Mid-Year 2022
Allogeneic CAR T Pipeline Update

June 8, 2022
Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this presentation that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the clinical development and expected efficacy and benefit of our product candidates, the expected timing of updates regarding our allogeneic CAR T and in vivo programs, the expected timing of regulatory processes, expectations about our operational initiatives and business strategy, and expectations about achievement of key milestones. In some cases, you can identify forward-looking statements by terms such as “aim,” “anticipate,” “approach,” “believe,” “contemplate,” “could,” “estimate,” “expect,” “goal,” “intend,” “look,” “may,” “mission,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would,” or the negative thereof and similar words and expressions.

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All forward-looking statements speak only as of the date of this presentation and, except as required by applicable law, we have no obligation to update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.
Precision Biosciences is Delivering on the Promise of Therapeutic Genome Editing to Change the Future of Medicine

ARCUS® Genome Editing
Derived from natural homing endonuclease for ex vivo and in vivo applications

**Ex Vivo**
**single-gene edit for Allogeneic CAR T immunotherapy**
*Single-dose, donor-derived, off-the-shelf CAR T cells*

**In Vivo**
**Editing for Genetic Diseases**
*On target, potentially curative, one-time treatments*
Ex Vivo CAR T Pipeline Development Focused on Potential First-in-Class and Best-in-Class Approaches in Distinct Patient Populations

Potential First-in-Class

PBCAR0191 in CAR T Relapsed DLBCL

PBCAR0191 Goal:
- Provide urgent solution to CAR T relapsed patients with dire need
- First approved Allo CAR T therapy
- First approved gene-edited therapy

Potential Best-in-Class

PBCAR19B “Stealth Cell” 2\textsuperscript{nd}/3\textsuperscript{rd} Line NHL

PBCAR269A Combo in R/R Multiple Myeloma

Best-in-Class Program Goals:
- Displace autologous CAR T in earlier line patients for CD19/NHL and BCMA/R/R MM
Ex Vivo CAR T Pipeline Development Focused on Potential First-in-Class and Best-in-Class Approaches in Distinct Patient Populations

**Potential First-in-Class**

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**PBCAR0191 Goal:**
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**Potential Best-in-Class**

PBCAR19B “Stealth Cell” 2\textsuperscript{nd}/3\textsuperscript{rd} Line NHL

PBCAR269A Combo in R/R Multiple Myeloma

**Best in Class Program Goals:**
- Displace autologous CAR T in earlier line patients for CD19/NHL and BCMA/R/R MM

Data presentation for today
Executive Summary

**PBCAR0191 potential first in class allogeneic therapy for CAR T relapsed patients (median 5+ prior lines) with highest unmet need**

- **Efficacy**: 100% Response Rate, 73% Complete Response in first 11 evaluable CAR T relapsed subjects. 50% ≥ 6-month Duration-of-Response in evaluable subjects. Results to date exceed current standard-of-care in the CAR T relapsed patient population.

- **Safety**: In “New Cohort” (DL4b) hematologic recovery and overall safety improved with lower dose intensity lymphodepletion (LD) without sacrificing efficacy. Reduced Grade ≥ 3 infections from 67% to 17% with modified/lesser LD. No Grade 3 CRS; 1 Grade 3 ICANS, which resolved in 24 hours. Decrease LD to standard lymphodepletion to optimize therapeutic index.

- **Pharmacokinetics**: First Allogeneic CAR T to reach peak expansion level of Auto CAR T in long-term responders due to improved product attributes/manufacturing and higher CAR T dose (DL4b), with decreasing lymphodepletion.

- **Regulatory Path**: Plan to request FDA meeting in 2022 to discuss data and path forward for PBCAR0191.

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1. Interim efficacy and safety results as of May 31, 2022
Precision is Pursuing a Deliberate, Multi-Faceted Approach to Allogeneic CAR T Treatments for Patients

Our approach for Allo CAR T is to overcome host immune rejection while accomplishing an acceptable safety profile.

