



# *Navigating Operational Challenges for Cell & Gene Therapy Trials*

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# Forward-Looking Statements

This presentation contains forward-looking statements, as may any related presentations, within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this herein and in any related presentation that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the clinical and regulatory development and expected efficacy and benefit of our platform and product candidates, benefits of ARCUS and potential expansion and development using ARCUS, the expected advancement toward and timing of IND and CTA filings, the ability of our product candidates, if approved, to become best-in-class or first-in-class, the planned development activities with our collaboration partners, expectations about our operational initiatives and business strategy, achieving key milestones and additional collaborations, and expectations regarding our liquidity and ability to fund operating expenses and capital expenditures requirements. 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,” “possible,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would,” or the negative thereof and similar words and expressions.

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# Agenda

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- CAGT Overview
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- Overview of Precision BioSciences
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- CAR T Study Design Considerations
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- ClinOps Strategy and Logistical Considerations
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- ClinOps and Vendor Selection Considerations
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- Supply Chain Considerations
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# What exactly is CAGT?

- Cell and Gene Therapy (CAGT)

- **Cell Therapies**

- Involves the transfer of cells with the relevant function into the patient. Some protocols utilize both gene therapy and cell therapy.

- **Gene Therapies**

- Comprises the transfer of genetic material, usually in a carrier or vector, and the uptake of the gene into the appropriate cells of the body.

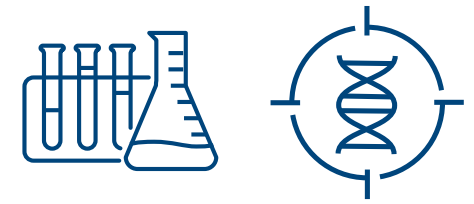
- Precision BioSciences focuses on both modalities, but currently in the clinic with cell therapy products (Ex Vivo CAR T treatments)

Source: <https://asgct.org/education/more-resources/gene-and-cell-therapy-faqs#:~:text=Gene%20therapy%20involves%20the%20transfer,gene%20therapy%20and%20cell%20therapy>

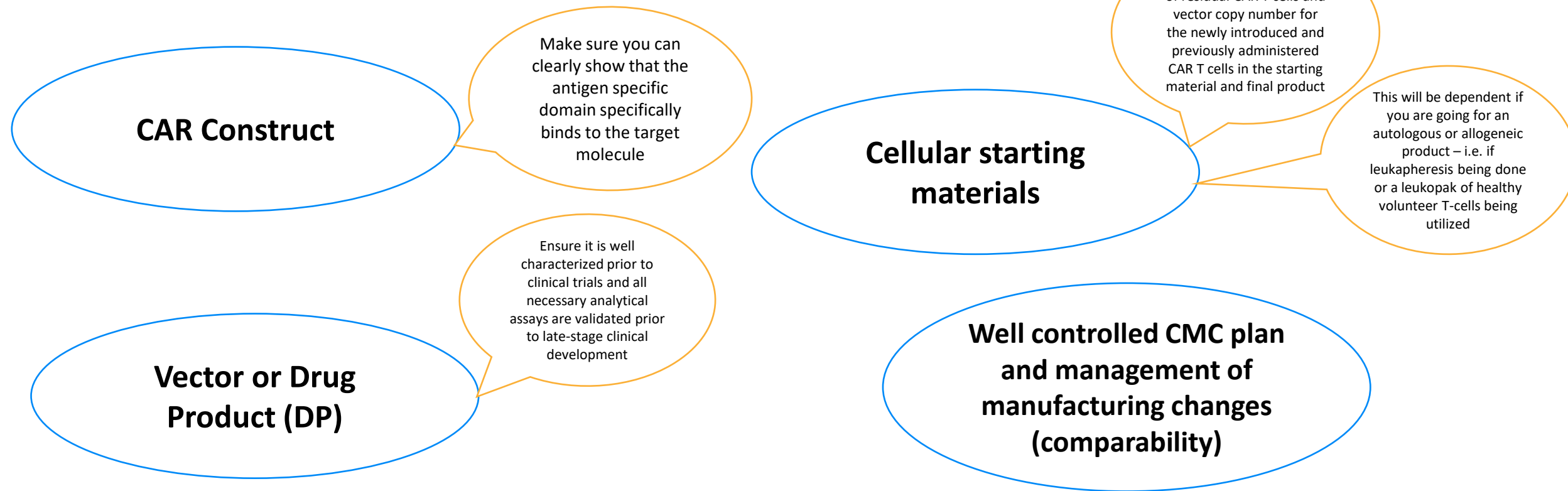
- Precision BioSciences is a public (NASDAQ: DTIL), **clinical stage, gene editing company** headquartered in Durham, North Carolina with manufacturing (MCAT) facility in RTP
- **Proprietary ARCUS® genome editing platform** for therapeutic drug development - *ex vivo* allogeneic CAR T immunotherapies and *in vivo* gene editing
- Multiple **clinical studies for allogeneic CAR T** including lead CD19 program, azer-cel for relapsed/refractory non-Hodgkin lymphoma
- **Complex, in vivo gene editing pipeline**, including wholly owned chronic Hepatitis B program and partnered programs with Novartis and Lilly
- **Scalable, in-house cGMP compliant manufacturing** capabilities to produce ARCUS-based CAR T and *in vivo* therapies
- Precision's platform and products are protected by an **IP portfolio that includes more than 100 patents to date**



