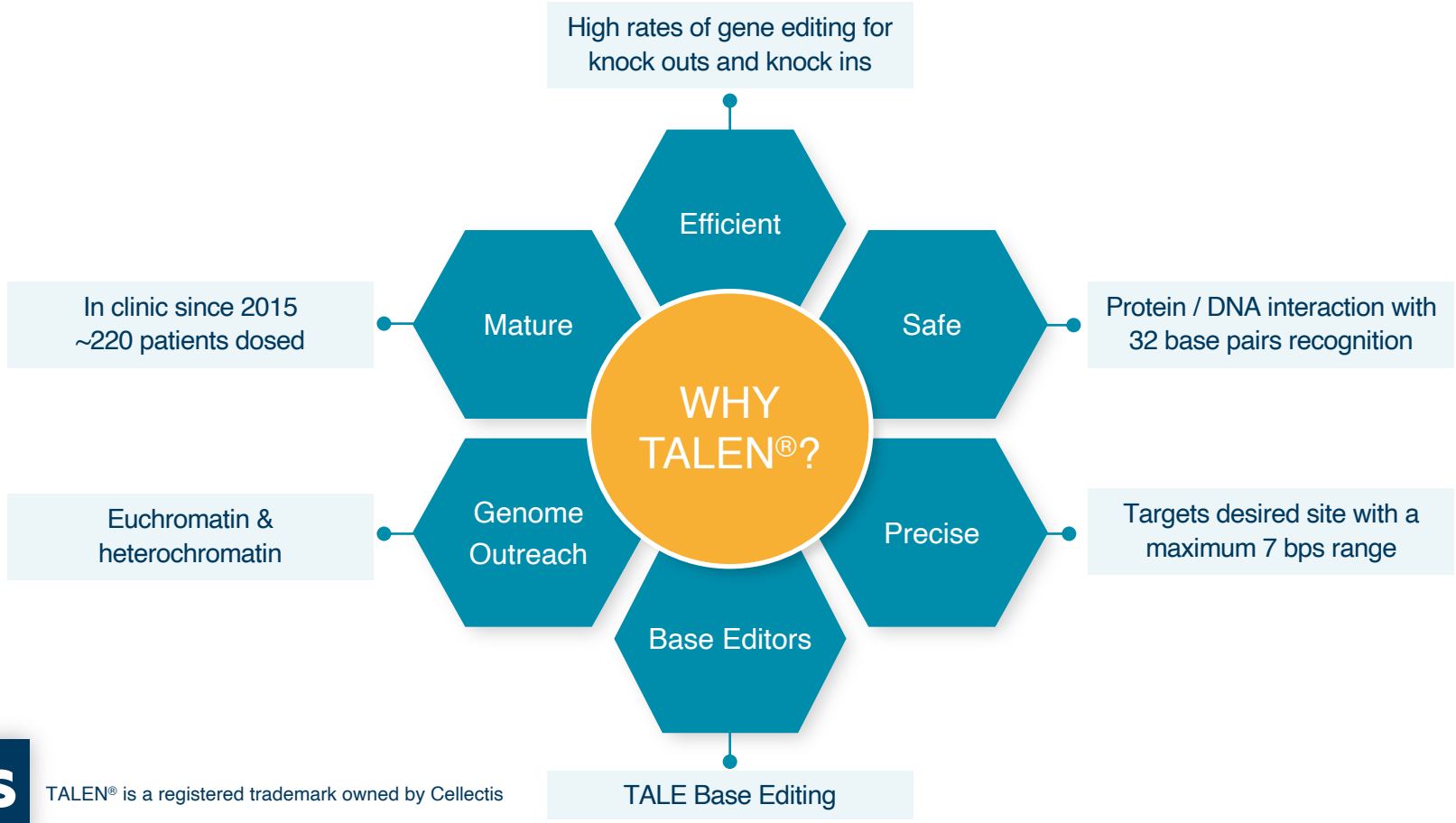
- Develop up to **10** novel products in **oncology, immunology and rare diseases**
- $25M upfront
- Milestones from $70M to $220M per product with tiered royalties
- AstraZeneca to cover Cellectis' research costs

Investment Agreement

- $80M initial equity investment (subscribed for 16 million ordinary shares at $5.00 per share)
- Potential $140M additional equity investment (28 million convertible preferred shares at $5.00 per share), subject to shareholders' approval, FDI clearance, and other customary closing conditions

Note: Immediately following the Additional Investment, it is anticipated that AstraZeneca would own approximately 44% of the share capital of Cellectis and 30% of the voting rights of Cellectis (based on the number of voting rights outstanding immediately after the completion of the Initial Investment) and would have the right to nominate two directors to the board of directors of Cellectis. Further, certain business decisions are subject to AstraZeneca's approval.

Experts in Gene-Editing Use TALEN®

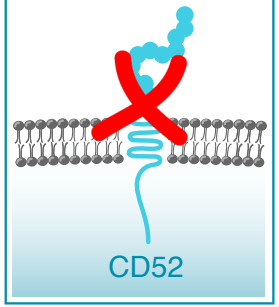


TALEN® is a registered trademark owned by Cellectis

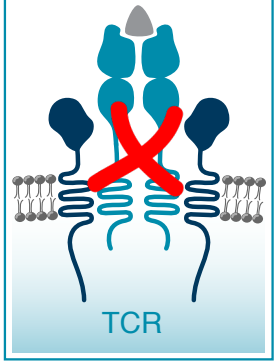
Cellectis' UCART Candidate Platform

TALEN® Powered

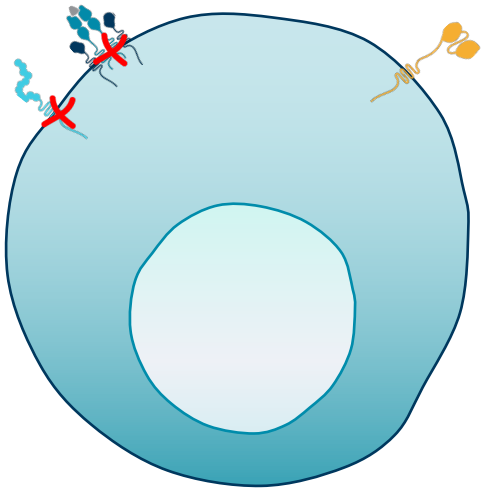
CD52 KO
Resistance to alemtuzumab



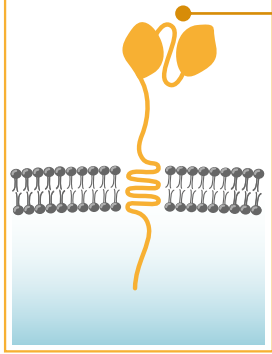
TRAC KO
Minimizes risk of GvHD



CAR-T cell



CAR



- CAR20+CAR22
  Targeting CD20 & CD22
  For B-cell Malignancies
- CAR22
  Targeting CD22
  For B-cell ALL
- CAR123
  Targeting CD123
  For AML

