Supplementary table. Clinicaltrials.gov extract from CAR-T trials including AML patients.

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| **Study short title**  | **Study Identifier** | **Status** | **Phase** | **Condition** | **Interventional targets** | **Responsible party** |
| Humanized CD7 CAR T-cell Therapy for r/r CD7+ Acute Leukemia | NCT04762485 | Recruiting | I/II | rrAML | CD7 | The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu, China |
| Multi-CAR T Cell Therapy Targeting CD7-positive Malignancies | NCT04033302 | Recruiting | I/II | AML, NKL, T-ALL, TCL | CD7 | Shenzhen Geno-Immune Medical Institute, Shenzhen, Guangdong, China |
| CAR-pNK Cell Immunotherapy in CD7 Positive Leukemia and Lymphoma | NCT02742727 | Unknown1 | I/II | rrAML | CD7 | PersonGen BioTherapeutics (Suzhou) Co., Ltd., Suzhou, Jiangsu, China |
| CAR-T CD19 for Acute Myelogenous Leukemia With t 8:21 and CD19 Expression | NCT04257175 | Recruiting | II/III | rrAML | CD19 | Sheba Medical Center, Ramat Gan, Israel |
| CART-19 T Cell in CD19 Positive Relapsed or Refractory Acute Myeloid Leukemia (AML) | NCT03896854 | Recruiting | I/II | rrAMl | CD19 | Shanghai Unicar-Therapy Bio-medicine Technology Co.,Ltd, Songjiang District, Shanghai, China |
| Treatment of Relapsed and/or Chemotherapy Refractory CD33 Positive Acute Myeloid Leukemia by CART-33 | NCT01864902 | Unknown1 | I/II | rrAML | CD33 | Chinese PLA General Hospital, Beijing, China |
| Study of Adoptive Cellular Therapy Using Autologous T Cells Transduced With Lentivirus to Express a CD33 Specific Chimeric Antigen Receptor in Patients With Relapsed or Refractory CD33-Positive Acute Myeloid Leukemia | NCT03126864 | Terminated | I | rrAML | CD33 | University of Texas MD Anderson Cancer Center, Houston, Texas, United States |
| Allogeneic CART-33 for Relapsed/Refractory CD33+ AML | NCT02799680 | Unknown1 | I | rrAML | CD33 | The Affiliated Hospital of the Chinese Academy of Military Medical Sciences, Beijing, China |
| CAR-pNK Cell Immunotherapy for Relapsed/Refractory CD33+ AML | NCT02944162 | Unknown1 | I/II | rrAML | CD33 | PersonGen BioTherapeutics (Suzhou) Co., Ltd., Suzhou, Jiangsu, China |
| Donor-derived CAR-T Cells in the Treatment of AML Patients | NCT04766840 | Not yet recruiting | I | rrAML | CD33 | Beijing Immunochina Medical Science & Technology Co., Ltd., Beijing, China |
| Phase I/II Study of Enhanced CD33 CAR T Cells in Subjects With Relapsed or Refractory Acute Myeloid Leukemia | NCT04835519 | Recruiting | I/II | rrAML | CD33 | Beijing Boren Hospital, Beijing, China |
| Study of Anti-CD33 Chimeric Antigen Receptor-Expressing T Cells (CD33CART) in Children and Young Adults With Relapsed/Refractory Acute Myeloid Leukemia | NCT03971799 | Recruiting | I/II | rrAML | CD33 | Center for International Blood and Marrow Transplant Research, Milwaukee, Wisconsin, United States |
| Anti-CD33 CAR NK Cells in the Treatment of Relapsed/Refractory Acute Myeloid Leukemia | NCT05008575 | Not yet recruiting | I | rrAML | CD33 | Xinqiao Hospital of Chongqing, Chongqing, China, |
| CD123-CD33 cCAR in Patients With Relapsed and/or Refractory, High Risk Hematologic Malignancies | NCT04156256 | Unknown1 | Early phase 1 | rrAML | CD33, CD123 | iCell Gene Therapeutics, Stony Brook, New York, United States |
