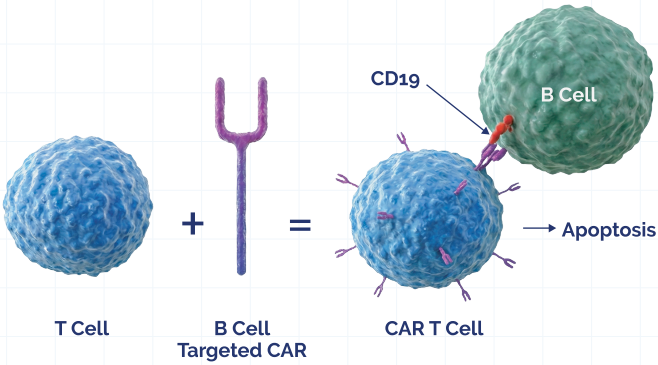
RhAPP
RHEUMATOLOGY ADVANCED PRACTICE PROVIDERS

CAR-T IN SLE: POINT-OF-CARE POCKET GUIDE



CAR T Cell Mechanism of Action

- Chimeric antigen receptor (CAR) T cell therapy is an immunotherapy that reprograms T cells
- Gene transfer technology is used to express CARs on T cells. These T cells express a CAR that binds to a specific antigen on target cells, leading to T cell activation, expansion, and cytotoxicity.
- CAR T-cell therapy combines the specificity of an antibody with the cytotoxic capabilities of a T cell

Rationale for Use in Autoimmune Diseases (AID)

- B cells frequently play a central role in AID pathogenesis
- CAR T cells targeting B cells via their CD19 antigen result in extensive B cell death
- B cell depletion results in rapid and sustained breakdown of B cell-mediated immune response, which may “reboot” the immune system in AID

Patient Journey Through the CAR T Cell Therapy Process

Patient Identification and Referral

- Patient identification begins with the referring rheumatology provider
- Early collaboration is essential to facilitate timely referral

Consultation at CAR T treatment center

- Patients are evaluated by a multidisciplinary CAR T team for eligibility and are co-managed at the CAR T center by both the CAR T hematologist and a rheumatology provider from the center

Washout Period

- Washout Periods (holding certain SLE medications) may be needed after prior therapy and/or bridging therapy

Apheresis

- Peripheral blood mononuclear cells (PBMCs) are collected via leukapheresis and transported to a manufacturing facility
- There, they are genetically engineered to express CARS

Bridging Therapy

- Bridging therapy used to maintain disease control during CAR T-cell manufacturing should be coordinated jointly between the referring rheumatology provider and the CAR T treatment team

Lymphodepleting Chemotherapy (LDC) and CAR T Infusion

- Patients receive LDC prior to CAR T-cell infusion for most trials at a certified center to reduce endogenous T cells and support CAR T expansion
- They are monitored for adverse effects for at least 4 weeks, after which care transitions back to the referring rheumatology provider

Long-term Follow-Up

- Patients require ongoing monitoring and management of post-treatment complications
- Continued communication between the CAR T treatment center and referring rheumatology provider to support long-term care is key

Patient-Referral Checklist :

- ○ **Appropriate Patient Profile**
  - B-cell–driven autoimmune disease
  - Refractory or recurrent despite conventional/biologic therapy or intolerant to standard options
  - Concern for organ damage or opportunity for meaningful reversal
- ○ **Practical Eligibility Signals**
  - Functional status suitable for multi-step CAR-T process
  - Has caregiver support
  - Able to stay within proximity for 4 weeks post-infusion (financial/logistical assistance may be available)
- ○ **Send This With the Referral**
  - Recent rheum notes + course of disease
  - Treatment history
  - Key labs: CBC, CMP, inflammatory markers, immunoglobulins, viral serologies
  - Relevant imaging/ organ involvement documentation

Breakfree-SLE (Phase 2-ON HOLD)

Key Inclusion Criteria

- ≥ 16 y/o
- SLE dx (EULAR/ACR 2019 criteria)
- Failed glucocorticoids and ≥ 2 immunosuppressant therapies, used for at least 3 months
- Active disease when signing ICF

Key Exclusion Criteria

- Other diseases, conditions, or treatments that may confound interpretation of the effects of CC-97540 in SLE (MS, IBD, RA, HIV, TB, viral hepatitis, malignancy)
- Significant Cardiovascular conditions or CNS pathology
- Prior history of malignancies or lymphoproliferative disease within 2 years
- Pregnant, nursing, breastfeeding, or who intend to become pregnant
- Prior treatment with CAR T cell therapy, genetically modified T cell therapy, or stem cell transplant
- Live vaccines within 6 weeks before CC-97540 administration

Breakfree-1 (Phase 1-ON HOLD)

Key SLE Inclusion Criteria

- ≥ 18 y/o
- SLE dx (EULAR/ACR 2019 criteria AND anti-dsDNA, anti-histone, anti-chromatin, anti-Ro (anti-SS-A), anti-La (anti-SS-B), or anti-Sm antibodies)
- Active disease at screening
  - ≥ 1 major organ system with a BILAG A score (excluding musculo-skeletal, mucocutaneous, and/or constitutional organ system)
- Failed glucocorticoids and ≥ 2 immunosuppressant therapies, used for at least 3 months

Key SLE Exclusion Criteria

- Diagnosis of drug-induced SLE rather than idiopathic SLE
- Other systemic autoimmune diseases (multiple sclerosis, psoriasis, inflammatory bowel disease, etc)

RESET-SLE (Phase 1/2)

Key SLE Inclusion Criteria

- 18-65 y/o
- SLE dx
- ANA+ or anti-dsDNA+
- SLEDAI 2K ≥8 despite standard of care therapy (nonrenal cohort)
- Active, biopsy-confirmed class III or IV ± V LN despite SOC (LN cohort)

RESET-SLE (Phase 1/2)

Key SLE Exclusion Criteria

- Contraindications to leukapheresis or specific trial drugs (fludarabine, cyclophosphamide)
- Active infections requiring intervention
- Severe uncontrolled renal, hepatic, cardiac dysfunction
- Previous CAR T-cell therapy or organ transplants

AUTOGRAPH - SLE/LN (Phase 2-ON HOLD)

Key SLE Inclusion Criteria

- Age 18–75 years
- SLE diagnosis meeting 2019 EULAR/ACR classification criteria
- Positive ANA (≥1:80), anti-dsDNA, or anti-Sm antibody
- Active refractory SLE (SLEDAI-2K ≥6) **or** active lupus nephritis without significant chronic damage

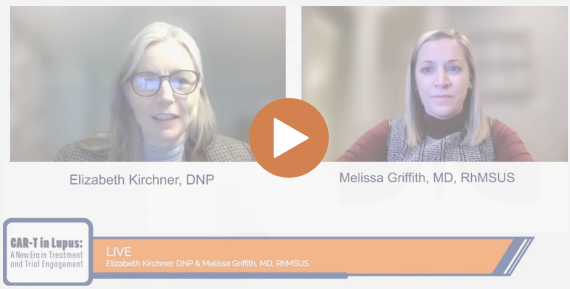
Key SLE Exclusion Criteria

- Significant organ dysfunction or clinically significant cardiac abnormalities
- Active HIV, hepatitis B, or hepatitis C infection
- Grade ≥2 thromboembolic event within 4 weeks of screening
- Other medical conditions that would increase risk or interfere with CAR-T therapy evaluation

Learn More About CAR-T in Lupus

Watch the full expert discussion from RhAPP's Live Virtual Presentation:

CAR-T in Lupus:
A New Era in Treatment and Trial Engagement.



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