5 levers to overcome host immune rejection:

1. Construct
2. Product Attributes
3. Single Dose
4. Lymphodepletion
5. Patient Selection
PBCAR0191: Refining Optimal Therapeutic Index For Patients

1 Construct

Single-gene edit with novel N6 co-stimulatory domain

2 Product Attributes

Improve manufacturing to drive efficacy, safety and reproducibility of cell dose

3 Single Dose

DL1 = $3 \times 10^5$ cells/kg
DL2 = $1 \times 10^6$ cells/kg
DL3 = $3 \times 10^6$ cells/kg
DL4b = $500 \times 10^6$ cells (flat dose)

New cohort since ASH’21

4 Lymphodepletion

eLD = $30 \text{ mg/m}^2 \text{ Flu} \times 4 \text{ days + 1000 mg/m}^2 \text{ Cy} \times 3 \text{ days}$

mLD = $30 \text{ mg/m}^2 \text{ Flu} \times 4 \text{ days + 750 mg/m}^2 \text{ Cy} \times 3 \text{ days}$

sLD = $30 \text{ mg/m}^2 \text{ Flu} \times 3 \text{ days + 500 mg/m}^2 \text{ Cy} \times 3 \text{ days}$

5 Patient Selection

- R/R NHL
- R/R ALL
- CD19 CAR T Relapsed

*Best outcomes for PBCAR0191 have been achieved in CAR T relapsed patients*
Peak Expansion is the Strongest Determinant of Durable CAR T Response

“In this study, the strongest correlate of durable response was peak CAR T-cell levels in blood normalized to pre-treatment tumor burden.”

“The number of CAR T-cells in peripheral blood early (within 2 weeks) after infusion were associated with clinical efficacy. However, CAR levels at later points were not significantly associated with durable efficacy ...”
**Optimized Manufacturing Product Attributes Impact CAR T Efficacy & Safety**

**TOOLS: ARCUS Single-Gene Edit**
- Puts less stress on cells vs multiplex edit
- Designed to reduce risk of translocations logs less than multiplex edit

**EXPERTISE: PBCAR0191 Optimized Process**
- Improved product attributes for optimal therapeutic index
- Improved peak expansion
- Improved yield

*We found that optimizing the product composition towards the juvenile T-cell phenotype to find a CCR7+, CD45RA+, CD27+, and CD28+ [product] may improve the axi-cel therapeutic index.*

Jason Westin, MD
MD Anderson Cancer Center in Houston

1. Juvenile phenotype associated with all efficacy metrics, including durability of response.
2. Differentiated T cells were negatively associated with efficacy ... linked to higher peak levels of proinflammatory molecules and high levels of grade 3 or greater neurologic events.¹

*Precision is applying manufacturing optimization across entire Allo CD19 CAR T platform*

¹ Targeted Oncology, April 2022; “T-Cell Attributes of Axi-cel Correlate With Outcomes in Large B-Cell Lymphoma”
CAR T Relapsed Market Expected to Grow ~4-5x by 2025 Driven by Auto CAR T Becoming 2\textsuperscript{nd} line DLBCL Standard-of-Care (SoC)

By 2025, the Auto CAR T relapsed patient population is expected to be 1.5X larger than the entire 3\textsuperscript{rd} line+ Auto CAR T market opportunity today.

<table>
<thead>
<tr>
<th>Year</th>
<th>3\textsuperscript{rd} line+ DLBCL Patients</th>
<th>2\textsuperscript{nd} line DLBCL Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>~1,700\textsuperscript{1}</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>~7,500</td>
<td>Total: ~14,000-15,000</td>
</tr>
</tbody>
</table>

Note: ZUMA-1 and ZUMA-7 relapse rate estimated off 2-year EFS. Assumes higher drug treatment rate of 90% in 2025 from the advancement of ZUMA-7 into 2L setting offering potential curative outcomes/new SoC.

