CAR T-Cell Therapy for Hematologic Malignancies
ASH 2021
Current FDA-Approved Indication

Axi-cel
- DLBCL 2nd Failure
- FL 2nd Failure

Brexucabtagene
- MCL 2nd Failure
- ALL Relapsed

Tisagen
- DLBCL 2nd Failure
- ALL, Relapsed <23

Liso-cel
- DLBCL 2nd Failure

Updates

• Large B-Cell Lymphoma
  o CAR T Cell as Second-Line Therapy (ZUMA-7, TRANSFORM, BELINDA)
  o CAR T-Cell Therapy for Primary Refractory DLBCL (ZUMA-12)

• Follicular Lymphoma (ZUMA-5)

• Myeloma
  o Cilta-cel (CARTITUDE)

• New CAR T-Cell Products, Approaches, Indications
  o Novel Targets
  o AlloCAR T Therapy
  o iPSC-Derived NK CAR T Cells
  o AML MICA/MICB
  o Myeloma - Gamma Secretase Inhibitor
ZUMA-7: Uncharted Territory

Aggressive B-NHL
Primary Refractory
Relapse ≤ 12 mo of 1L

Bridging chemo

ZUMA-7
Axi-cel

CAR T-cells

Bridging chemo

BELINDA
Tisa-cel

Salvage/ASCT

Bridging chemo

TRANSFORM
Liso-cel

1:1

RANDOMIZE
ZUMA-7 Study Schema and Endpoints: Axi-Cel Versus SOC as Second-Line Therapy in Patients With R/R LBCL

R/R LBCL
N=359
77 sites

Key Eligibility:
- Aged ≥18 y
- LBCL
- R/R ≤12 mo of 1L therapy
- Intended to proceed to HDT-ASCT

Stratification:
- Response to 1L therapy
- Second-line age-adjusted IPI (sAAIPI)
- Optional Steroid-Only Bridging (No Chemotherapy)

1.1 Randomization

Axi-Cel (n=180)
Conditioning Chemotherapy + Axi-cel

SOC (n=179)

- Cycle 1
- Cycle 2
- Cycle 3 (Optional)

Investigator-Selected Platinum-Based Chemoimmunotherapy

Initial Disease Assessment (Day 50)

Responders (CR or PR) Proceed to HDT-ASCT

Nonresponders Additional Treatment Off Protocol

Day 100 Assessment
Day 150 Assessment
LTFU Assessment

Primary Endpoint
- Event-free survival (EFS) by blinded central review

Key Secondary Endpoints
- ORR
- OS

Secondary Endpoints
- PFS
- Safety
- PROs
- No Protocol-Specified Crossover

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* Refractory disease was defined as no CR to 1L therapy; relapsed disease was defined as CR followed by biopsy-proven disease relapse ≤12 months from completion of 1L therapy.  
  + Axi-cel patients underwent leukapheresis followed by conditioning chemotherapy with cyclophosphamide (500 mg/m²/day) and fludarabine (30 mg/m²/day) 5, 4, and 3 days before receiving a single axi-cel infusion (target intravenous dose, 2x10⁶ CAR T cells/kg).  
  
† Protocol-defined SOC regimens included R-GDP, R-DHAP, R-ICE, or R-ESHAP.  
  ✲ 56% of patients received subsequent cellular immunotherapy.  
  ✌ EFS was defined as time from randomization to the earliest date of disease progression per Lugano Classification, commenceent of new lymphoma therapy, or death from any cause.

Primary EFS Endpoint: Axi-Cel Is Superior to SOC

HR 0.398 (95% CI, 0.308-0.514); P<0.0001

<table>
<thead>
<tr>
<th></th>
<th>Median EFS (95% CI), mo</th>
<th>24-mo EFS Rate (95% CI), %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axi-cel (N=180)</td>
<td>8.3 (4.5-15.8)</td>
<td>40.5% (33.2-47.7)</td>
</tr>
<tr>
<td>SOC (N=179)</td>
<td>2.0 (1.6-2.8)</td>
<td>16.3% (11.1-22.2)</td>
</tr>
</tbody>
</table>

Median Follow-up: 24.9 mo

Locke et al ASH 2021 Plenary Abstract 2
ORR Was Significantly Higher in Axi-Cel Versus SOC Patients

Odds ratio, 5.31 (95% CI, 3.1-8.9); P<0.0001

Best Response, %

Axi-Cel (n=180)

ORR 83%

CR 65%

PR 18%

SD 3%

PD 12%

NEa 2%

SOC (n=179)

ORR 50%

CR 32%

PR 18%

SD 18%

PD 21%

NEa 10%

Not evaluable (NE): in the axi-cel arm, response assessments were not done for 4 patients. In the SOC arm, there were 4 patients with undefined disease and 14 who did not have response assessments done.