# CAR T Study Design Considerations



- Due to the complexity of CAR T cell products, the following topics should be introduced in the IND application and thoroughly demonstrated throughout early clinical trials:



Source: <https://www.genengnews.com/topics/bioprocessing/key-points-from-the-fdas-guidance-for-car-t-cell-products/>

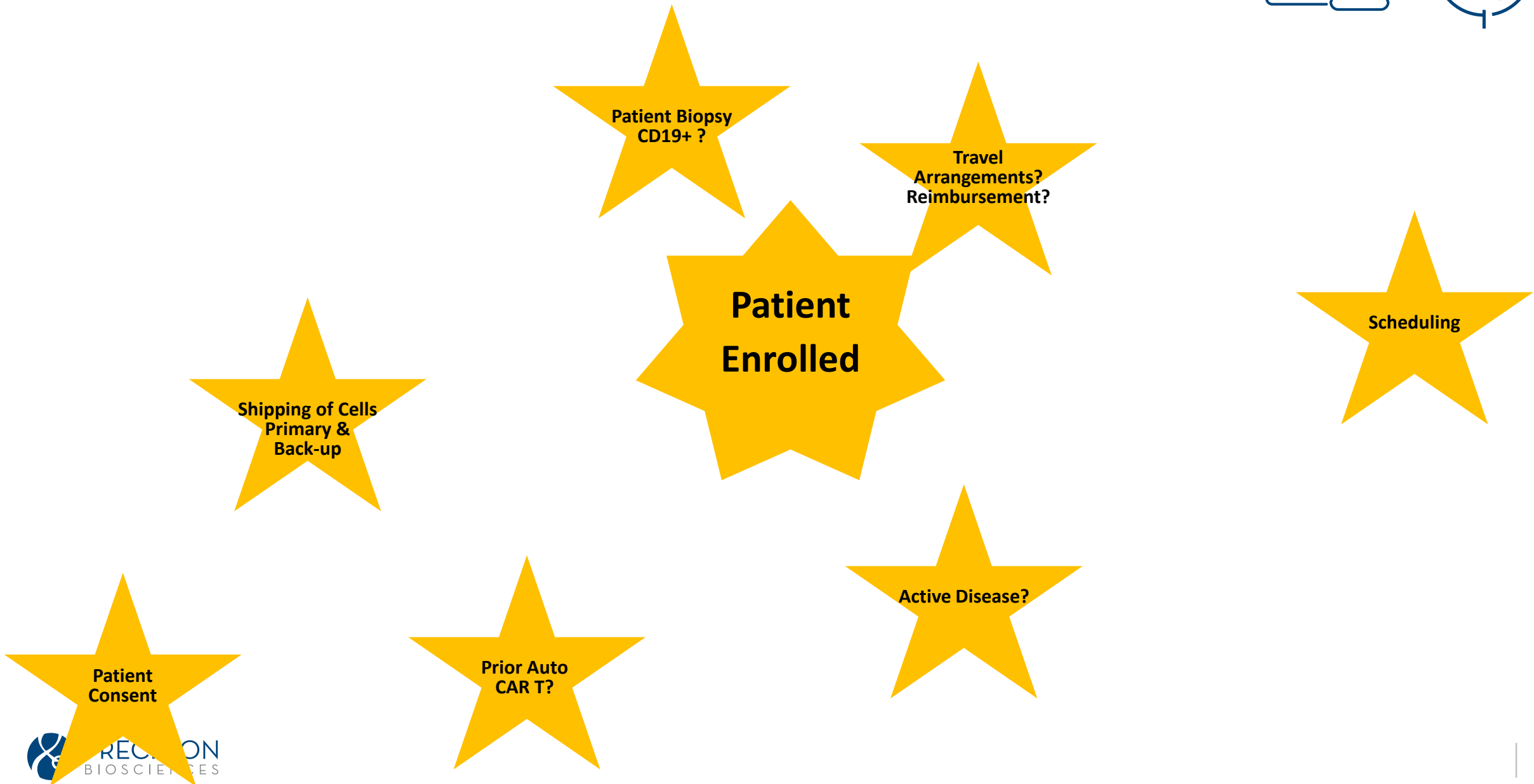


# ClinOps Strategy and Logistical Considerations



- Evaluate sites via FQ's and PSSV's to get a better understanding on their stem cell transplant (SCT) or CAR T capabilities/experience.
- Competitive trial landscape
  - Do your homework. Know what studies might compete as well as # of studies your proposed sites already have active.
  - Get a proactive understanding of course of treatment pre and post CAR T as well as preferred line of therapy to know where your specific product falls into the paradigm.
- Since many of the sites will be at larger academic site, make sure you target PI's that have the relevant experience, interest and are from correct clinical group/department (lymphoma group as lead vs leukemia group if you are targeting mostly lymphoma subjects).
- Even if SCT or CAR T experienced sites are chosen, consider visiting the lab where they plan to prepare DP to ensure full clarity of thawing and handling instructions as outlined in the Pharmacy Manual. Might be wise to review this at SIV as well as onsite prior to first patient dosing.

# Patient Enrollment – Do the Stars Align?





# ClinOps and Vendor Selection Considerations



- Have an open mind when finding the right CRO
  - Weigh pros/cons of large vs small