| Multi-CAR T Cell Therapy for Acute Myeloid Leukemia | NCT03222674 | Unknown1 | I/II | rrAML | CD33, CD38, CD56, CD123, Muc1, or CLL1 | Shenzhen Geno-Immune Medical Institute, Shenzhen, Guangdong, China |
| Dual CD33-CLL1-CAR-T Cells in the Treatment of Relapsed/Refractory Acute Myeloid Leukemia | NCT05016063 | Not yet recruiting | Early phase 1 | rrAML | CD33, CLL-1 | Xinqiao Hospital of Chongqing, Chongqing, China, |
| CLL1-CD33 cCAR in Patients With Relapsed and/or Refractory, High Risk Hematologic Malignancies | NCT03795779 | Recruiting | Early phase 1 | rrAML | CD33, CLL-1  | iCell Gene Therapeutics, Stony Brook, New York, United States |
| Multiple CAR-T Cell Therapy Targeting AML | NCT04010877 | Recruiting | I/II | rrAML | CD33, CLL-1, CD123 | Shenzhen Geno-Immune Medical Institute, Shenzhen, Guangdong, China |
| CD38-targeted Chimeric Antigen Receptor T Cell (CART) in Relapesd or Refractory Acute Myeloid Leukemia | NCT04351022 | Recruiting | I/II | rrAML | CD38 | The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu, China |
| CAR-T Cells Therapy in Relapsed/Refractory Acute Myeloid Leukemia | NCT03473457 | Terminated | n. a.2 | rrAML | CD38, CD33, CD56, CD123, CD117, CD133, CD34, or Mucl as single or double CAR-T | Zhujiang Hospital of Southern Medical University, Guangzhou, Guangdong Province, China |
| CAR-T Cells Combined With Peptide Specific Dendritic Cell in Relapsed/Refractory Leukemia/MDS | NCT03291444 | Recruiting | I | ALL, MDS, rrAML | r/r AML/MDS: CD33, CD38 CD56, CD117, CD123, CD34 or Muc1; ALL: CD19, CD20, CD22, or CD10 | Zhujiang Hospital of Southern Medical University, Guangzhou, Guangdong Province, China |
| Study of CAR T-cell Therapy in Acute Myeloid Leukemia and Multiple Myeloma | NCT04097301 | Recruiting | I/II | MM, rrAML | CD44v6 | AGC Biologics S.p.A., Milan, Italy |
| CD 70 CAR T for Patients With CD70 Positive Malignant Hematologic Diseases | NCT04662294 | Not yet recruiting | Early phase 1 | rrAML | CD70 | Zhejiang University, Hangzhou, Zhejiang, China |
| Safety and Efficacy Evaluation of IM23 CAR-T Cells (IM23CAR-T) | NCT03585517 | Unknown1 | I | rrAML | CD123 | Beijing Immunochina Medical Science & Technology Co., Ltd., Beijing, China |
| Donor-derived Anti-CD123-CART Cells for Recurred AML After Allo-HSCT | NCT03114670 | Unknown1 | I | Relapsed AML after Allo-HSCT | CD123 | Affiliated Hospital to Academy of Military Medical Sciences, Beijing, China |
| CART-123 FOR Relapsed/Refractory Acute Myelocytic Leukemia (AML） | NCT03556982 | Unknown1 | I/II | rrAML | CD123 | Affiliated Hospital of the Chinese Academy of Military Medical Sciences, Beijing, China |
| CD123 Redirected Autologous T Cells for AML | NCT02623582 | Terminated | Early phase 1 | rrAML | CD123 | Abramson Cancer Center of the University of Pennsylvania, Philadelphia, Pennsylvania, United States |
| Genetically Modified T-cell Immunotherapy in Treating Patients With Relapsed/Refractory Acute Myeloid Leukemia and Persistent/Recurrent Blastic Plasmacytoid Dendritic Cell Neoplasm | NCT02159495 | Recruiting | I | prBPDCN, rrAML | CD123 | City of Hope Medical Center, Duarte, California, United States |
| Study Evaluating Safety and Efficacy of CAR-T Cells Targeting CD123 in Patients With Acute Leukemia | NCT03672851 | Terminated | I | rrAML | CD123 | Second Affiliated Hospital of Xi'an Jiaotong University, Xi'an, Shaanxi, China |