Locke et al  ASH 2021  Plenary Abstract 2
Lisocabtagene maraleucel for 2nd line (<12m) relapsed DLBCL

Kamdar et al, ASH 2021

TRANSFORM study design

Key eligibility
- Age 18–75 years
- Aggressive NHL
  - DLBCL NOS (de novo or transformed from indolent NHL), HGBCL (double/triple hit) with DLBCL histology, FL3B, PMBC, THRBCL
- Refractory or relapsed ≤ 12 months after 1L treatment containing an anthracycline and a CD20-targeted agent
- ECOG PS ≤ 1
- Eligible for HSCT
- Secondary CNS lymphoma allowed
- LVEF > 40% for inclusion
- No minimum absolute lymphocyte count

Screening + leukapheresis → 1:1 Randomization → PET
- Liso-cel arm
  - (100 × 10^9 CAR T cells)
- Liso-cel arm allowed
- Bridging therapy allowed
- Stratification
  - Refractory vs relapsed
  - sAAPl: 0/1 vs 2/3
- Liso-cel arm
  - 3 cycles of salvage CT, followed by HDCT + ASCT

Response assessments
- Weeks 9 and 18
- Months 6, 9, 12, 18, 24, and 36

Crossover to liso-cel allowed
- Failure to respond by 9 weeks post-randomization
- PD at any time
- Start of new antineoplastic therapy after ASCT

Primary endpoint
- EFS (per IRC)

Key secondary endpoints
- CR rate, PFS, OS

Other secondary endpoints
- Duration of response, ORR, PFS on next line of treatment
- Safety, PROs

Exploratory endpoints
- Cellular kinetics
- B-cell aplasia

EFS is defined as time from randomization to death due to any cause, progressive disease, failure to achieve CR or PR by 9 weeks post-randomization, or start of a new antineoplastic therapy, whichever occurs first
Lisocabtagene maraleucel for 2nd line (<12m) relapsed DLBCL

Kamdar et al, ASH 2021
Tisagenlecleucel for 2nd line (<12m) relapsed DLBCL
Bishop et al, NEJM 2021
Tisagenlecleucel for 2nd line (<12m) relapsed DLBCL
Bishop et al, NEJM 2021

Figure 2. Kaplan–Meier Plot of Event-free Survival.
An event was defined as progressive disease or stable disease on or after day 71 or death at any time (i.e., event-free survival at a given time point represents the estimated percentage of patients who had a complete or partial response at this time point among all ran-
## Summary of second line CAR T studies

Randomized trials of CAR T-cells vs. SOC in 2\textsuperscript{nd} line transplant-eligible DLBCL with primary refractory disease or relapse within 1 year of 1\textsuperscript{st} line therapy

<table>
<thead>
<tr>
<th></th>
<th>ZUMA-7</th>
<th>TRANSFORM</th>
<th>BELINDA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAR T-cell</strong></td>
<td>Axicabtagene Ciloleucel</td>
<td>Lisocabtagene Maraleucel</td>
<td>Tisagenlecleucel</td>
</tr>
<tr>
<td><strong>n</strong></td>
<td>359</td>
<td>184</td>
<td>322</td>
</tr>
<tr>
<td><strong>% infused in CAR arm</strong></td>
<td>94%</td>
<td>98%</td>
<td>96%</td>
</tr>
<tr>
<td><strong>Median EFS</strong></td>
<td>8.3 mo vs. 2 mo</td>
<td>10.1 mo vs. 2.3 mo</td>
<td>3 mo vs. 3 mo</td>
</tr>
<tr>
<td><strong>Hazard ratio</strong></td>
<td>0.398 (P&lt;0.0001)</td>
<td>0.349; (P &lt; 0.0001)</td>
<td>1.07 (P=0.69)</td>
</tr>
<tr>
<td><strong>Median follow-up</strong></td>
<td>25 months</td>
<td>6 months</td>
<td>10 months</td>
</tr>
<tr>
<td><strong>CR rate</strong></td>
<td>65% vs 32%</td>
<td>66% vs 39%</td>
<td>28% vs 28%</td>
</tr>
<tr>
<td><strong>Grade ≥3 CRS/NT</strong></td>
<td>6% / 21%</td>
<td>1% / 4%</td>
<td>5% / 3%</td>
</tr>
</tbody>
</table>
Implications of second line CAR T studies

