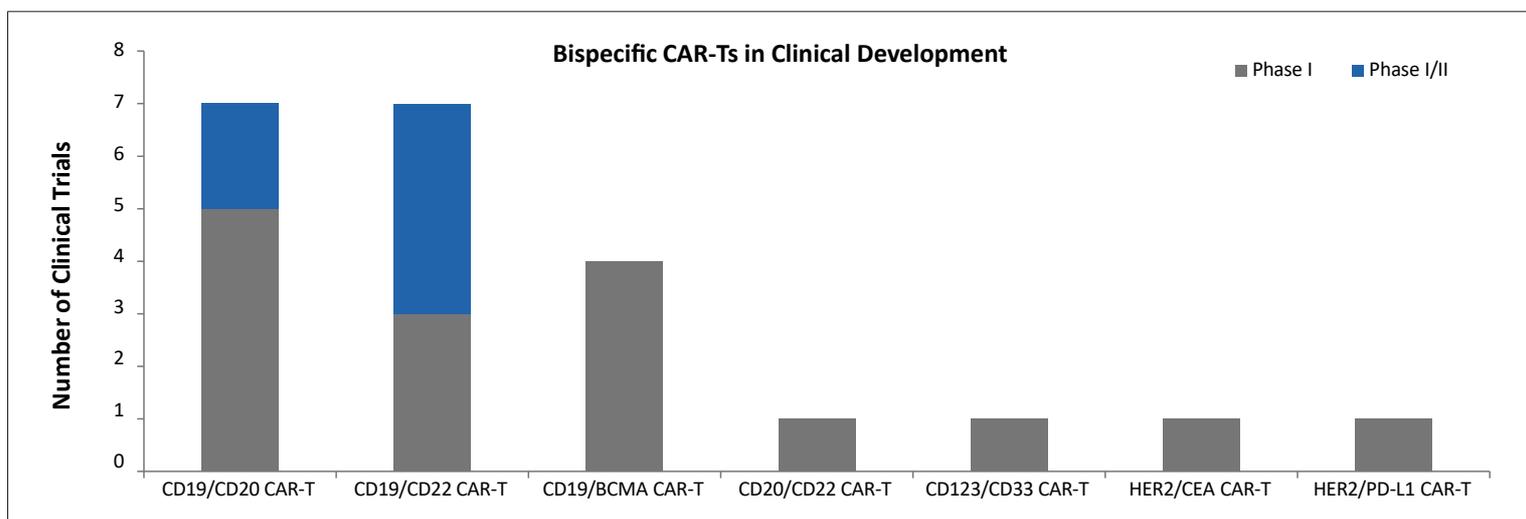


# Novel CARs Drive Synthetic Immunity

We're seeing exciting innovation in CAR designs to improve safety, efficacy, persistence and function.

A major limitation of CAR-T cell therapy is 'antigen escape' due to low levels of target antigen on tumor cells. In a plenary session on 'Innovative ways to engage the immune system to fight cancer' at AACR 2021, Michel Sadelain, MD, PhD Memorial Sloan Kettering Cancer, discussed two novel CAR designs based on 1XX and HIT receptor. HIT receptor is designed to target tumor cells expressing low levels of tumor antigen. HIT receptor-based CARs are expected to enter the clinic in 2022 while 1XX is already in early-phase clinical trials.

Another approach that showed promise in addressing antigen escape challenge used bispecific CAR-Ts. Up to 50% of patients with relapsed or refractory B-cell lymphoma receiving CD19 CAR-T cell therapy show relapse within 6 months of treatment due to antigen escape and a lack of CAR-T cell persistence. The bispecific CD19/CD20 CAR-T cell therapy addresses the challenge by dual antigen targeting (CD19 and CD20) on the tumor cells and modifying the naïve/memory T-cells for improved T-cell persistence. Preliminary results from the ongoing first-in-human Phase I clinical trial (NCT04007029) demonstrate the safety of this CAR-T therapy with ongoing complete remission in 4 out of 5 treated patients at 13 months of follow-up.



SmartAnalyst is partnering with leading bio-pharma companies to deliver insights on current challenges with CAR-Ts and novel CAR designs that have demonstrated potential to overcome these challenges in the clinic. By leveraging our proprietary database of clinical CAR-Ts and TCR T-cell therapies, we're helping our clients to determine:

How will the landscape evolve?

Which CAR designs are in clinical development?

What are their differentiating features and benefits? Which approaches show the most promising data?

What is the target antigen landscape beyond CD19 and BCMA?

Which CAR-Ts have failed?

How is the cell therapy landscape evolving in China? Who are the key players, and what is their value proposition? What are the opportunities for partnership?

Find out how SmartAnalyst's consulting services and I-O Navigator, with comprehensive coverage of >150 CAR T constructs in solid and heme tumors, can help you optimize your CAR-T development strategy. **For more information contact us**

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