1. LEK Research (HCP interviews, Evaluate Pharma, DRG), Internal assumptions
2. https://doi.org/10.6004/jnccn.2020.7742, CancerMPact, ZUMA-1 and ZUMA-7 Clinical Studies
Current Treatment Options Offer Poor Outcomes for CAR T Relapsed Patients with Progression Free Survival (PFS) only 1-2 Months

Real world data for patients following treatment with Yescarta (Auto CAR T)¹

<table>
<thead>
<tr>
<th>Therapy</th>
<th>ORR</th>
<th>CR</th>
<th>PR</th>
<th>PFS (mos.)</th>
<th>OS (mos.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall (n = 136)</td>
<td>29%</td>
<td>17%</td>
<td>NA/NR</td>
<td>1.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Checkpoint inhibitor based (n = 28)</td>
<td>46%</td>
<td>18%</td>
<td>26%</td>
<td>2.9</td>
<td>11</td>
</tr>
<tr>
<td>Chemotherapy (n = 17)</td>
<td>18%</td>
<td>12%</td>
<td>6%</td>
<td>1.7</td>
<td>3.5</td>
</tr>
<tr>
<td>Lenalidomide based (n=27)</td>
<td>19%</td>
<td>19%</td>
<td>NA/NR</td>
<td>1.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Radiation (n = 10)</td>
<td>30%</td>
<td>20%</td>
<td>10%</td>
<td>1.9</td>
<td>7.3</td>
</tr>
<tr>
<td>Other treatments (n = 18)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Palliative care (n = 36)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Across real-world data sources, greater than 25% of patients receive ONLY palliative care, median overall survival (OS) approximately 4-6 months for CAR T relapsed patients¹,²

NA/NR = not available
2. University of Washington study shows CAR T early relapsers only have mOS of 3.8 months; https://onlinelibrary.wiley.com/doi/10.1002/ajh.25505

Note: Other therapies included targeted treatments such as venetoclax, brentuximab vedotin or ibrutinib, novel therapies, steroids, second CAR-T on clinical trial, and allogeneic stem cell transplant. In total, 8 patients proceeded to allogeneic stem cell transplant after axi-cel PD, 3 of whom remain in CR;
## Minimal Acceptable Target Product Profile for CAR T Relapsed Patient Population

<table>
<thead>
<tr>
<th>Parameter</th>
<th>CAR T Relapse Median 5+ prior lines</th>
<th>3rd line NHL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progression Free Survival (mPFS)</td>
<td>&gt; 3 months</td>
<td>&gt; 6-7 months</td>
</tr>
<tr>
<td>Duration of Response (DoR)</td>
<td>&gt; 50% @ 3 months</td>
<td>~35% CR at 6 months; ~32% CR at 1 year plus</td>
</tr>
<tr>
<td>Overall Response Rate (ORR)</td>
<td>&gt; 50%</td>
<td>&gt; 70% at 28 days</td>
</tr>
<tr>
<td>Overall Survival (mOS)</td>
<td>&gt; 6 months&lt;sup&gt;1,2&lt;/sup&gt;</td>
<td>26 months&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Safety</td>
<td>Highest risk salvage population</td>
<td>Same or better than Auto CAR T</td>
</tr>
<tr>
<td>Potential Regulatory Path</td>
<td>Single-arm study with historical control (to be discussed with FDA)</td>
<td>Head-to-head vs. Auto CAR T/Auto transplant</td>
</tr>
</tbody>
</table>

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<sup>1</sup> https://ashpublications.org/blood/article/137/13/1832/474111/Outcomes-of-patients-with-large-B-cell-lymphoma

<sup>2</sup> https://onlinelibrary.wiley.com/doi/10.1002/ajh.25505 (University of Washington N=61 patients)

Potential First-in-Class:
Allogeneic PBCAR0191 for CAR T Relapsed Patients
PBCAR0191 Path to Best Therapeutic Index for CAR T Relapsed Patients