• In patients with chemoresistant disease (short first remission), more chemo (and AutoSCT) is not effective
• Why different outcome in BELINDA study with tisagenlecleucel?
  • Chemotherapy bridging (sicker patients)
  • Additional chemo cycles for standard group
  • Longer time (52d) to get CAR T (and 25.9% pre-infusion PD)
  • Different agent
  • Less lymphodepletion
  • Event definitions
• CAR T will be SOC for those with PD < 1 year
• AutoSCT remains SOC for those with later relapses
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  o Myeloma - Gamma Secretase Inhibitor
Primary Analysis of ZUMA-12: A Phase 2 Study of Axicabtagene Ciloleucel as First-Line Therapy in Patients With High-Risk Large B-Cell Lymphoma

Sattva S. Neelapu, MD\textsuperscript{1}; Michael Dickinson, MBBS, D Med Sci, FRACP, FRCPA\textsuperscript{2}; Javier L. Munoz, MD, MS, MBA, FACP\textsuperscript{3}; Matthew L. Ulrickson, MD\textsuperscript{3}; Catherine Thieblemont, MD, PhD\textsuperscript{4}; Olalekan O. Oluwole, MD, MBBS, MPH\textsuperscript{5}; Alex F. Herrera, MD\textsuperscript{6}; Chaitra S. Ujjani, MD\textsuperscript{7}; Yi Lin, MD, PhD\textsuperscript{8}; Peter A. Riedell, MD\textsuperscript{9}; Natasha Kekre, MD, MPH, FRCP\textsuperscript{10}; Sven de Vos, MD, PhD\textsuperscript{11}; Christine Lui, MS\textsuperscript{12}; Francesca Milletti, PhD\textsuperscript{12}; Jinghui Dong, PhD\textsuperscript{12}; Hairong Xu, MD, PhD\textsuperscript{12}; and Julio C. Chavez, MD\textsuperscript{13}

\textsuperscript{1}The University of Texas MD Anderson Cancer Center, Houston, TX, USA; \textsuperscript{2}Peter MacCallum Cancer Centre, Royal Melbourne Hospital and the University of Melbourne, Melbourne, Victoria, Australia; \textsuperscript{3}Banner MD Anderson Cancer Center, Gilbert, AZ, USA; \textsuperscript{4}Hôpital Saint Louis, Paris, France; \textsuperscript{5}Vanderbilt-Ingram Cancer Center, Nashville, TN, USA; \textsuperscript{6}City of Hope National Medical Center, Duarte, CA, USA; \textsuperscript{7}Seattle Cancer Care Alliance, Fred Hutchinson Cancer Research Center, Seattle, WA, USA; \textsuperscript{8}Mayo Clinic, Rochester, MN, USA; \textsuperscript{9}University of Chicago Medicine, Chicago, IL, USA; \textsuperscript{10}The Ottawa Hospital Research Institute, Ottawa, Ontario, Canada; \textsuperscript{11}David Geffen School of Medicine at UCLA, Santa Monica, CA, USA; \textsuperscript{12}Kite, a Gilead Company, Santa Monica, CA, USA; and \textsuperscript{13}Moffitt Cancer Center, Tampa, FL, USA
ZUMA-12 Study Design

**Phase 2**

**High-Risk LBCL**
- HGBL, with MYC and BCL2 and/or BCL6 translocations (double- or triple-hit), or
- LBCL with IPI score ≥3 any time before enrollment

**Dynamic Risk Assessment**
- Positive interim PET (DS 4 or 5) after 2 cycles of an anti-CD20 mAb + anthracycline-containing regimen