ALL: acute lymphoblastic leukemia; AML: acute myeloid leukemia; CAR: chimeric antigen receptor; GvHD: Graft versus Host Disease; KO: Knock-Out; TCR: T-cell receptor; TRAC: T-cell receptor alpha constant

Differentiated Targets & Near-Term Catalysts

	Candidate / Target	Indication	Study	Preclinical	Phase 1 Dose Escalation	Phase 1 Dose Expansion	Phase 2 Pivotal[2]	Upcoming Expected Milestones
Fully Owned	UCART22 CD22	ALL	BALLI-01 NCT04150497					Data update with Recommended Phase 2 Dose (RP2D)
	UCART123 CD123	AML	AMELI-01 NCT03190278					Data update with 2-dose regimen
	UCART20x22 Dual Target CD20, CD22	NHL	NatHaLi-01 NCT05607420					Data update with Recommended Phase 2 Dose (RP2D)
								Licensed to:
Licensed Partners	CEMACABTAGENE ANSEGEDLEUCEL CD19[1]	LBCL	ALPHA3					SERVIER; Allogene THERAPEUTICS U.S. rights
	CEMACABTAGENE ANSEGEDLEUCEL CD19[1]	CLL	ALPHA2 NCT04416984					
	ALLO-715[3] BCMA	MM	UNIVERSAL NCT04093595					Allogene THERAPEUTICS
	ALLO-605[3] BCMA	MM	IGNITE NCT05000450					
	ALLO-316[4] CD70	RCC	TRAVERSE NCT04696731					

1 cemacabtagene ansegedleucel has been developed under a collaboration agreement between Servier and Allogene based on an exclusive license granted by Cellectis to Servier. Servier grants to Allogene exclusive rights to cemacabtagene ansegedleucel in the U.S. The ALPHA3 and ALPHA2 studies target Large B-Cell Lymphoma (LBCL) and Chronic Lymphocytic Leukemia (CLL), respectively.
2 Phase 3 may not be required if Phase 2 is registrational.
3 ALLO-715 and ALLO-605 utilize TALEN® gene-editing technology pioneered and owned by Cellectis. Allogene has an exclusive license to the Cellectis technology for allogeneic products directed at the BCMA target. Allogene holds global development and commercial rights for this investigational candidate.
4 ALLO-316 utilizes TALEN® gene-editing technology pioneered and owned by Cellectis. Allogene has an exclusive license to the Cellectis technology for allogeneic products directed at the CD70 target. Allogene holds global development and commercial rights for this investigational candidate.
ALL, Acute Lymphoblastic Leukemia; AML, Acute Myeloid Leukemia; NHL, Non-Hodgkin's Lymphoma; RCC, Renal Cell Carcinoma

Cellectis' UCART Platform

BALLI-01 Study Design

Key inclusion criteria:

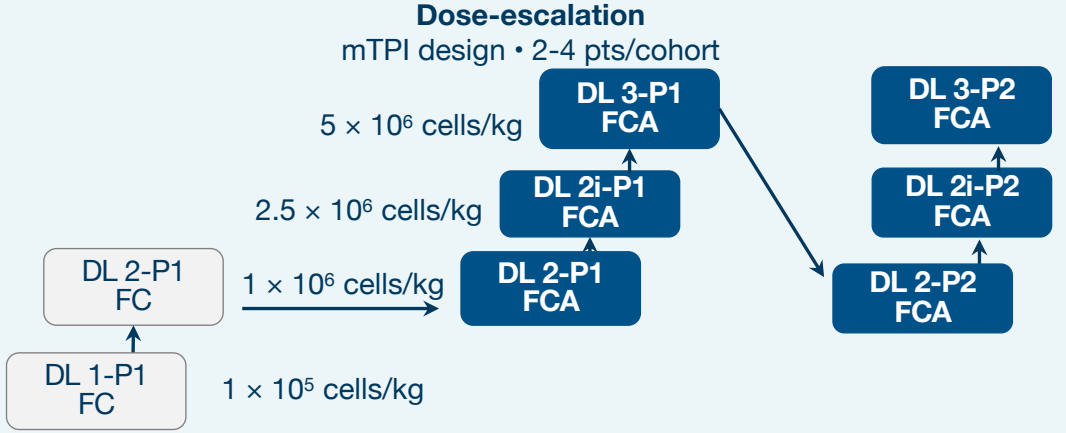
- Age 15–70 years, adequate organ function, ECOG PS ≤1
- B-ALL blast CD22 expression ≥70%
- Received ≥1 standard chemotherapy regimen and 1 salvage regimen

Primary objective:

- Safety, tolerability, & MTD of UCART22

Additional objectives:

- Investigator-assessed response
- UCART22 expansion in PB and BM
- Immune reconstitution



LD regimens:

- **FC: fludarabine** 30 mg/m^2 × 4d + **cyclophosphamide** 1 g/m^2 × 3d
- **FCA: fludarabine** 30 mg/m^2 × 3d + **cyclophosphamide** 0.5 g/m^2 × 3d + **alemtuzumab** 20 mg/d × 3d

P1 cells manufactured by external CDMO. P2 cells manufactured by Cellectis Biologics.
B-ALL, B-cell acute lymphoblastic leukemia; BM, bone marrow; DL, dose level; d, days; ECOG PS, Eastern Cooperative Oncology Group performance status; FC, fludarabine + cyclophosphamide; FCA, FC + alemtuzumab; LD, lymphodepletion; MTD, maximum tolerated dose; mTPI, modified Toxicity Probability Interval; PB, peripheral blood; pts, patients.

UCART22-P1 Administration Shows Promising Tolerable Safety Profile

Patient Characteristics (N=19)

Median age: 28 (17-61)

WHO classification:

- B-ALL with recurrent genetic abnormalities: 8 (42%);
- CRFL2 rearrangement: 4 (21%)

Median prior lines of therapy: 4 (2-8)

- Prior blinatumomab: 12 (63%)
- Prior inotuzumab: 10 (53%)
- Prior CD19 CART: 8 (42%)
- Prior HSCT: 8 (42%)

Safety: FCA Cohorts (N=13)

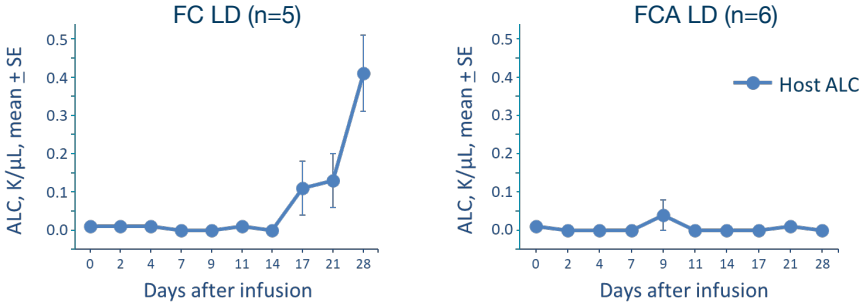
0	Dose limiting toxicity
0	ICANS (immune effector cell associated neurotoxicity)
0	Severe UCART22-related TEAEs (treatment emergent adverse events)
11	Patients with mild to moderate CRS (cytokine release syndrome), Grade 1/2
0	Grade 3 or higher CRS
1	Patient with Grade II GvHD; skin only*

