

Nasdaq: AUTL



Obe-cel Data Update - EHA 2021

June 2021

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0	Obe-cel (AUTO1) NHL data review: Dr. Martin Pule, CSO
0	Update on ALL : Dr. Christian Itin, CEO
0	Summary: Dr. Christian Itin, CEO
0	Q&A: Dr. Christian Itin, Dr. Martin Pule, Andrew Oakley (CFO)





Welcome & Introduction Dr. Christian Itin, CEO



Evaluation of obe-cel activity in additional B-Cell malignancies

PRODUCT	INDICATION	TARGET	PHASE 1	PHASE 1B/2
Obe-cel	Adult ALL	CD19	ALLCAR-19	FELIX
Obe-cel	NHL & CLL	CD19	ALLCAR-19	
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

Obe-cel has potential for transformational outcomes in Adult ALL Data cut-off date May 17, 2021

- High level of sustained CR achieved without subsequent stem cell transplant
- Durability of remissions highly encouraging
 - Across all treated patients, event free survival (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
- Phase 1b/2 potential pivotal study underway, expect full data in 2022

• Adult ALL represents a sizeable market opportunity addressable with focused commercial footprint





Data Review - iNHL Dr. Martin Pule, CSO

ALLCAR-19 study cohorts

Study expanded to evaluate activity of obe-cel in NHL and CLL



Cohort	Indication	Pre-Conditioning	Day 0 – Dose 1 (x10 ⁶ CAR T-cells)	Day 9 – Dose 2 (x10 ⁶ CAR T-cells)
A1	B-ALL ≤20% BM blasts	CY / Flu	100	310
A2	B-ALL >20% BM blasts	CY / Flu	10	400
В	DLBCL	CY / Flu / pembro	200	-
С	B-CLL/SLL	CY / Flu	30	200
D	Indolent B-NHL	CY / Flu	200	-

ALLCAR-19 cohort D - iNHL patient characteristics, persistence and safety

Obe-cel shows excellent T cell expansion and engraftment with a manageable safety profile

Baseline Characteristics	N=9
Median age, years (range)	56 (39 - 68)
Gender	7M/ 2F
DiseaseFollicular LymphomaMantle Cell Lymphoma	7(78%) 2 (22%)
Lines of treatment Median (range) Prior autograft Prior allo-HSCT 	3 (2-5) 4 (44%) 1 (11%)
Stage of disease at screening • Stage I/II • Stage III/IV	0/9 9/9
 Bridging therapy Chemotherapy alone Radiotherapy + steroids Chemo + Radiotherapy Nil 	7 2 0 0

CAR T Cell Expansion in Cohort D (B-NHL)



Immunotoxicity in Cohort D (B-NHL)

	CRS (ASTCT criteria [#])		Neurotoxicity (ICANS)
•	CRS (any) in 5/9	•	ICANS in 0/9
•	Grade 2 in 1/9	•	Grade 2 in 0/9
•	≥ Grade 3 CRS in 0/9	•	Grade 3 in 0/9
•	Tocilizumab used in 2 patients		

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ALLCAR-19 cohort D – iNHL clinical responses

All patients treated achieved a metabolic Complete Response (CR)





Median follow-up 6.1 months (range 4.0 - 8.1)

Duration (months)

- 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 8.1m)
- 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
- \circ 0/9 patients experienced ICANS of any grade or ≥ grade 3 CRS

A cross study comparison of obe-cel vs Tecartus[®] and Kymriah[®] in iNHL patients Autolus Obe-cel shows high level of complete responses with a manageable safety profile

	Obe-cel ¹ ALLCAR-19
Indication	r/r FL & MCL
n	9
ORR	100%
CRR	100%
CRS any grade	56%
CRS > G3	0
ICANS any grade	0
ICANS > G3	0

Tecartus ² ZUMA-5	Kymriah ³ ELARA
r/r FL	r/r FL
81	97
91%	86%
60%	66%
84%	49%
8%	0
77%	10%
21%	1%

Roddie et al., EHA 2021
 Gilead, March 5, 2021, Press Release
 Schuster et al. ASCO 2021



- Initial obe-cel efficacy data in the iNHL cohort is encouraging
- Obe-cel continues to show a consistent and favorable safety profile across all indications evaluated
- Additional cohorts being explored, and further data planned for Q4 2021
- CAROUSEL study in PCNSL open with data expected in Q4 2021
- AUTO1/22 (CARPALL study) in pediatric ALL open with data expected in Q4 2021