**Additional Key Inclusion Criteria**
- Age ≥18 years
- ECOG 0–1

**Enrollment/Leukapheresis**

**Optional Nonchemotherapy Bridging Therapy**

**Conditioning Chemotherapy + Axi-Cel Infusion**
- **Conditioning:** Fludarabine 30 mg/m² IV and cyclophosphamide 500 mg/m² IV on Days −5, −4, and −3
- **Axi-Cel:** Single IV infusion of 2x10⁶ CAR T cells/kg on Day 0

**Primary Endpoint**
- CR (investigator-assessed per Lugano 2014 classification)¹

**Key Secondary Endpoints**
- ORR
- DOR
- EFS
- PFS
- OS
- Safety
- CAR T cells in blood and cytokine levels in serum

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* Administered after leukapheresis and completed prior to initiating conditioning chemotherapy. Therapies allowed were corticosteroids, localized radiation, and HDMP+R. PET-CT was required after bridging.

Axi-cel, axicabtagene ciloleucel; CAR, chimeric antigen receptor; CR, complete response; CT, computed tomography; DOR, duration of response; DS, Deauville score; ECOG, Eastern Cooperative Oncology Group performance status; EFS, event-free survival; HDMP+R, high-dose methyprednisolone plus rituximab; HGBL, high-grade B-cell lymphoma; IPI, International Prognostic Index; IV, intravenous; LBCL, large B-cell lymphoma; mAb, monoclonal antibody; ORR, objective response rate; OS, overall survival; PET, positron-emission tomography; PFS, progression-free survival.

Neelapu et al  ASH 2021  Abstract 739
## Baseline Patient Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All Treated (N=40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median age (range), years</td>
<td>61 (23–86)</td>
</tr>
<tr>
<td>≥65 years, n (%)</td>
<td>15 (38)</td>
</tr>
<tr>
<td>Male, n (%)</td>
<td>27 (68)</td>
</tr>
<tr>
<td>Disease stage III/IV, n (%)</td>
<td>38 (95)</td>
</tr>
<tr>
<td>ECOG 1, n (%)</td>
<td>25 (63)</td>
</tr>
<tr>
<td>1 Prior line of systemic therapy (2 cycles), n (%)</td>
<td>40 (100)</td>
</tr>
<tr>
<td>Best response of PR/SD to prior therapy&lt;sup&gt;a&lt;/sup&gt;</td>
<td>23 (58)</td>
</tr>
<tr>
<td>Best response of PD to prior therapy&lt;sup&gt;a&lt;/sup&gt;</td>
<td>16 (40)</td>
</tr>
<tr>
<td>Double- or triple-hit as determined by FISH per investigator, n (%)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>16 (40)</td>
</tr>
<tr>
<td>Double- or triple-hit as determined by FISH per central laboratory, n (%)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>10 (25)</td>
</tr>
<tr>
<td>IPI score ≥3, n (%)&lt;sup&gt;c&lt;/sup&gt;</td>
<td>31 (78)</td>
</tr>
<tr>
<td>Deauville score 4, n (%)</td>
<td>19 (48)</td>
</tr>
<tr>
<td>Deauville score 5, n (%)</td>
<td>21 (53)</td>
</tr>
</tbody>
</table>

<sup>a</sup> One patient was not estimable for response to prior therapy.  
<sup>b</sup> Of 6 patients reported to be double- or triple-hit per investigator, 3 remained inconclusive, 1 was determined not to be double- or triple-hit, and 2 were not tested by the central laboratory. A total of 8 treated patients did not have central laboratory testing.  
<sup>c</sup> IPI score for eligibility was at the time of diagnosis or any time between diagnosis and enrollment.  
ECOG, Eastern Cooperative Oncology Group performance status; FISH, fluorescence in situ hybridization; IPI, International Prognostic Index; PD, progressive disease; PR, partial response; SD, stable disease.
ORR Was 89% (95% CI, 75–97) and CR Rate Was 78% (95% CI, 62–90) Among Efficacy-Evaluable Patients

- Among all treated patients (N=40), ORR was 90% (95% CI, 76–97); CR rate was 80% (95% CI, 64–91)

*Response assessments are based on best overall response. **Includes all treated patients with centrally confirmed disease type (double- or triple-hit lymphomas) or IPI score ≥3 who received ≥1×10^6 CART cells/kg. ***All 7 patients converted to a CR by Month 6 postinfusion.

CR, complete response; ORR, objective response rate; PD, progressive disease; PR, partial response; SD, stable disease.