*not confirmed by biopsy; in context of re-activation of prior allogeneic bone marrow donor stem cells

Data Source: ASH 2021 Conference Presentation, Cellectis' Live Webcast on 13th December 2022 and EHA 2023

CAR: chimeric antigen receptor; CRFL2: Cytokine Receptor-Like Factor 2; FCA: Fludarabine, Cyclophosphamide, Alemtuzumab; ICANS: Immune effector Cell-Associated Neurotoxicity Syndrome; TEAE: Treatment Emergent Adverse Event; CRS: Cytokine Release Syndrome; GvHD: Graft versus Host Disease ; HSCT: Hematopoietic Stem Cell Transplantation, B-ALL: B-cell Acute Lymphoblastic Leukemia

Promising Clinical Responses with UCART22-P1 and FCA Lymphodepletion



- Host lymphocytes remained suppressed using FCA lymphodepletion
- 2/7 patients in DL2 and DL2i achieved blast reductions to < 5% by day 28 using FCA lymphodepletion
  - 1 patient in DL2: MRD negative CRi
  - 1 patient in DL2i: MLFS
- **50% ORR observed in DL3** (3/6 patients)* with FCA lymphodepletion
  - 1 patient MRD negative **CR**
  - 1 patient MRD negative **CRi**
  - 1 patient MRD negative **MLFS**

UCART22 vector copy number (VCN) quantified by qPCR from whole blood. Thirteen (13) patients from the FCA cohorts were grouped in responders [R] or not responders [NR]. (**A**) UCART22 maximum concentration (Cmax) of VCN detected (**B**) UCART22 VCN area under the curve (AUC) over time (from day 0 through day 28, calculated by linear trapezoidal method by GraphPad. Non-parametric *t*-test was used to calculate the p values using GraphPad.

*All 3 of the DL3 responders failed multiple lines of prior therapy including multi-agent chemotherapy, CD19 directed autologous CAR T cell therapy, and allogeneic stem cell transplant. Additionally, 1 of the 3 also failed prior blinatumomab and inotuzumab, and the remaining 2 failed venetoclax based salvage regimens.

Data Source: ASH 2021 Conference Presentation, Cellectis' Live Webcast on 13th December 2022 and EHA 2023

FC: Fludarabine + Cyclophosphamide; FCA: Fludarabine + Cyclophosphamide + Alemtuzumab;

LD: Lymphodepletion; DL2: Dose Level 2; DL2i: Intermediate Dose Level 2; DL3: Dose Level 3; MRD: Minimal Residual Disease; CR: Complete Response; CRi: Complete Response with Incomplete Hematologic Recovery; MLFS: Morphologic Leukemia-Free State; ORR: Objective Response Rate; VCN: Vector Copy Number; AUC: Area Under Curve

Baseline Characteristics of UCART22-P2 Patients Treated at DL2

3 patients were enrolled into the first UCART22-P2 cohort at DL2

Patient 1

17-year-old female with Ph-negative B-ALL with a hypodiploid karyotype and a germline *TP53* mutation

Prior therapies included multiagent chemotherapy, blinatumomab, inotuzumab, venetoclax, allogeneic stem cell transplantation, and autologous CD19 CAR T-cell therapy (tisagenlecleucel) x 2 infusions

Patient 2

68-year-old female with Ph-negative B-ALL

Relapsed with CD19-low disease after multiagent chemotherapy, blinatumomab, and inotuzumab

Patient 3

27-year-old male with B-ALL with an ABL2 fusion

Prior therapies included multiagent chemotherapy, blinatumomab, inotuzumab, tyrosine kinase inhibitors, and an experimental autologous CAR19

DL2: Dose Level 2; B-ALL: B-cell Acute Lymphoblactic Leukemia

Summary of UCART22-P2 Patients Treated at DL2

Safety

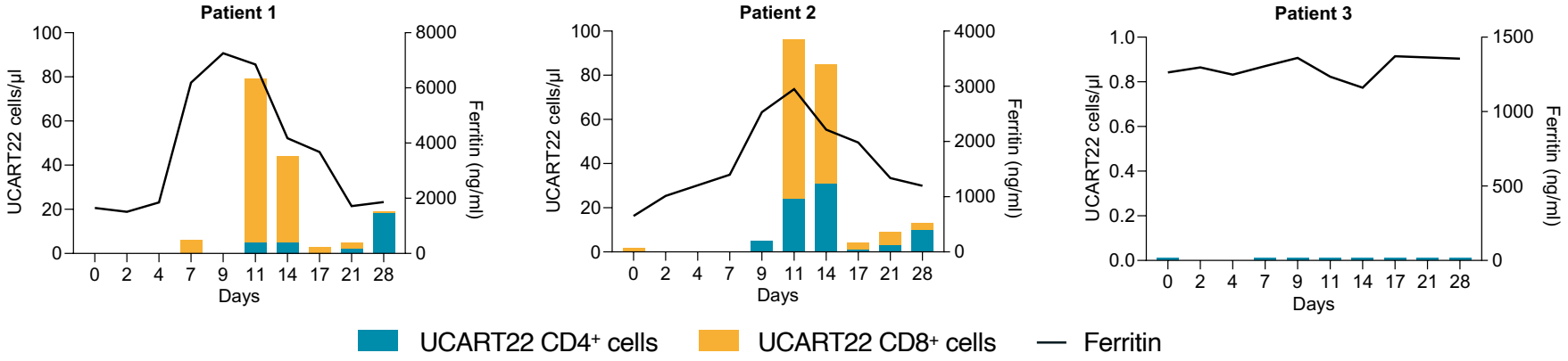
- No dose-limiting toxicities (DLT)
- No immune effector cell-associated neurotoxicity syndrome (ICANS)
- No GvHD
- CRS in 2/3 (67%) patients with one G1 that resolved without treatment and one G2 that resolved after tocilizumab x1
- Patient 1 had a G5 sepsis SAE at D40 considered related to UCART22-P2 and FCA LD

Efficacy

- Responses were assessed beginning on D28
- 2/3 patients (67%) treated at DL2 with UCART22-P2 responded:
  - Patient 1 had 40% BM blasts at screening and achieved an **MRD negative MLFS** (by flow cytometry and clonoSEQ at 10^{-4}) up to D40
  - Patient 2 had 80% BM blasts at screening and achieved an **MRD negative CR** (by clonoSEQ at 10^{-4}) lasting over 84 days after UCART22 infusion
  - Patient 3 had 84% BM blasts at screening and was refractory to treatment