**TARGET PATIENT**: Identified robust signal in CAR T relapsed patients with highest unmet need (presented at ASH’21)

**“ASH Cohort”** since ASH’21

**Step 1**

**EFFICACY**: Reproduce high ORR, CR rate and durability

**Step 2**

**SAFETY**: Improve upon infection rate by decreasing lymphodepletion intensity

**Step 3**

**PHARMACOKINETICS**: Increase PBCAR peak expansion to autologous durable response levels

**Step 4**

**Step 5**

**ENROLLMENT**: Treat next cohort with optimized PBCAR0191 treatment and standard lymphodepletion (sLD)

**Step 6**

**REGULATORY**: Request FDA meeting to discuss path forward

**Step 7**

**PIVOTAL**: Enrolling for pivotal phase
# CAR T Relapsed Subjects Enrolled Had Aggressive Disease and Poor Prognosis

<table>
<thead>
<tr>
<th></th>
<th>ASH Cohort DL3&lt;sup&gt;1,3,4&lt;/sup&gt; (n=6&lt;sup&gt;3&lt;/sup&gt;)</th>
<th>New Cohort DL4b&lt;sup&gt;2&lt;/sup&gt; (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (y), median (range)</strong></td>
<td>50.5 (38-67)</td>
<td>72.5 (45-77)</td>
</tr>
<tr>
<td><strong>Primary Refractory</strong></td>
<td>2 (33%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td><strong>Aggressive histology, n (%)</strong></td>
<td>5 (100%)</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>DLBCL</td>
<td>5 (100%)</td>
<td>4 (67%)</td>
</tr>
<tr>
<td>FL transformed to DLBCL</td>
<td>0</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>Number of prior treatments, median (range)</strong></td>
<td>7.5 (4-11)</td>
<td>4 (3-7)</td>
</tr>
<tr>
<td><strong>Number of prior treatments across all CAR T relapsed patients, median</strong></td>
<td>5 lines</td>
<td></td>
</tr>
<tr>
<td><strong>Prior CD19 directed CAR T, n (%)</strong></td>
<td>6 (100%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td><strong>Prior HSCT n (%)</strong></td>
<td>4 (67%)</td>
<td>1 (17%)</td>
</tr>
</tbody>
</table>

1. Enhanced LD (eLD) = Fludarabine 30 mg/m²/day × 4 days + Cyclophosphamide 1000 mg/m²/day × 3 days
2. Modified LD (mLD) = Fludarabine 30 mg/m²/day × 4 days + Cyclophosphamide 750 mg/m²/day × 3 days
3. Included one B-ALL subject in MRD negative CR at >9 months after relapse from 2 prior allogeneic HCTs and CD19 auto-CAR T
4. Reported in 2021 at ASH
Since ASH’21: Efficacy Results in CAR T Relapsed Population
100% Overall Response Rate (ORR), 73% CR with 50% Durable Responses at > 6 Months

<table>
<thead>
<tr>
<th></th>
<th>ORR ≥ Day 28</th>
<th>CR ≥ Day 28</th>
<th>&gt; 6 mo. DoR</th>
<th>Ongoing responders</th>
<th>PFS &gt; 2 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>n (%)</td>
<td>11 (100%)</td>
<td>8 (73%)</td>
<td>3 (50%)</td>
<td>6 (55%)</td>
<td>7 (70%)</td>
</tr>
</tbody>
</table>

**Potential Regulatory Hurdle**

1. Interim data as of May 31, 2022.
2. One subject non-evaluable for efficacy at Day 28 assessment due to death from suspected fludarabine associated neurotoxicity at Day 23; Subject had complete resolution on PET/CT at Day 21
3. Durable responses in 3/6 subjects evaluable at 6 month
4. 4 of 6 (67%) evaluable subjects have achieved remission inversions when compared to prior therapy received
PCAR0191 Response Rate and Duration Exceeds Current Standard-of-Care for CAR T Relapsed Subjects