Neelapu et al  ASH 2021  Abstract 739
Updates

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  o CAR T Cell as Second-Line Therapy (ZUMA-7, TRANSFORM, BELINDA)
  o CAR T for Primary Refractory DLBCL (ZUMA-12)

• Follicular Lymphoma (ZUMA-5)

• Myeloma
  o Cilta-cel (CARTITUDE)

• New CAR T-Cell Products, Approaches, Indications
  o Novel Targets
  o AlloCAR T Therapy
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  o AML MICA/MICB
  o Myeloma - Gamma Secretase Inhibitor
Updated Analysis

- The updated efficacy analysis occurred when ≥80 treated patients with FL had ≥24 months of follow-up, per protocol\(^a\)

- Efficacy analyses are reported in the 110 efficacy-eligible patients (86 with FL; 24 with MZL)\(^a\)
  - The median follow-up for patients with FL was 30.9 months (range, 24.7–44.3)
  - The median follow-up for patients with MZL was 23.8 months (range, 7.4–39.4)

- Safety data are reported for all 149 patients treated with axi-cel (124 with FL; 25 with MZL)

- Data cutoff date: March 31, 2021

\(^a\) Efficacy-eligible patients (inferential analysis set) included ≥80 treated patients with FL who had ≥24 months of follow-up after axi-cel infusion and treated patients with MZL who had ≥4 weeks of follow-up after axi-cel infusion as of the data cutoff date.

Axi-cel, axicabtagene ciloleucel; FL, follicular lymphoma; MZL, marginal zone lymphoma.
At data cutoff, 57% of efficacy-eligible patients with FL (49 of 86) and 50% of patients with MZL (12 of 24) had ongoing responses

- Of patients who achieved a CR, 68% of patients with FL (46 of 68) and 73% of patients with MZL (11 of 15) had ongoing responses

\(^a\) A total of 28 efficacy-eligible patients received subsequent treatment, including 18 with new anti-cancer therapy and 10 with axi-cel retreatment. No patients received subsequent SCT.

Axi-cel, axicabtagene ciloleucel; CR, complete response; DOR, duration of response; FL, follicular lymphoma; MZL, marginal zone lymphoma; NE, not estimable; NR, not reached; SCT, stem-cell transplantation; TTNT, time to next treatment.
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Updated Results From CARTITUDE-1: Phase 1b/2 Study of Ciltacabtagene Autoleucel, a B-cell Maturation Antigen-Directed Chimeric Antigen Receptor T Cell Therapy, in Patients With Relapsed/Refractory Multiple Myeloma


1UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA, USA; 2Levine Cancer Institute, Charlotte, NC, USA; 3Sarah Cannon Research Institute, Nashville, TN, USA; 4University of Chicago, Chicago, IL, USA; 5UPMC Hillman Cancer Center, Pittsburgh, PA, USA; 6Abramson Cancer Center, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA; 7Medical College of Wisconsin, Milwaukee, WI, USA; 8Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA; 9Karmanos Cancer Institute, Wayne State University, Detroit, MI, USA; 10City of Hope Comprehensive Cancer Center, Duarte, CA, USA; 11Memorial Sloan Kettering Cancer Center, New York, NY, USA; 12Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA, USA; 13Massachusetts General Hospital, Harvard Medical School, Boston, MA, USA; 14University Health Network and the Princess Margaret Cancer Centre, Toronto, ON, Canada; 15Janssen R&D, Raritan, NJ, USA; 16Janssen R&D, Spring House, PA, USA; 17Janssen R&D, Beerse, Belgium; 18Legend Biotech USA, Piscataway, NJ, USA; 19Mayo Clinic, Rochester, MN, USA; 20Mount Sinai Medical Center, New York, NY, USA

Presented at the 63rd American Society of Hematology (ASH) Annual Meeting & Exposition; December 11-14, 2021; Atlanta, GA/Virtual.

