CLAIMS

1. A humanized CD1a targeting moiety, wherein the CD1a targeting moiety is an antibody, F(ab')2, Fab, scFab or scFv, comprising a VL domain consisting of SEQ ID NO: 1 and a VH domain consisting of SEQ ID NO: 2.

2. The humanized CD1a targeting moiety according to claim 1, wherein the CD1a targeting moiety is a scFv comprising a VL domain consisting of SEQ ID NO: 1 and a VH domain consisting of SEQ ID NO: 2.

3. A chimeric antigen receptor (CAR) comprising:

a) an extracellular domain comprising a CD1a targeting moiety, wherein the CD1a targeting moiety is a scFv comprising a VL domain consisting of SEQ ID NO: 1 and a VH domain consisting of SEQ ID NO: 2;

b) a transmembrane domain; and

c) an intracellular signaling domain.

4. The CAR according to claim 3, wherein the transmembrane domain comprises the transmembrane domain of CD28, CD3, CD45, CD4, CD8, CD9, CD16, CD22, CD33, CD37, CD64, CD80, CD86, CD134, CD137, or CD154.

5. The CAR according to claim 4, wherein the transmembrane domain comprises the transmembrane domain of CD8.

6. The CAR according to any one of claims 1-5, wherein the intracellular signaling domain comprises the intracellular domain of CD3ζ, FcRγ, CD3γ, CD3δ, CD3ε, CD5, CD22, CD79a, CD79b or CD66b.

7. The CAR according to any one of claims 1-6, wherein the CAR further comprises a costimulatory signaling domain, preferably the costimulatory signaling domain comprises the intracellular domain of CD27, CD28, CD137, CD134, CD30, CD40, lymphocyte function-associated antigen-1 (LFA-1), CD2, CD7, LIGHT, NKG2C, or CD276.

8. The CAR according to any one of claims 1-7, consisting of SEQ ID NO: 13.

9. A nucleic acid encoding the CAR according to any one of claims 3-8.

10. A cell comprising the nucleic acid according to claim 9 and/or the CAR according to any one of claims 3-8.

11. The cell according to claim 10, wherein the cell is a T-cell.

12. A pharmaceutical composition comprising a plurality of cells according to claim 11 and a pharmaceutically acceptable carrier or diluent.

13. The cell according to claim 11 or the pharmaceutical composition according to claim 12 for use as a medicament.

14. Use of the cell according to claim 11 or the pharmaceutical composition according to claim 12 in the manufacture of a medicament for treating a CD1a-positive cancer in a patient in need thereof.

15. The use according to claim 14, wherein the CD1a-positive cancer is cortical T-cell acute lymphoblastic leukemia, preferably, relapsed/refractory cortical T-cell acute lymphoblastic leukemia.