BM: Bone Marrow, CR: Complete Response, CRS: Cytokine Release Syndrome, D: Day, DL2: Dose Level 2, FCA: Fludarabine, Cyclophosphamide and Alemtuzumab, G: Grade, LD: Lymphodepletion, GvHD: Graft Versus Host Disease; MRD: Minimal Residual Disease, MLFS: Morphologic Leukemia-Free State, SAE: Serious Adverse Event

UCART22-P2 Expansion Correlates with Changes in Ferritin Levels



UCART22-P2 expansion was observed by flow cytometry in the peripheral blood in patient 1 and 2, both at D11, with predominantly CD8 cells expanding, with peaks of:

- ~80 cells/µL in patient 1
- ~100 cells/µL in patient 2
- No UCART22-P2 expansion in patient 3, and ferritin levels mostly unchanged during the 28 days following UCART22-P2 administration

Patient 1: CRS G1 D4-5; G2 D5-6. Patient 2: CRS G1 D4-5, D7-8, and D10-11. Patient 3: no CRS

NatHaLi-01 Study Design

Key inclusion criteria:

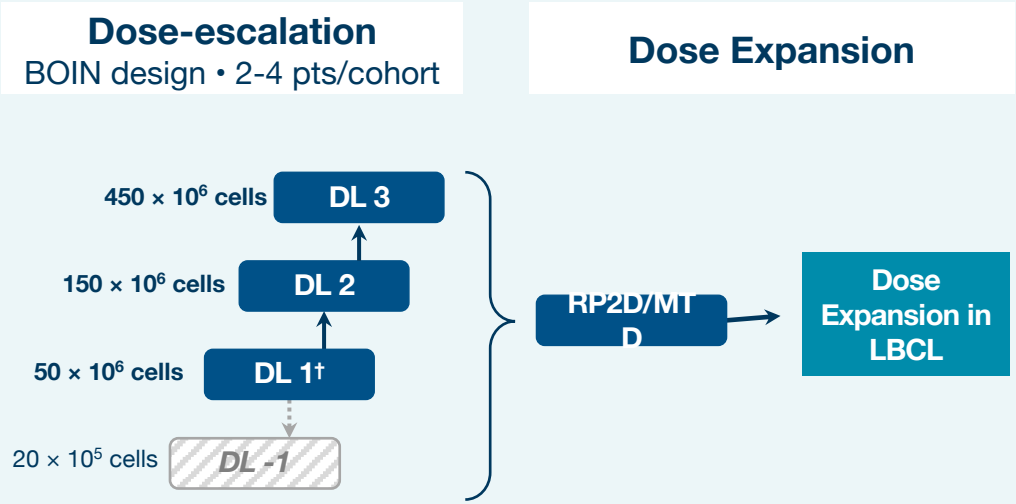
- Age 18–80 years
- Mature B-cell NHL except CLL/SLL, Richter's from CLL/SLL, Burkitt's lymphoma, or Waldenstrom's macroglobulinemia
- Tumor positive for CD20 and/or CD22
- Received ≥2 prior lines including CD19 CART if eligible

Primary objective:

- Safety, tolerability, & MTD/RP2D of UCART20x22

Additional objectives:

- Investigator-assessed response by Lugano
- UCART20x22 expansion in PB
- Immune reconstitution



FCA LD regimen:

- **Fludarabine** 30 mg/m^2 × 3d
- **Cyclophosphamide** 0.5 g/m^2 × 3d
- **Alemtuzumab** 60 mg total over 3 days

†Enrollment is ongoing.

BOIN: Bayesian optimal interval; CART: chimeric antigen receptor T-cell therapy; CLL/SLL: chronic lymphocytic leukemia / small lymphocytic lymphoma, DL: dose level; d: days; FCA: fludarabine + cyclophosphamide + alemtuzumab; LBCL: large B-cell lymphoma, LD: lymphodepletion; MTD: maximum tolerated dose; NHL: Non-Hodgkin Lymphoma; PB: peripheral blood; pts: patients; RP2D: recommended phase 2 dose

Baseline Characteristics

As of 28 July 2023, 3 patients received LD and were treated with UCART20x22 at Dose Level 1 (50×10^6 cells)

	Pt 1	Pt 2	Pt 3
Age	76	65	18
Sex	Female	Female	Female
NHL Subtype	DLBCL	Transformed FL	Transformed MZL
Genetic/Molecular	Double expressor (BCL2, MYC)	Triple-hit	NOTCH1, PLCG2, CCND3, XBP1
Antigen Present	CD20+/CD22 unknown	CD20+/CD22 unknown	CD20-/CD22+
Stage at Screening	IV	IV	IV
Number of Prior Therapies	2	4	8
Prior CD19 CART	None	Lisocabtagene maraleucel x2	Axicabtagene ciloleucel
ECOG	0	0	1
Baseline Deauville Score	4	5	5
Disease Status at Screening	Relapsed	Relapsed	Refractory

CART: chimeric antigen receptor T-cell therapy; DLBCL: diffuse large B-cell lymphoma; ECOG PS: Eastern Cooperative Oncology Group performance status; FL: follicular lymphoma; LD: lymphodepletion; MZL: marginal zone lymphoma

Safety Summary

- No UCART20x22-related DLTs
- No ICANS or GVHD was observed
- One CLLS52-related DLT of bone marrow aplasia after Day 42 thought to be due to cumulative chemotherapy exposure in a patient with baseline grade 1/2 cytopenias and bone marrow hypocellularity at screening
- All patients experienced grade 1 or 2 CRS that resolved with treatment
  - Pt 1 had grade 1 CRS for 4 days and was treated with tocilizumab x3 and dexamethasone x1
  - Pt 2 had grade 2 CRS for 2 days and grade 1 CRS for 3 days managed with tocilizumab x3 and dexamethasone x1
  - Pt 3 had grade 1 CRS for 8 days and received tocilizumab x1

CRS: Cytokine Release Syndrome, DLT: dose Limiting Toxicities, GvHD: Graft-Versus-Host Disease; ICANS: immune effector cell-associated neurotoxicity syndrome ; Pt: Patient

UCART20X22 Treatment Response

As of July 28, 2023, 3 patients were treated at dose level 1 (50×10^6 cells) and were evaluable for response:

Patient 1

76-year-old female with double-expressor DLBCL relapsed after R-CHOP, radiation therapy, and polatuzumab vedotin with bendamustine/rituximab who achieved a **partial metabolic response** at Day 28

