| Cohort AEs withinday30 Grade CRS Total score Fever (≥38°C) Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin Liver | N=40 | 1-2 2 3 0 0 | 3 0 0 | 4 | /kg | | 10^4(± | se Ia ⊧30%). | /kg | 1× | 10^5(± | 30%)/ | /kg | 1×1 | Phas 10^5(± | ±30%)/ | /kg | | | |
|--|------|-------------------------|-------------|---|-----|-----|--------|-----------------|-----|-----|--------|----------|-----|-----|----------------|---------|-----------------|--|--|--|
| AEs withinday30 Grade CRS Total score Fever (≥38°C) Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | N=40 | 1-2 2 3 0 | 3 | 4 | Ů | | | -5070). | Kg. | | 10 5(- | 50 70)/ | Kg. | , | .0 .5(- | -5070)/ | Ng. | | | |
| Grade CRS Total score Fever (≥38°C) Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 2 3 0 | 0 | | 5 | 1.2 | | | | | | | | | | | 1×10^5(±30%)/kg | | | |
| Total score Fever (≥38°C) Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 3 0 | | 0 | | 1-2 | 3 | 4 | 5 | 1-2 | 3 | 4 | 5 | 1-2 | 3 | 4 | 5 | | | |
| Fever (≥38°C) Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 3 0 | | 0 | | | | | | | | | | | | | | | | |
| Hypotension Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 28 | 2 | 0 | 0 | | | |
| Hypoxia ICANS Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | | | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 12 | 13 | 0 | 0 | | | |
| Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| Total score Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | | | |
| Depressed consciousnes Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | | | | | | | | | | | | | | | | 0 | | | |
| Seizure Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | | | |
| Motor weakness Elevated ICP or cerebra GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | |
| Elevated ICP or cerebra GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| GVHD* Total score Skin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | | |
| Total score Skin | | | | | | | | | | | | | | | | | , i | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | | | |
| Liver | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | | | |
| | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| Intestinal | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| Hematologic event | | | | | | | | | | | | | | | | | | | | |
| Neutropenia | | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 30 | 0 | | | |
| Leukopenia | | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 30 | 0 | | | |
| Thrombocytopenia | | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 4 | 5 | 18 | 0 | | | |
| Anemia | | 1 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 6 | 5 | 20 | 0 | | | |
| Lymphocytopenia | | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 30 | 0 | | | |
| Infections | | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | C | 0 | | 0 | 0 | 0 | 0 | | | |
| Sepsis Intestinal infection | | 0 | 0 | 0 | 0 | 1 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | | | |
| Lung infection Skin infection | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | |
| Oral ulcer | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | U | | | |
| Infection pathogen | | 1 | U | U | U | U | U | U | U | U | U | U | U | 3 | U | U | 0 | | | |
| Virus | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | | | |
| Bacteria | | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | | | |
| Fungus | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Gastrointestinal event | | | | | | | | | | | | | | | | | | | | |
| Abdominal distension | | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 8 | 6 | 0 | | | |
| Loss of appetite | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | | | |
| Nausea/Vomiting | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | | | |
| Diarrhea | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | | | |
| Cardiovascular event | | | | | | | | | | | | | | | | | | | | |
| Chest pain | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Tachycardia | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| Heart failure | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| General conditions | | | | | | | | | | | | | | | | | | | | |
| Fatigue | | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | | | |
| Flu-like symptom | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | | | |
| Rash Peripheral edema | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | | | |
| IEC-HS | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | | | |
| Capillary leak syndrome | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | |
| Laboratory values | | U | U | U | U | V | U | U | U | v | U | U | J | 1 | U | v | U | | | |
| AST increase | | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | | | |
| ALT increase | | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | | | |
| Bilirubin increase | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | | | |
| Creatine increase | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | | | |
| LDH increase | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | | | |
| Coagulopathy | | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | | | |
| Hypoalbuminemia | | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 1 | 0 | 0 | | | |
| Hypocalcemia | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 0 | 0 | | | |
| Hypokalemia | | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 2 | 0 | 0 | | | |
| Hyponatremia | | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | | | |
| AEs after day30** | N=37 | | | | | | | | | | | | | | | | | | | |
| Grade | | 1-2 | 3 | 4 | 5 | 1-2 | 3 | 4 | 5 | 1-2 | 3 | 4 | 5 | 1-2 | 3 | 4 | 5 | | | |
| Acute GVHD* | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Total score | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Skin Liver | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Intestinal | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Chronic GVHD* | | U | U | U | U | U | U | U | U | U | U | U | U | U | U | U | U | | | |
| Extensive cGVHD | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | | | |
| Limited cGVHD | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | | | |
| Infections | | - | - | _ | _ | _ | _ | _ | _ | _ | _ | - | | _ | | - | | | | |
| Virus | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | | | |
| Bacteria | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 4 | | | |
| Fungus | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 1 | | | |
| Secondary neoplasm | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

Listed are all adverse events, which occurred within 30 days post-infusion in the 40 patients, regardless of whether the investigators attributed the events to the CAR T cell treatment.

*GVHD assessment only included patients who relapsed after alloSCT and subsequently received donor-derived CD7 CAR-T therapy.

**AEs after day 30 only applied to the 37 patients who achieved a response to CD7 CAR-T therapy and did not receive subsequent SCT.AEs recording was discontinued for patients who withdrew from the study after relapse. AEs were graded according to CTCAE v5.0.

Abbreviation: AE,adverse event; AlloSCT, allogeneic stem-cell transplantation; ALT, Alanine aminotransferase;:AST, Aspartate aminotransferase;:CRS,cytokine release symptom; GVHD, graft-versus-hostdisease; ICANS, immune effector cell associated neurotoxicity syndrome; ICP,intracranialpressure;IEC-HS, Immune effector cell associated HLH-like syndrome; LDH, lactate Dehydrogenase.