| Lentivirally Redirected CD123 Autologous T Cells in AML | NCT03766126 | Active, not recruiting | I | rrAML | CD123 | University of Pennsylvania, Philadelphia, Pennsylvania, United States |
| Clinical Study of Universal CAR-γδT Cell Injection in the Treatment of Patients With Relapsed AML After Transplantation | NCT04796441 | Recruiting | n. a.2 | relapsed AML | CD123 | Hebei Senlang Biotechnology Inc., Ltd., Hebei Province,China |
| Study Evaluating Safety and Efficacy of CAR-T Cells Targeting CD123 in Patients With Acute Myelocytic Leukemia | NCT03796390 | Unknown1 | I | rrAML | CD123 | Hebei Senlang Biotechnology Inc., Ltd., Hebei Province,China |
| IL3 CAR-T Cell Therapy for Patients With CD123 Positive Relapsed and/or Refractory Acute Myeloid Leukemia | NCT04599543 | Not yet recruiting | Early phase 1 | rrAML | CD123 | Zhejiang University, Hangzhou, Zhejiang, China |
| Safety and Efficacy of Anti-CD123 CAR-T Therapy in Patients With Refractory/ Relapsed CD123+ Acute Myeloid Leukemia | NCT04014881 | Recruiting | I | rrAML | CD123 | Wuhan Union Hospital, Jianghan District, Wuhan, Hubei, China. |
| CD123-Directed Autologous T-Cell Therapy for Acute Myelogenous Leukemia (CATCHAML) | NCT04318678 | Recruiting | I | AML, B-ALL, BPDCN, T-ALL | CD123 | St. Jude Children's Research Hospital, Memphis, Tennessee, United States |
| Safety and Efficacy of CD123-Targeted CAR-T Therapy for Relapsed/Refractory Acute Myeloid Leukemia | NCT04272125 | Recruiting | I/II | rrAML | CD123 | Chongqing Precision Biotech Co., Ltd, Chongqing, China |
| CD123-Targeted CAR-T Cell Therapy for Relapsed/Refractory Acute Myeloid Leukemia | NCT04265963 | Recruiting | I/II | rrAML | CD123 | Chongqing Precision Biotech Co., Ltd, Chongqing, China |
| Phase I Study of UCART123 in Patient With Adverse Genetic Risk Acute Myeloid Leukemia | NCT04106076 | Withdrawn | I | AML | CD123 | Cellectis S.A., Paris, France |
| Study Evaluating Safety and Efficacy of UCART123 in Patients With Relapsed/ Refractory Acute Myeloid Leukemia | NCT03190278 | Recruiting | I | rrAML | CD123 | Cellectis S.A., Paris, France |
| CD123 Redirected T Cells for AML in Pediatric Subjects | NCT04678336 | Recruiting | I | rrAML | CD123 | University of Pennsylvania, Philadelphia, Pennsylvania, United States |
| CD123/CLL1 CAR-T Cells for R/R AML (STPHI\_0001) | NCT03631576 | Recruiting | II/III | rrAML | CD123, CLL1 | Department of Hematology, Fujian Medical University, Fuzhou, Fujian, China |
| CD123/CLL1 CAR-T Cells for R/R AML (STPHI\_0001) | NCT03631576 | Recruiting | II/III | rrAML | CD123, CLL-1 | Fujian Medical University Union Hospital, Fuzhou, Fujian, China |
| TAA6 Cell Injection In The Treatment of Patients With Relapsed / Refractory Acute Myeloid Leukemia | NCT04692948 | Recruiting | n. a.2 | rrAML | CD276 | PersonGen BioTherapeutics (Suzhou) Co., Ltd., Suzhou, Jiangsu, China |
| Chimeric Antigen Receptor T-cells for The Treatment of AML Expressing CLL-1 Antigen | NCT04219163 | Recruiting | I | rrAML | CLL-1 | Baylor College of Medicine, Houston, Texas, United States |
| Anti-CLL1 CAR T-cell Therapy in CLL1 Positive Relapsed/Refractory Acute Myeloid Leukemia (AML) | NCT04884984 | Recruiting | I/II | rrAML | CLL-1 | The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu, China |
