LETTER TO THE EDITOR

CD22-targeted glyco-engineered natural killer cells offer a further treatment option for B-cell acute lymphoblastic leukemia

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Supplementary Materials

Table S1. Treatment-emergent adverse events

Event \ Patient	Patient 1	Patient 2
Fever	Grade 2	Grade 2
Encephalopathy	No	No
Neutropenia	Grade 4	Grade 4
Anemia	Grade 3	Grade 3
Thrombocytopenia	Grade 3	Grade 4
Hypoxia	No	No
Somnolence	No	No
Acute kidney injury	No	No
Agitation	No	No
Ascites	No	No
Aspartate aminotransferase increased	No	No
Cardiac failure	No	No
Delirium	No	No
Fatigue	No	No
Hemorrhage intracranial	No	No
Hypocalcemia	No	No
Hyponatremia	No	No
Hypophosphatemia	No	No
Hypotension	No	No
Metabolic acidosis	No	No
Oral herpes	No	No
Pseudomonal sepsis	No	No
Restlessness	No	No
Tremor	No	No
Urinary tract infection	No	No
dedma	No	No

Treatment-emergent adverse events were graded per CTCAE version 5.0.

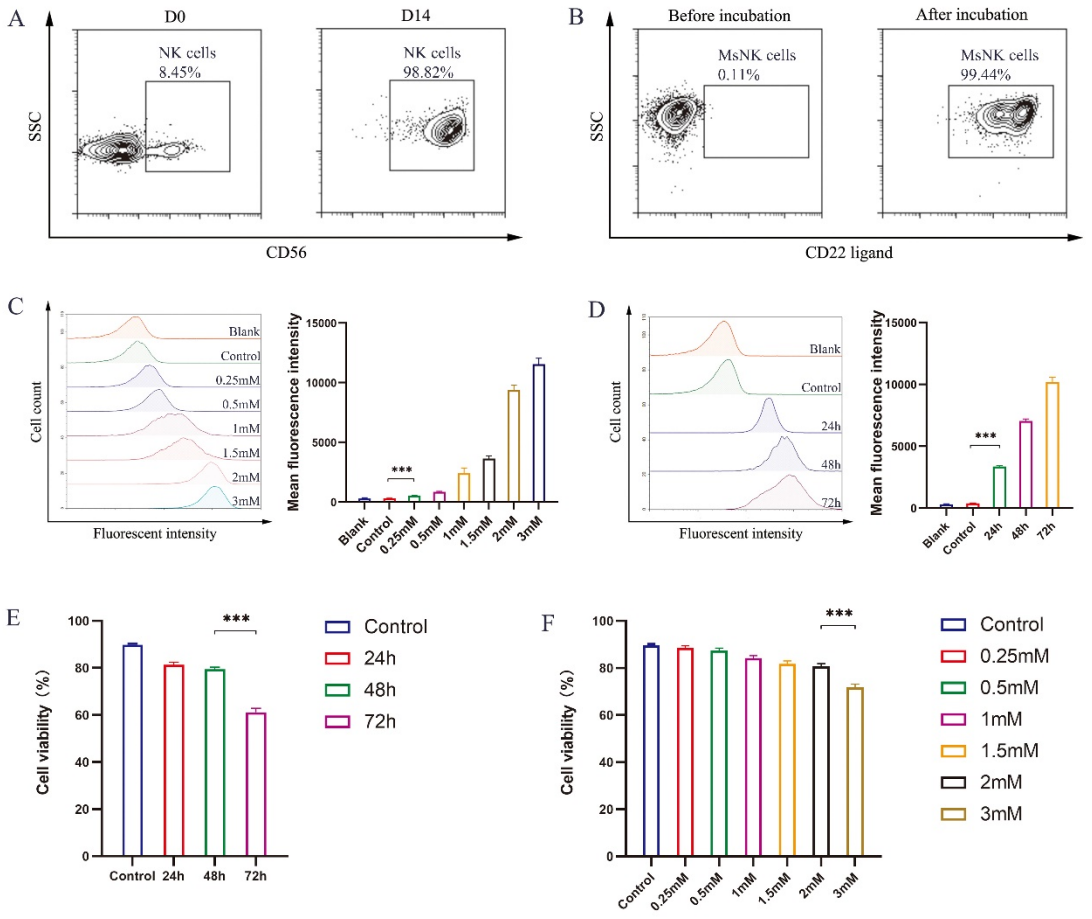

Figure S1. Successful production of glyco-engineered “MsNK” cells. A, representative flow cytometric diagram of NK cells before and 14 days after amplification. B, representative flow cytometry diagram of CD22 ligand expression in NK cells incubated with 2 mM MPB-sia1 for 48 h. C, flow cytometric diagram and statistical results of CD22 ligand expression after incubation with NK cells at different doses of MPB-sia1 for 24 h. D, flow cytometric diagram of CD22 ligand expression after 2 mM MPB-sia1 incubation with NK cells for different time and statistical results. E, NK cell activity after incubation of NK cells with 2mM MPB-sia1 for different times. F, NK cell viability after incubation of NK cells with different concentrations of MPB-sia1 for 24 hours. (Experiments were conducted using cells from

three different donors; Mean ± SD; ***P< 0.001).