Data Update ALL Dr. Christian Itin, CEO

No approved CAR T therapy for adult ALL patients

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

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 ALL
- Only redirected T cell therapy for adult patients is blinatumomab
- 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 conduct further clinical study for second line treatment label to expand the addressable patient population

OBE-CEL GRANTED ORPHAN DRUG DESIGNATION BY THE FDA FOR ALL AND PRIME DESIGNATION BY EMEA FOR ADULT ALL

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

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Obe-cel shows sustained stand-alone activity in adult ALL patients

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ALLCAR-19 Phase 1 EHA data cut - May 17 2021



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

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



		Obe-cel ALLCAR19
	Ν	20
	ORR	85%
	MRD Neg CR	85%
DOR		
	Median	Not reached
	12 months	64%
Morph. EFS		
	Median	Not reached
	12 months	50.2%
	24 months	50.2%
Molecular EFS		
	Median	12 months
	12 months	45%
	24 months	45%

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



Baseline characteristics

	ALLCAR-19 N=20	ZUMA-3 Ph2 [#] N=55
Age, median (range)	41.5 (18-62)	40 (19-84)
Male, n (%)	13 (65%)	33 (60%)
ECOG, n (%) 0 1 2 Missing	4 (20%) 9 (45%) 7 (35%) 0	- 39 (71%) - -
Philadelphia chromosome-positive, n (%)	6 (30%)	15 (27%)
Extramedullary disease, n (%)	3 (15%)	-
Prior blinatumomab, n (%)	5 (25%)	25 (45%)
Prior inotuzumab ozogamicin, n (%)	10 (50%)	12 (22%)
Relapsed or refractory post-allogeneic SCT, n (%)	13 (65%)	23 (42%)
BM blasts % at screening, median (range)	43 (0-98)	65 (5-100)



Complete response rates, durability of effect and event free survival

	ALLCAR-19 Phase 1	ZUMA-3 [#] Phase 2
Median follow-up	25.4 months	16.4 months
Range	(6.7, 38.7)	(10.3, 22.1)
Ν	20	55
ORR (CR/CRi)	85%	71%
MRD-negative CR/CRi	85%	69%
CR/CRi in ITT	17/26 (65%)	39/71 (54.9%)
DOR		
Median	Not reached	12.8 months
12 months	64%	~55%
EFS		
Median	Not reached	11.6 months
12 months	50.2%	~45%
18 months	50.2%	~25%
24 months	50.2%	Data not reported

Duration of follow-up is calculated from CAR T infusion to data cutoff. DOR and EFS for ZUMA-3 were estimated based on the KM curve[#] # Shah et al. Lancet 2021

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Morphological EFS

ALLCAR-19



- Morpohlogical RFS / EFS graphs adjusted for identical time axis to allow for direct comparison of curves
- Obe-cel dataset shows a plateau of responses from 12 months onwards

ZUMA-3[#]



CAR T cell levels (median) in peripheral blood







	ALLCAR-19 Phase 1	ZUMA-3 Phase 2
Ν	20	55
CRS Any Grade	55%	89%
CRS Grade ≥ 3	0	24%
NE / ICANS Any Grade	20%	60%
NE / ICANS Grade ≥ 3	15%	25%
Treatment for CRS and/or ICANS		
Tocilizumab	35%	80%
Steroids	20%	75%
Vasopressor	0	40%



• Obe-cel has a high level of MRD-negative CR (85%)

Unique CAR T design drives differentiated product profile

• Morphological EFS for obe-cel at 24 months was 50.2%

○ Long term CAR T persistence drives durability of effect

• Obe-cel has a favorable safety profile





Summary & Next Steps Dr. Christian Itin, CEO

Building a market leading franchise based on obe-cel



Anchored in adult and pediatric ALL with options to move into additional B cell malignancies

	PRODUCT	INDICATION	STUDY	STATUS
	Obe-cel	Adult ALL	FELIX	Study enrolling - pivotal data in 2022
	Obe-cel	B-NHL & CLL	ALLCAR-19	Study enrolling - further data in Q4 2021
	Obe-cel	Primary CNS Lymphoma	CAROUSEL	Study enrolling - data in Q4 2021
	AUTO1 /22	Pediatric ALL	CARPALL	Study enrolling - data in Q4 2021

• Obe-cel: potentially delivering transformational outcomes in adult ALL

- iNHL, CLL, DLBCL, PCNSL: generating options to move beyond ALL
- AUTO1/22: addressing CD19 antigen loss–driven relapses in pediatric ALL

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