**ASH Cohort duration update**

**New Cohort: DL4b**

- 100% ORR among 11 evaluable subjects
- 73% CR (8/11)
- 3/6 evaluable subjects with response duration > 6 months
- 6 subjects ongoing response (up to 18+ months)
- 100% CR (5/5) in DL4b evaluable subjects with optimized PBCAR0191 cells and decreasing LD regimen

ClinicalTrials.gov identifier: NCT03666000

1 Subject K and Subject L relapsed after Allo CAR T, initially dosed at DL3. Original response: K – CR for 178 days before PD; L – PR for 28 days before PD

New Cohort: Optimized PBCAR0191 at Dose Level DL4b with Lower Dose LD Drove Optimal Response and Duration\(^1\) in CAR T Relapsed Subjects

1. Data cut off May 31, 2022
2. Subject K and Subject L relapsed after Allo CAR T. Original response: K – CR for 178 days before PD; L – PR for 28 days before PD
3. Subject J was non-evaluable for efficacy at Day 28 assessment due to death from suspected fludarabine (Flu)-associated neurotoxicity on Day 23

\(^1\) 100% ORR in 5/5 evaluable subjects
\(^1\) 100% 5/5 CR
\(^1\) Subject J non-evaluable for efficacy at Day 28 due to death on Day 23; Patient had complete resolution on CT at Day 21

ClinicalTrials.gov identifier: NCT03666000
Since ASH’21, Optimized PBCAR0191 Achieved Desired Peak Expansion Threshold with DL4b and Lower Dose LD

In DL4b/mLD group

Mean peak expansion \(\geq 3X\) greater

AUC \(\geq 3.5X\) greater
PBCAR0191 Peak Expansion Equivalent to Auto CAR T Levels in Long Term Durable Responders from ZUMA-1

Auto CAR T Durable Responders (Locke et al, 2020)

PBCAR0191 NHL DL3 vs. DL4b subjects

PBCAR0191 exceeds ZUMA-1 Durable Responders

1. Both ZUMA-1 and PBCAR01091 clinical study analyzed utilizing flow cytometry.
2. “FOR ILLUSTRATIVE PURPOSES ONLY. Not a head to head comparison. Differences exist between trial designs and subject characteristics, and caution should be exercised when comparing data across studies.”
Safety:

Allogeneic PBCAR0191 for CAR T Relapsed Patients
## PBCAR0191 AESI^1 Observed in CAR T Relapsed Subjects

<table>
<thead>
<tr>
<th>AE of special interest</th>
<th>ASH Cohort (n=6)</th>
<th>New Cohort DL4b (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cohort</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CRS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grade 1 or Grade 2</strong></td>
<td>5 (83%)</td>
<td>4 (67%)</td>
</tr>
<tr>
<td><strong>Grade 3 or higher</strong></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Time to onset (Days)</strong></td>
<td><strong>Median (range)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 (4-14)</td>
<td>8 (7-9)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ICANS</strong></th>
<th>ASH Cohort (n=6)</th>
<th>New Cohort DL4b (n=6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grade 1 or Grade 2</strong></td>
<td>2 (33%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>Grade 3 or higher^2</strong></td>
<td>1 (17%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>Time to resolution Grade 1 (Days)</strong></td>
<td>1-2 days</td>
<td>1-2 days</td>
</tr>
<tr>
<td><strong>Time to onset (Days)</strong></td>
<td><strong>Median (range)</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 (2-14)</td>
<td>10 (8-12)</td>
</tr>
</tbody>
</table>

| **GvHD**               | 0                | 0                     |

<table>
<thead>
<tr>
<th><strong>Other notable AEs</strong></th>
<th></th>
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<tbody>
<tr>
<td><strong>Infection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grade 1 or Grade 2</strong></td>
<td>0</td>
<td>2 (33%)</td>
</tr>
<tr>
<td><strong>Grade 3 or higher</strong></td>
<td>4 (67%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>Grade 5 events^3</strong></td>
<td>2 (33%)^3</td>
<td>2 (33%)^4</td>
</tr>
</tbody>
</table>