Patient 2

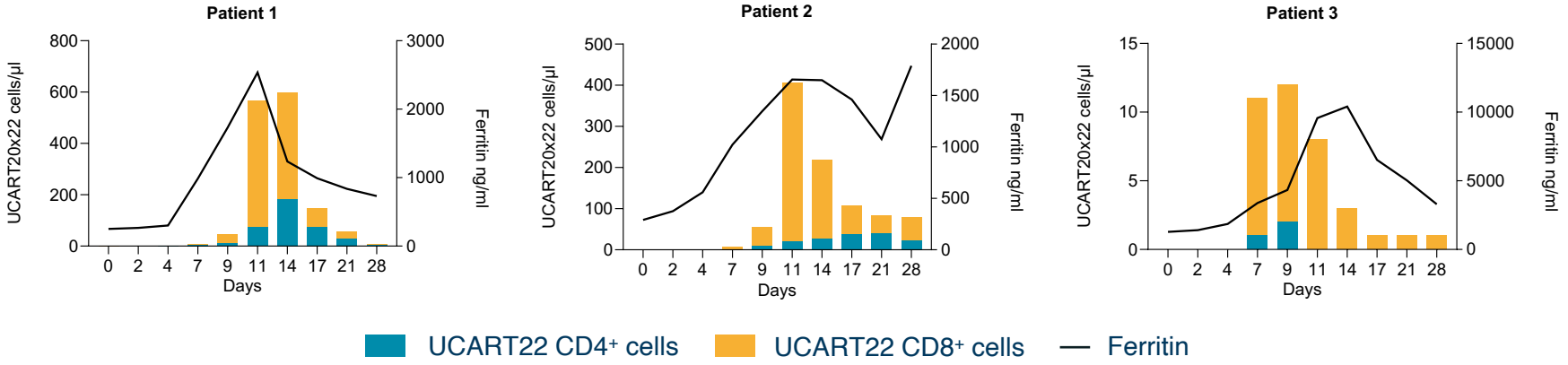
65-year-old female with triple-hit transformed follicular lymphoma previously treated with radiation therapy, bendamustine/rituximab, dose-adjusted R-EPOCH, and two lisocabtagene maraleucel infusions who achieved a **complete metabolic response** at Day 28

Patient 3

18-year-old female with relapsed/refractory transformed marginal zone lymphoma who previously failed chemoimmunotherapy, venetoclax, ibrutinib, bendamustine/rituximab, axicabtagene ciloleucel, obinutuzumab, glofitamab, tafasitamab/lenalidomide, and an experimental epigenetic modifier who achieved a **complete metabolic response** at Day 28

DLBCL: diffuse large B-cell lymphoma

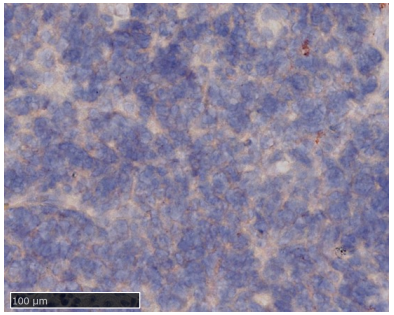
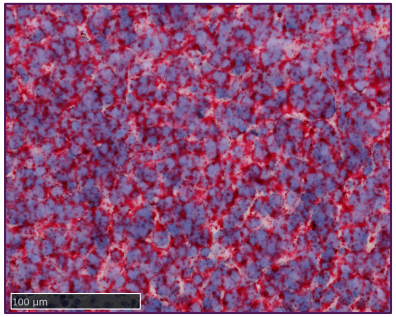
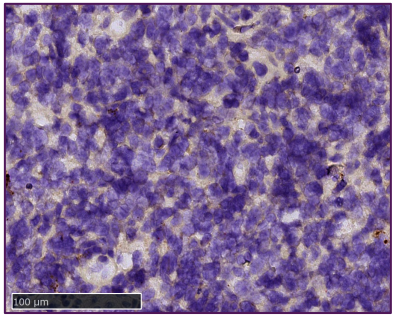
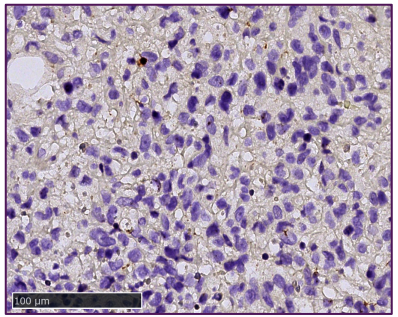
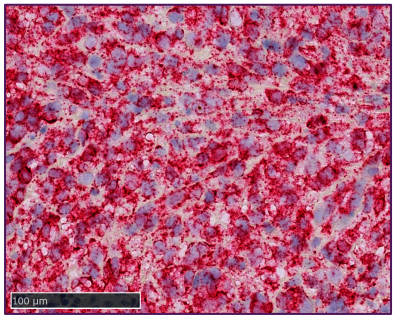
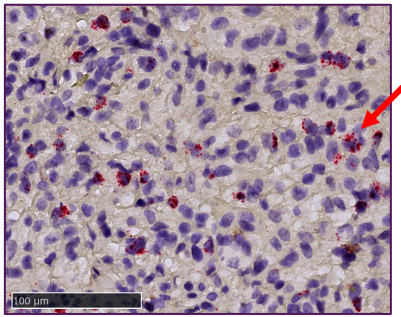
Robust Expansion of UCART20x22 Cells in Peripheral Blood Correlates with an Increase in Serum Ferritin Levels



UCART20x22 expansion was observed by flow cytometry in the peripheral blood in all patients, with predominantly CD8+ cells expanding, with peaks of:

- ~600 cells/µL in Patient 1 at Day 14
- ~400 cells/µL in Patient 2 at Day 11
- ~12 cells/ µL in Patient 3 at Day 9

UCART20x22 Cells Detected in Day 9 Post-Treatment Biopsy for Patient 3

	Negative Control	Positive Control	UCART20x22
Baseline			
Day 9			

UCART20x22

UCART20x22 cells were measured by RNAscope using a probe set specific for the UCART22 targeted sequence, at 20X magnification. No staining was observed with the negative control DapB (Bacillus subtilis strain SMY, a soil bacterium) in situ hybridization (ISH), strong staining with positive control UBC (ubiquitin C) ISH (red), UCART20x22 cells are detected by UCART22 ISH (Red), and hematoxylin counterstain (blue) nuclear staining.