*Presenting author.
CARTITUDE-1: Progression-Free Survival and Overall Survival

Progression-Free Survival
- 2-year PFS: 71.0% (95% CI, 57.6-80.9)
- Median PFS not reached (95% CI, 25.2-NR)
- 2-year PFS: 60.0% (95% CI, 48.5-70.4)
- Median PFS not reached (95% CI, 22.3 months-NR)

Overall Survival
- 2-year OS: 74.0% (95% CI, 61.9-82.7)
- Median OS not reached (95% CI, 27.2 months-NR)

Patients at risk:
- All patients: 97, 95, 85, 77, 74, 67, 63, 36, 19, 4, 1, 1, 0
- sCR patients: 80, 80, 78, 73, 71, 64, 61, 35, 19, 4, 1, 1, 0

MRD, minimal residual disease; NR, not estimable; OS, overall survival; PFS, progression-free survival; SCR, stringent complete response

Presented at the 63rd American Society of Hematology (ASH) Annual Meeting & Exposition; December 11-14, 2021; Atlanta, GA/Virtual.
CARTITUDE-1: Progression-Free Survival and Overall Survival by MRD Negativity (10^{-5}) sustained for ≥ 6 and 12 months

- Of the 61 patients evaluable for MRD, 92% were MRD-negative (at 10^{-5})

Progression-Free Survival

- Median PFS not reached (95% CI, 22.8 months–NE)
- 2-year PFS: 60.5% (95% CI, 48.5–70.4)

Overall Survival

- 2-year OS: 74.0% (95% CI, 61.9–82.7)
- Median OS not reached (95% CI, 27.2 months–NE)

MRD, minimal residual disease; OS, overall survival; PFS, progression-free survival

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CD22-directed CAR T-cell therapy induces complete remissions in CD19-directed CAR-refractory large B-cell lymphoma

CD22-directed CAR T-cell therapy induces complete remissions in CD19-directed CAR-refractory large B-cell lymphoma

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Allogeneic CAR T-Cell Therapy

Our platform: towards a “universal” adoptive T cell immunotherapy
Enhance “killer T cells” by genome engineering

- Off the shelf (TCR disruption\(^1\))
- Avoiding GvHD
- CAR expression to redirect T cells to tumor antigens
- Suicide gene for safety
- Other gene editing
  - For UCART19\(^2\)-CD82 disruption\(^2\) to prevent destruction by high risk CLL mAb Alemtuzumab therapy
  - Other gene disruptions/mutations in further programs

\(^1\) Knock-out by using TALE nucleases
\(^2\) Allogeneic CAR T cell targeting CD19+ malignancies

Press Release

CRISPR Therapeutics Presents Positive Data on Allogeneic CRISPR-based CAR-T Cell Therapies at AACR 2018

THE NEXT REVOLUTION IN CELL THERAPY
Allogene is developing allogeneic chimeric antigen receptor T cell (AlloCAR T\(^*\)) therapy to find the next immunologic breakthrough in cancer. That’s how we’re leading today, creating tomorrow

LEARN ABOUT ALLOCAR T\(^*\) THERAPY

March 2014

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FT596-101: Patient Status and Time on Study
≥90M FT596 Cells

- Median study follow up time for patients treated at ≥90M FT596 cells is 4.2 months
- 10 of 13 responders remain in response at data cutoff between 1.9 and 10.8 months from initiation of treatment

CAR = Chimeric antigen receptor; CR = Complete response; DLBCL = Diffuse large B-cell lymphoma; FLGU = Follicular Lymphoma Grade Unknown; G2FL = Grade 2 follicular lymphoma; G3BFL = Grade 3B follicular lymphoma; HGBCL = High-grade B-cell lymphoma; M = Million; MCL = Mantle cell lymphoma; PD = Progressive disease; PR = Partial response; RT = Richter transformation; SD = Stable disease; SDRPL = Splenic diffuse red pulp small B-cell lymphoma; SLL = Small lymphocytic lymphoma; tNHL = Transformed indolent lymphoma; WM = Waldenstrom macroglobulinemia

Data cutoff date: 11 October 2021
Right arrow indicates subject is still in follow-up without documented disease progression or anti-cancer therapy at time of data cutoff
Patient 2038 pending response assessment; not included in efficacy-evaluable population
Conclusions

• CAR T (Axi-cel, Liso-cel) is established as second-line therapy for DLBCL with early disease progression (<12 months) ZUMA-7, TRANSFORM, BELINDA

• CAR T shows encouraging results in primary refractory lymphoma ZUMA-12

• Mature follow-up confirms a high proportion of durable remissions in FL, MZL. ZUMA-5

• Myeloma
  o Encouraging response rates and duration of response in heavily pretreated patients

• Many novel CAR T-cell innovations
  o Targets
  o Products
  o Indications
  o Combinations