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Data cutoff as of May 31, 2022

1. AESI: Adverse Events of Special Interest
2. Time to resolution Grade 1 ICANS 1-2 days
3. Two deaths in the ASH Cohort related to infections and suspected fludarabine associated neurotoxicity
4. Two deaths in new Cohort related to suspected fludarabine associated neurotoxicity

ClinicalTrials.gov identifier: NCT03666000
Improving Upon ASH’21: Median Hematologic Recovery Achieved Earlier by Lowering LD Dose

**Median Absolute Neutrophil Count (ANC) Recovery**

- **NHL, DL3 (eLD), CAR T-relapsed**
- **NHL, DL4b (mLD), CAR T-relapsed**

**Highest risk of infection below absolute neutrophil count – 500/uL**
**Interim Results**

- Overall response, CR rate and duration of response validates ASH’21 signal in CAR T relapsed subjects
  - 100% ORR and 73% CR among 11 evaluable subjects
  - 50% > six-month duration of response in evaluable subjects\(^2\)\(^-\)\(^3\) (ranging from 7 to 18+ months)
  - 4 additional ongoing responders had not yet reached six months (ranging 2-5 months)

- Optimized PBCAR0191 attributes with decreasing LD achieved a desirable and competitive therapeutic index in CAR T relapsed patients
  - 100% CR in DL4b with decreasing LD intensity in evaluable subjects
  - Peak CAR T expansion reached levels achieved in auto-CAR T subjects with durable responses/cures
  - Decreasing to mLD led to hematologic recovery by Day 14 without compromising efficacy results
    - Significantly reduced grade ≥3 LD infection rate from 67% to 17%
    - Two mLD deaths with suspected fludarabine-associated neurotoxicity

- CAR T safety: No Grade 3 or greater CRS; 1 Grade 3 ICANS that rapidly resolved to Grade 1

- Given achievement of desired CAR T peak expansion with optimized PBCAR0191 at DL4b, next step to apply standard LD to further reduce toxicities related to LD in this fragile CAR T relapsed patient population

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1. Interim efficacy and safety data as of May 31, 2022.
2. Durable responses in 3/6 subjects evaluable at 6 months
3. 4 of 6 (67%) evaluable subjects have achieved remission inversions when compared against prior therapy received
In Conclusion, PBCAR0191 Path to Desired Product Profile for CAR T Relapsed Patients Nears Finish Line

“New Cohort” since ASH’21

Step 1
EFFICACY: Reproduce high ORR, CR rate and durability

Step 2
SAFETY: Improve upon infection rate by decreasing lymphodepletion intensity

Step 3
PHARMACOKINETICS: Increase PBCAR peak expansion to autologous cure levels

Step 4
Step 5
ENROLLMENT: Treat next cohort with optimized PBCAR0191 treatment and standard lymphodepletion (sLD)

Step 6
REGULATORY: Request FDA meeting to discuss path forward

Step 7
PIVOTAL: Enrolling for pivotal phase

TARGET PATIENT: Identified robust signal in CAR T relapsed subjects with highest unmet need (presented at ASH’21)
In Conclusion, PBCAR0191 Path to Desired Product Profile for CAR T Relapsed Patients Nears Finish Line

- **Work to be completed in H2 2022**
  - **Step 1**
    - **TARGET PATIENT**: Identified robust signal in CAR T relapsed subjects with highest unmet need (presented at ASH’21)
  - **Step 2**
    - **EFFICACY**: Reproduce high ORR, CR rate and durability
  - **Step 3**
    - **SAFETY**: Improve upon infection rate by decreasing lymphodepletion intensity
  - **Step 4**
    - **PHARMACOKINETICS**: Increase PBCAR peak expansion to autologous cure levels
  - **Step 5**
    - **ENROLLMENT**: Treat next cohort with optimized PBCAR0191 treatment and standard lymphodepletion (sLD)
  - **Step 6**
    - **REGULATORY**: Request FDA meeting to discuss path forward
  - **Step 7**
    - **PIVOTAL**: Enrolling for pivotal phase