  - Where do you think your study will sit within their priority of trials and Sponsors?
  - Cost is important, but not everything
  - Does your chosen CRO for phase 1 have the capabilities, experience and global depth to scale up to later phases?
- Evaluate CRO's not only for CAGT experience but how they deal with enrollment and quality issues/challenges for any trial.
  - How do they plan on delivering and holding PI's accountable for enrollment and quality targets?
  - What tools and triggers do they put in place to implement when the above takes place?
- Ensure specialty labs are fit for purpose and phase appropriate.
  - Flexibility of sample analysis turnaround is critical for Sponsors in early phase trials. Make sure this is understood early.
  - Determine capabilities of real-time tracking of sample send/receipt. Also determine couriers they use/prefer.

# Supply Chain Considerations



- Determine phase appropriate SCM needs
  - When can manual tracking be effective vs the need for larger system automation?
  - If system chosen, how easy is it start basic and upscale as needed?
- Ensure SC team is involved and providing input into Pharmacy Manual creation
- Create and maintain a close collaboration with Clinical Operations team
- Ensure DP chain of custody is well understood and adhered to throughout the study
- Develop communication pathways outside of email for quick check-ins and updates (ex: Monday.com boards, creation of MS Teams chat groups, etc)
- Apply learnings from earlier trials to avoid running into some of the same SC pitfalls

# Questions??

Overcome cancer.

Cure genetic disease

*Precision BioSciences - Dedicated To Improving Life*