UCART123 – AMELI-01 Trial Design

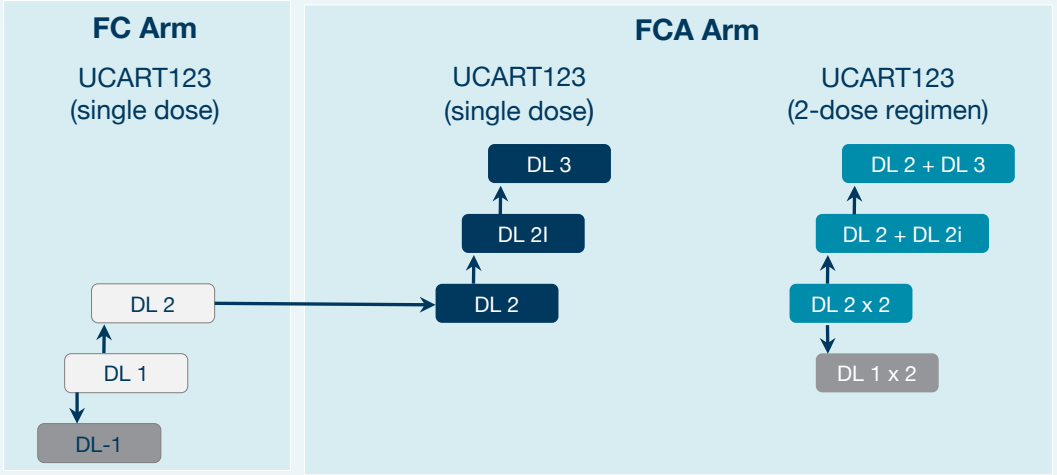
Phase I, Open Label Dose-escalation and Dose-expansion Study to Evaluate the Safety, Expansion, Persistence and Clinical Activity of UCART123 in Patients with Relapsed or Refractory Acute Myeloid Leukemia

Key Eligibility Criteria
- Relapsed or primary refractory AML (>5% bone marrow blasts)
- Blasts expressing CD123
- ECOG PS of ≤1 and adequate organ function

Primary Objective
- Safety, tolerability, & MTD/RP2D of UCART123

Additional Objectives
- Investigator-assessed response
- UCART123 expansion, trafficking, persistence in PB and BM
- Immune reconstitution

Dose-Escalation UCART123
mTPI design; 2-4pts/cohort



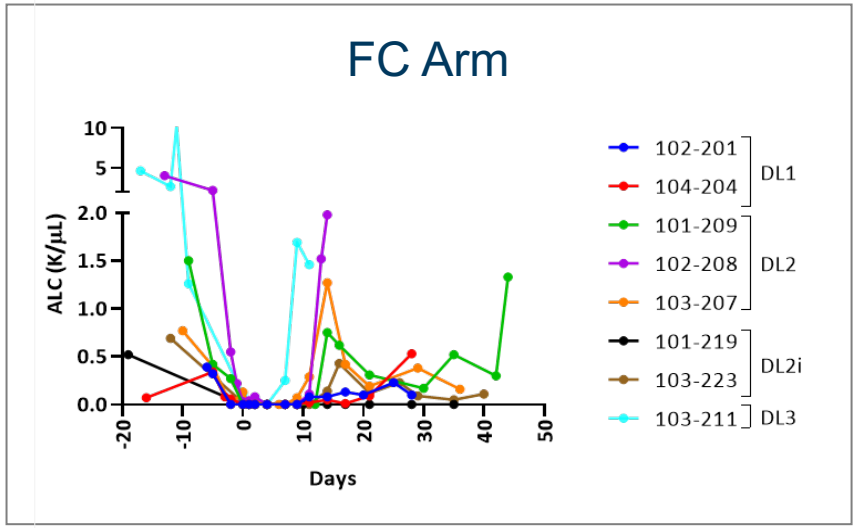
	UCART123
DL-1	1.25×10^5 cells/kg
DL1	2.5×10^5 cells/kg
DL2	6.25×10^5 cells/kg
DL2i	1.5×10^6 cells/kg
DL3	3.30×10^6 cells/kg

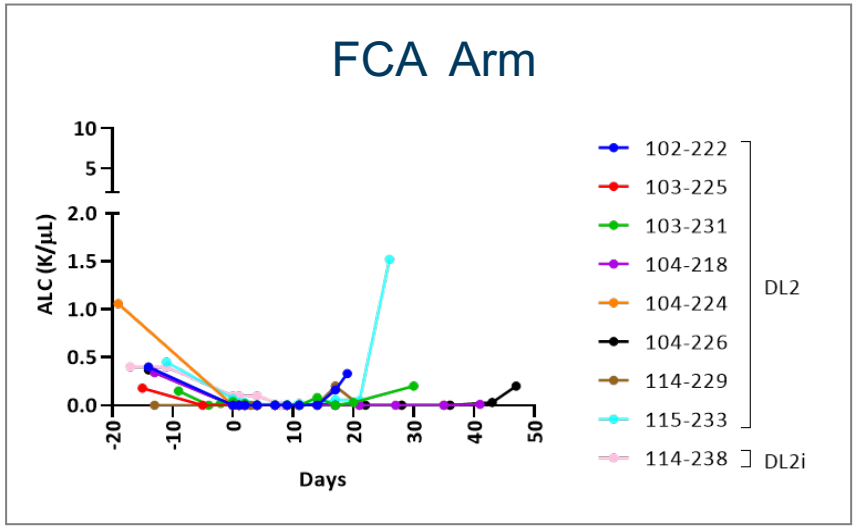
LD regimens:
- **FC:** Fludarabine 30 mg/m²x 4d + Cyclophosphamide 750 mg/m² x 3d
- **FCA:** Fludarabine 30 mg/m²x 4d + Cyclophosphamide 750 mg/m² x 3d + Alemtuzumab 12 mg/day x 4d

Data Source: ASH 2022 Conference Presentation
NCT04106076
ECOG PS, Eastern Cooperative Oncology Group performance status ; MTD, Maximum Tolerated Dose; RP2D, Recommended Phase 2 Dose; DL, Dose Level; PS, Performance Status; mTPI, modified Toxicity Probability Interval; LD, Lymphodepletion; AML: Acute Myeloid Leukemia; DL1: Dose Level 1; DL2i: Intermediate Dose Level 2; ; FC: Fludarabine and Cyclophosphamide; FCA: Fludarabine, Cyclophosphamide and Alemtuzumab; pts: patients; PB: Peripheral Blood; BM: Bone Marrow

Addition of Alemtuzumab Results in Prolonged Host Lymphodepletion in AMELI-01

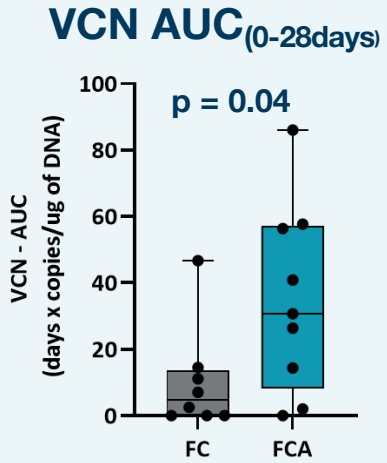
Absolute Lymphocyte Counts





Data Source: ASH 2022 Conference Presentation
FC: Fludarabine + Cyclophosphamide; FCA: Fludarabine + Cyclophosphamide + Alemtuzumab; DL1: Dose Level 1; DL2: Dose Level 2; DL2i: Dose Level 2 Intermediate ; DL3: Dose Level 3

Anti-Leukemic Activity and Robust CAR T-Cell Expansion Observed using FCA Lymphodepletion