| Study Evaluating the Safety of KITE-222 in Participants With Relapsed/Refractory Acute Myeloid Leukemia | NCT04789408 | Recruiting | I | rrAML | CLL-1 | Gilead Sciences, Foster City, California, United States |
| Clinical Study of Chimeric Antigen Receptor T Lymphocytes (CAR-T) in the Treatment of Myeloid Leukemia | NCT04923919 | Recruiting | Early phase 1 | rrAML | CLL-1 | 920th Hospital of Joint Logistics Support Force of People's Liberation Army of China, Kunming, Yunnan Provience, China |
| Anti-FLT3 CAR T-cell Therapy in FLT3 Positive Relapsed/Refractory Acute Myeloid Leukemia | NCT05023707 | Recruiting | I/II | rrAML | FLT3 | The First Affiliated Hospital of Soochow University, Suzhou, Jiangsu, China |
| Study Evaluating the Safety, Tolerability, and Efficacy of FLT3 CAR-T AMG 553 in FLT3-positive Relapsed/Refractory AML | NCT03904069 | Not yet recruiting | I | rrAML | FLT3 | Amgen, Thousand Oaks, California, United States |
| TAA05 Cell Injection in the Treatment of Recurrent / Refractory Acute Myeloid Leukemia | NCT05017883 | Recruiting | n. a.2 | rrAML | FLT3 | PersonGen BioTherapeutics (Suzhou) Co., Ltd., Suzhou, Jiangsu, China |
| AML Cell Immunotherapy Using Chimeric Antigen Receptor T-cells | NCT04169022 | Recruiting | n. a.2 | rrAML | IL1RAP | Centre Hospitalier Universitaire de Besancon, Besançon, France |
| Clinical Study of Anti-ILT3 CAR-T Therapy for R/R AML(M4/M5) | NCT04803929 | Recruiting | Early phase 1 | rrAML | ILT3 | Carbiogene Therapeutics Co. Ltd., Zhejiang, China |
| Safety Study of Anti Lewis Y Chimeric Antigen Receptor in Myeloma, Acute Myeloid Leukemia or Myelodysplastic Syndrome | NCT01716364 | Unknown1 | I | (rr)AML, MDS, MM | Lewis Y | Peter MacCallum Cancer Centre, Melbourne, Australia  |
| NKG2D CAR-T Cell Therapy for Patients With Relapsed and/or Refractory Acute Myeloid Leukemia | NCT04658004 | Not yet recruiting | Early phase 1 | rrAML | NKG2D | Zhejiang University, Hangzhou, Zhejiang, China |
| Safety Study of Chimeric Antigen Receptor Modified T-cells Targeting NKG2D-Ligands | NCT02203825 | Completed | I | AML, MDS-RAEB, MM | NKG2D Ligands | Celyad Oncology SA, New York, New York, United States |
| A Dose Escalation Phase I Study to Assess the Safety and Clinical Activity of Multiple Cancer Indications (THINK) | NCT03018405 | Unknown1 | I/II | AML, CRC, EOC, FTC, MDS, MM, PC, TCC, TNBC | NKG2D Ligands | Celyad Oncology SA, New York, New York, United States |
| DEPLETHINK - LymphoDEPLEtion and THerapeutic Immunotherapy With NKR-2 (DEPLETHINK) | NCT03466320 | Completed | I/II | AML, MDS | NKG2D Ligands | Celyad Oncology SA, New York, New York, United States |
| EPITHINK: Epigenetic Drug Treatment and Therapeutic Immunotherapy With NKR-2 | NCT03612739 | Withdrawn | I | AML | NKG2D ligands | Celyad Oncology SA, New York, New York, United States |
| Study in Relapsed/Refractory Acute Myeloid Leukemia or Myelodysplastic Syndrome Patients to Determine the Recommended Dose of CYAD-02 | NCT04167696 | Recruiting | I | MDS, rrAML | NKG2D ligands | Celyad Oncology SA, New York, New York, United States |
| Dose-escalating Trial With UniCAR02-T Cells and CD123 Target Module (TM123) in Patients With Hematologic and Lymphatic Malignancies | NCT04230265 | Recruiting | I | AML, B-ALL, BPDCN | CD123 | CPT Cellex Patient Treatment GmbH, Dresden, Germany  |