Table1. Variations in efficacy and safety effects of different CAR-T products

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Kymriah | | Yescarta | | | Tecartus | | Breyanzi | | Abecma | | Carvykti |
| Target/Binder | CD19/FMC63 | | CD19/FMC63 | | | CD19/FMC63 | | CD19/FMC63 | | BCMA/C11D5.3 | | BCMA/VHH-VHH |
| Co-stimulatory domain | 4-1BB | | CD-28 | | | CD-28  CD3-ζ | | 4-1BB  CD3-ζ | | 4-1BB  CD3-ζ | | 4-1BB |
| Signaling domain | CD3-ζ | | CD3-ζ | | | CD3-ζ |
| Phase | Phase 2 | Phase 2 | Phase 2 | Phase 1/2 | Phase 3 | Phase 2 | Phase 2 | Phase 1 | Phase 3 | Phase 2 | Phase 1 | Phase 1b/2 |
| Dose level | 3.1X108 cells | 0.6-6X108 cells | 2X106 cells | 2X106 cells | 2X106 cells | 2X106 cells | 1X106 cells | Level1: 50X106 cells  Level2: 100X106 cells  Level3: 150X106 cells | 1X108 cells | Level1: 150X106 cells  Level2: 300X106 cells  Level3: 450X106 cells | Level1: 150X106 cells  Level2: 300X106 cells  Level3: 450X106 cells  or 800X106 cells | 0.75X106 cells |
| Pathologies  included | DLBCL  TFL | FL | DLBCL  TFL  PMBCL | FL  MZL | LBCL | MCL | B-ALL | LBCL, MCL (after two lines therapy) | LBCL (after one line therapy) | MM | MM | MM |
| infused patients  (evaluable for analysis) | 111 (90) | 97 (94) | 108 (101) | 148 (104) | 170 (170) | 68 (60) | 55 (55) | 268 (255) | 90 (90) | 128 (128) | 62 (62) | 97 (97) |
| Conditioning  Chemotherapy | FLU 25 mg/m2  CY 250 mg/m2 | | FLU 30 mg/m2  CY 500 mg/m2 | | | FLU 30 mg/m2  CY 500 mg/m2 | FLI 25 mg/m2  CY 900 mg/m2 | FLU 30 mg/m2  CY 300 mg/m2 | | FLU 30 mg/m2  CY 300 mg/m2 | | FLU 30 mg/m2  CY 300 mg/m2 |
| ORR | 52% | 86% | 83% | 92% | 83% | 93% | NR | 73% | 86% | 73% | 76% | 97.9 |
| CR | 40% | 66% | 58% | 74% | 65% | 67% | 71% | 53% | 66% | 33% | 39% | 82.5% |
| CRS (3-4) | 22% | 0% | 11% | 7% | 6% | 15% | 24% | 2% | 1 patient | 5% | 6% | two patients |
| ICANS (3-4) | 12% | 1% | 32% | 19% | 21% | 31% | 25% | 10% | 4% | 3% | 3% | NR |
| Clinical Trial | JULIET  (NCT02445248) | ELARA  (NCT03568461) | ZUMA-1  (NCT02348216) | ZUMA-5  (NCT03105336) | ZUMA-7  (NCT03391466) | ZUMA-2  (NCT02601313) | ZUMA-3  (NCT02614066) | TRANSCEND NHL 001  (NCT02631044) | TRANSFORM  (NCT03575351) | KARMMA  (NCT03361748) | CRB-401  (NCT02658929) | CARTITUDE-1  (NCT03548207) |
| Reference | [1, 2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13, 14] |

Abbreviations: DLBCL, diffuse large B-cell lymphoma; TFL, transformed follicular lymphoma; PMBCL, primary mediastinal B-cell lymphoma; FL: follicular lymphoma; MZL: marginal zone lymphoma; LBCL: large B-cell lymphoma; MCL, mantle cell lymphoma; B-cell precursor acute lymphoblastic leukaemia: B-ALL; NR, not reported; MM, multiple myeloma; FLU, fludarabine; CY, cyclophosphamide; ORR, objective response rate; CR, complete response; CRS, cytokine release syndrome; ICANS, immune effector cell-associated neurotoxicity syndrome.

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