Addition of alemtuzumab resulted in increased UCART123 expansion

2 responses observed in FC arm

Patient 101-219 (DL2i): SD

Patient 103-223 (DL2i): MLFS

2 responses observed in FCA arm

Patient 114-229 (DL2): SD

- Achieved greater than 90% BM blast reduction (60% to 5%) at Day 28

Patient 104-226 (DL2): **MRD negative CR**

- Achieved CRi at Day 28 followed by MRD negative CR at Day 56 that **remained durable for over 1 year**

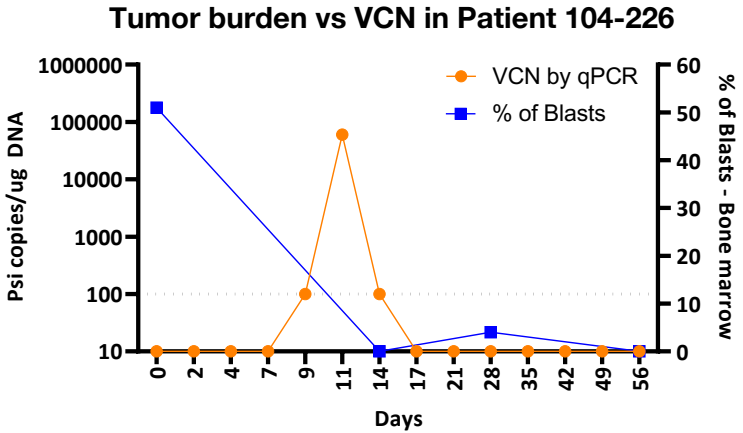
Data Source: ASH 2022 Conference Presentation

FC: Fludarabine + Cyclophosphamide; FCA: Fludarabine + Cyclophosphamide + Alemtuzumab; AUC: Area Under Curve; DL2: Dose Level 2; DL2i: Dose Level 2 Intermediate; BM: Bone Marrow; MRD: Minimal Residual Disease; CR: Complete Response; CRi: Complete Response with Incomplete Count Recovery; MLFS: Morphologic Leukemia-Free; SD: Stable Disease; VCN: Vector Copy Number

Patient 104-226 Achieved a Durable MRD Negative Complete Response at Day 56 that Was Maintained for Over One Year

Clinical Characteristics	
Age, Race, Sex	64-year-old white female
ECOG PS	1
ELN 2017 Classification; WHO Classification	Adverse risk; AML with myelodysplasia-related changes
Cytogenetic and Molecular Abnormalities	45,XX,-7,t(10;12)(q24;p13)[5]; IDH1, EZH2
Number of prior treatments	5 - including allogeneic HSCT 2016
Past Medical History	MDS, 2011; Focal nodular hyperplasia of the liver, 2016

Response Summary	BM Biopsy Blast %	BM Aspirate Blast %	MRD	ELN Response
Screening Day -14	51%	Not done		
Day 14	0%	Not done		
Day 28	3.8%	4%	Pos 0.6%	CRi
Day 56	2.8%	0%	Neg	CR
Day 84	0%	0%	Neg	CR
FU 1, Day 181	2%	0%	Neg	CR
FU 2, Day 270	1%	0%	Neg	CR
FU 3, Day 365	0%	0%	Neg	CR



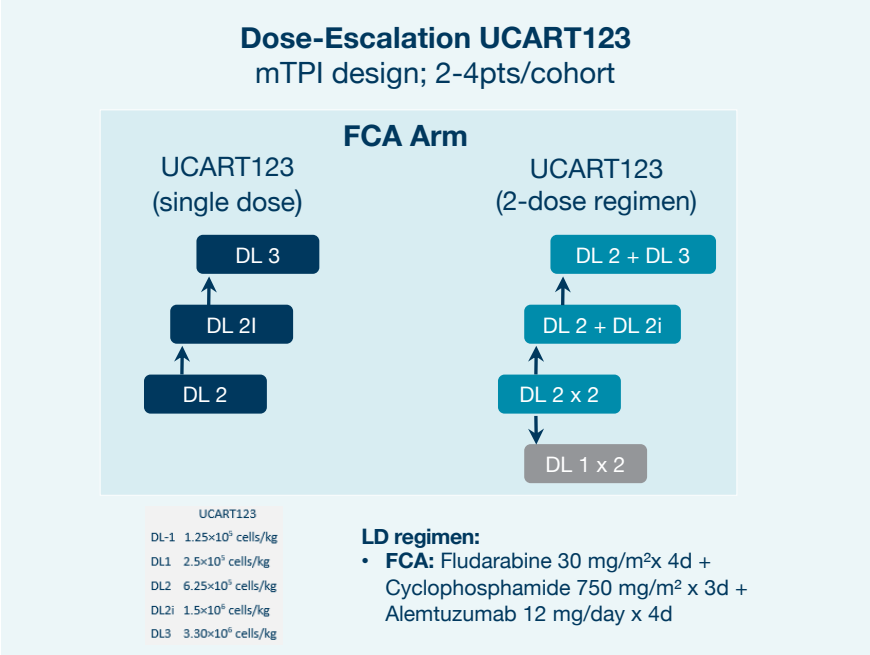
Data Source: ASH 2022 Conference Presentation

MDS myelodysplastic syndrome; HSCT Hemopoietic stem cell transplant; MRD minimal residual disease; BM: Bone Marrow; AML: Acute Myeloblastic Leukemia; ELN: European LeukemiaNet; ECOG PS: Eastern Cooperative Oncology Group Performance Status

Translational Data Supports Use of a Two-Dose Regimen of UCART123

- UCART123 expansion correlates with reduction in tumor burden at DL2 (6.25 x 10^5 cells/kg) but at this dose, UCART123 cell function is not sufficient for sustained anti-leukemic activity in all patients
- A second dose would then be given to allow for additional UCART123 expansion and clinical activity after 10-14 days without the use of additional lymphodepletion
- The second peak of expansion in the setting of reduced disease burden is expected to be safe and should allow for clearance of residual disease
- AMELI-01 study began enrolling patients in the FCA 2-dose regimen arm at DL2, a dose that has already been administered and cleared for safety as a single dose, and incorporate the use of prophylactic tocilizumab prior to UCART123 cell dosing

AMELI-01 Amended Protocol with Two-Dose Regimen Design



Data Source: ASH 2022 Conference Presentation

DL1: Dose Level 1; DL2i: Intermediate Dose Level 2 ; DL2: Dose Level 2; FC: Fludarabine and Cyclophosphamide; FCA: Fludarabine, Cyclophosphamide and Alemtuzumab; pts: patients; mTPI: modified Toxicity Probability Interval

UCART Platform Takeaways from ~290 Patients*

GvHD	TRAC KO results in safe, non-alloreactive UCART cells
Expansion	CD52 KO + alemtuzumab use in LD has the potential to provide a safe, effective & controllable therapeutic window
Persistence	Encouraging clinical activity in ALL, AML, and NHL
Safety	Profile on par with approved autologous CAR T therapies
Efficacy	Anti-tumor activity consistent with autologous products