- **“New Cohort” since ASH’21**
Ex Vivo CAR T Pipeline Focused on Potential First-in-Class and Best-in-Class Approaches

**Data presentation for today**

**Potential First-in-Class**

**PBCAR0191**
in CAR T Relapsed DLBCL

**PBCAR0191 Goal:**
- Provide urgent solution to CAR T relapsed patients with dire need
- First approved allo-CAR T therapy
- First approved gene-edited therapy

**Potential Best-in-Class**

**PBCAR19B “Stealth Cell”**
2nd/3rd Line NHL

**PBCAR269A Combo**
in R/R Multiple Myeloma

**Best-in-Class Program Goals:**
- Displace autologous CAR T in earlier line patients for CD19/NHL and BCMA/R/R multiple myeloma

**Operational program updates**
PBCAR19B is an Anti-CD19 “Stealth Cell” CAR T

Winning Best-in-Class is not a race – It’s about replacing Auto CAR T

1. **Anti-CD19 CAR**
   TCR is knocked-out to prevent GvHD

2. **Anti-beta-2 microglobulin (β2m) shRNA**
   Reduces MHC I expression to prevent rejection by T cells

3. **HLA-E transgene**
   Prevents rejection by NK cells

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**3rd line+ NHL TPP to Replace Auto CAR T**

- **Median Overall Survival (mOS)**: ~26 months
- **Overall Response Rate (ORR)**: > 70% at 28 days
- **Duration of Response (DoR)**: ~35% at 6 months to 1 year+
- **Safety**: Same or better than Auto CAR T
- **Expected Regulatory Hurdle**: Head-to-head vs. Auto CAR T
Three patients dosed at DL1 (270M Cells) + sLD

Due to prioritization of PBCAR0191 as potential first-in-class, PBCAR19B strategically paused in Q1 to implement next manufacturing process optimization for allogeneic platform

- Manufactured lots with new optimized process completed in Q2
- Expect to commence dosing at DL2 (540M cells) in third quarter of 2022
- Next program update planned around year end 2022

Next Steps

3Q 2022
DL2 (540M Cells) to commence

End 2022
Next program update
Update on PBCAR269A with Nirogacestat¹ in R/R Multiple Myeloma

**PBCAR269A**

Combination with gamma secretase inhibitor (GSI) for Multiple Myeloma

- Completed Dose Level 2 (2.0×10⁶ cells/kg) + GSI (nirogacestat) in six patients
  - Peak expansion equivalent to Dose Level 4 (960×10⁶ cells flat dose) monotherapy
  - No dose limiting toxicities observed
  - Overall and depth of response at Dose Level 2 with GSI below desired target product profile
  - Continue Phase 1 dose finding and escalate PBCAR269A dose with nirogacestat arm only

- Dosing commencing at Dose Level 3 with GSI this week
- Next program update planned around year end 2022

¹ Gamma secretase inhibitor provided by SpringWorks Therapeutics
What to Expect in 2H 2022: Disciplined Focus on Executing Remaining Steps on Path to Pivotal

**PBCAR0191**

- Work to be completed in H2 2022

**Step 5**
- **ENROLLMENT:** Treat next cohort with optimized PBCAR0191 treatment and standard lymphodepletion (sLD)

**Step 6**
- **REGULATORY:** Request FDA meeting to review data

**Step 7**
- **PIVOTAL:** Continue enrolling for pivotal phase

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**PBCAR19B “Stealth Cell”**
- Manufactured lots with new optimized process completed in Q2
- Expect to commence dosing at DL2 (540M cells) in third quarter of 2022
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**PBCAR269A**
- Combination with gamma secretase inhibitor (GSI) for multiple myeloma
- Dosing commencing at Dose Level 3 with GSI this week
- Next program update planned around year end 2022
Mid-Year 2022
Allogeneic CAR T Pipeline Update

June 8, 2022