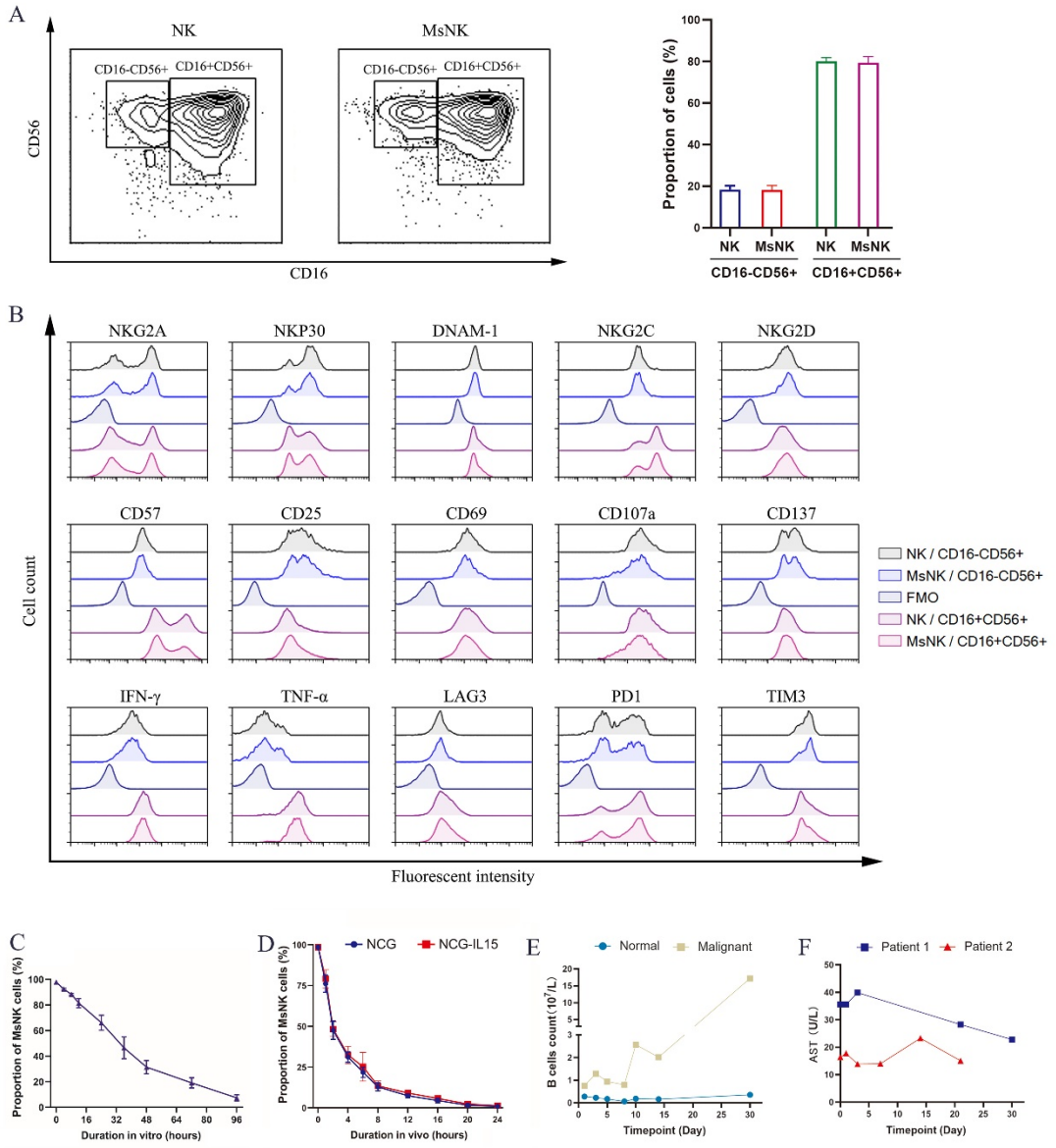

Figure S2. The phenotype of MsNK cells tended to be constant before and after production. A, Representative flow cytometry diagram of unmodified NK cells and MsNK cells labeled with CD16 and CD56 antibodies and proportion of subsets (Experiments were conducted using cells from three different donors; mean ± SD). B, representative flow

cytometry diagram of the expression of markers in each subgroup of unmodified NK cells and MsNK cells labeled with CD16 and CD56 antibodies. C, Detection of CD22 ligand expression on MsNK cells by flow cytometry at different time points after removal of MPB-sia1 from cell culture medium. (Experiments were conducted using cells from three different donors; Mean ± SD). D, 1×10^7MsNK cells were injected into NCG mice and NCG-IL15 mice respectively, and the proportion of MSNK-positive cells in mice was continuously detected at different time points by flow cytometry (n=3). E, numbers of malignant and normal B cells in PB of patient 1 during treatment. F, data on liver function-related parameters (aspartate aminotransferase (AST)) during treatment.