* Includes fully owned and partnered assets
NHL: Non-Hodgkin Lymphoma; ALL: Acute Lymphoblastic Leukemia; AML: Acute Myeloid Leukemia; GvHD: Graft Versus Host Disease; KO: Knock-Out; LD: Lymphodepletion; TRAC: T-cell receptor alpha constant

Discover, Create, Develop, Produce and Test




New York, New York

Innovation, Clinical Development

25,000 sq ft. facility

- ✓ Gene Editing platform – TALEN®
- ✓ I/O discovery platform
- ✓ Gene therapy discovery platform
- ✓ Clinical development

Paris, France

HQ, PD/AD, Starting Materials

55,000 sq ft. facility

- ✓ Process & analytical development
- ✓ Raw materials manufacturing
- ✓ QC labs
- ✓ Warehouse
- ✓ Cryogenic Storage rooms

Raleigh, North Carolina

UCART – Clinical & potential for Commercial

82,000 sq ft. facility

- ✓ Cell therapy GMP manufacturing
- ✓ QC labs
- ✓ Warehouse
- ✓ Cryogenic Storage rooms

Expected Milestones in 2024

UCART22 r/r B-ALL

Data update with Recommended Phase 2 Dose (RP2D)

UCART123 r/r AML

Data update with 2-dose regimen

UCART20x22 r/r B-NHL

Data update with Recommended Phase 2 Dose (RP2D)

Partnerships

Updates from licensed partners (AstraZeneca, Servier/Allogene, Iovance, and Primera)

ALL, acute lymphoblastic leukemia; AML, acute myeloid leukemia; NHL, non-Hodgkin lymphoma; r/r, relapsed/refractory.

Key Takeaways – Why Cellectis?

Innovative Allogeneic CAR T	Breaking Paradigms with Life-Saving Therapies
End-to-End In-House Manufacturing	Owning Manufacturing is Owning the Product
Best-In-Class Gene Editing Platform	Safe, Precise & Efficient, Backed by Strong IP
Strong Partnerships	Anticipated Milestones, Diversified Financial Upsides

IP: Intellectual Property

Thank You

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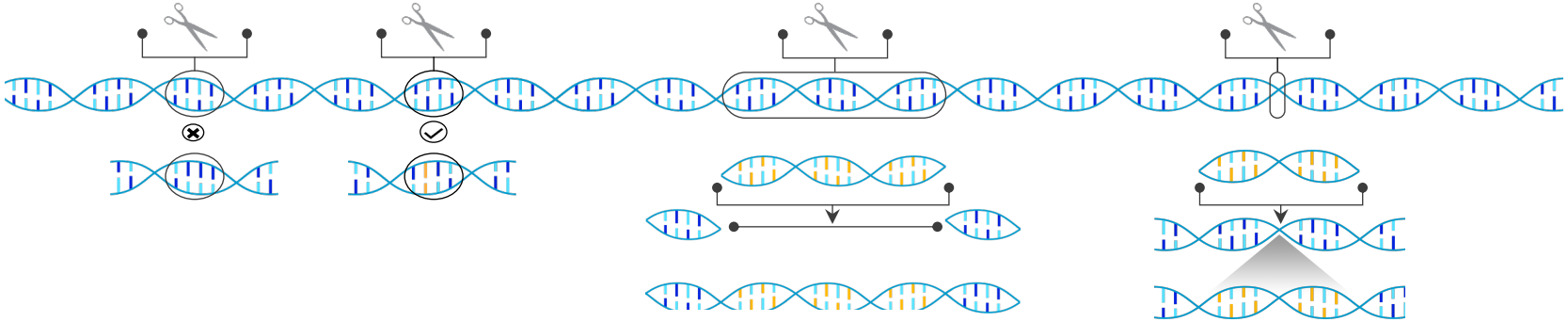
Appendix

Powerful and Comprehensive Gene Editing Platform

Gene Knockout | Gene Repair | Gene Replacement | Gene Insertion

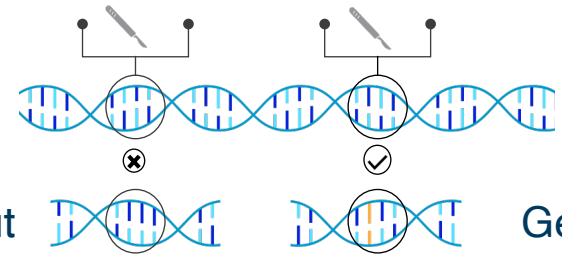


Nucleases

Experts in Gene Editing:

- ✓ 30+ years for Cellectis' founders
- ✓ 24 years doing gene editing
- ✓ 10 years developing TALEN®

Base editors



Gene Knockout | Gene Repair

Proprietary electroporation technology

Why TALEN®?

	Maturity	Genome Outreach	Recognition Site # base pairs	Chromotrypsis	Precision	Vectorization	IP
TALEN®	In clinic since 2015	Euchromatin & heterochromatin	32	Not reported	Every 7 base pairs	mRNA	Strong for CLLS
CRISPR	In clinic since 2018	Euchromatin only	~20	Yes	Every 64 base pairs	RNP	Scattered

RNP: Ribonucleoprotein; mRNA: Messenger RNA

Diversified Partnerships with Industry Leaders

					
CAR-T CD19		**CAR-T BCMA, CD70 + 13 targets**	**TILs**	**Mitochondrial DNA editing**	**Cell and gene therapies**
Exclusive worldwide license to CD19-directed allogeneic CAR T-cells	U.S. rights sublicensed to Allogene by Servier[1]	Exclusive worldwide license to 15 allogeneic CAR T-cell targets[1]	Research collaboration and exclusive worldwide license agreement to develop gene-edited TILs	Collaboration agreement to develop mtDNA gene editing for mitochondrial diseases + option for exclusive worldwide license agreement on up to 5 product candidates	Research agreement to develop up to 10 novel products in oncology, immunology and rare diseases and investment agreement
Up to $410M in Development & Sales Milestones + Low Double-Digit Royalties on Sales		Up to $2.8B in Development & Sales Milestones + High Single-Digit Royalties on Sales	Undisclosed Financials	19% equity upfront Option for up to $750M in Development & Sales Milestones + High Single-Digit Royalties on Sales	$25M upfront. Milestones from $70M to $220M per product and tiered royalties. $80M initial equity investment. Potential $140M additional equity investment.
2014	2015	2014	2020	2022	2023

1 Initially granted to Pfizer, Inc. In 2018, Pfizer and Allogene Therapeutics, Inc. entered into an asset contribution agreement pursuant to which Allogene purchased Pfizer's portfolio of assets related to allogeneic CAR T-cell therapy, including the CD19 US rights sublicensed by Servier, and the exclusive worldwide license to 15 allogeneic CAR-T targets.

TIL: Tumor-Infiltrating Lymphocyte; iPSC: Induced Pluripotent Stem Cells; NK: Natural Killer