

Supplementary data legends

Supplementary figure 1. Expression of GD2 in human lung cancer cell lines. Expression of GD2 in small cell lung cancer (SCLC) (**A**) and non-small cell lung cancer cell lines (NSCLC) (**B**) assessed by flow cytometry. Results are shown as percentages of positive cells. Characteristics of the SCLC (**C**) and NSCLC (**D**) cell lines.

Supplementary figure 2. Expression of GD2 in tumors isolated from mice and assessed by flow cytometry. Expression of GD2 in tumors isolated from mice treated with CD19.CAR-T cells (**A**) and from a mouse implanted orthotopically with FFluc-H446 tumor cells and relapsed after treatment with GD2.CAR-T cells at 2×10^6 (**B**). Tumor cells were identified by the expression of the epithelial cell marker EpCAM.

Supplementary figure 3. Detection of GD2.CAR-T cells in the metastatic xenograft model. **A-C.** Quantification of circulating CAR-T cells (CD45⁺CD3⁺CAR⁺) as percentage (**A**), cell number (**B**) and phenotype characterization (**C**) 21 days after CAR-T cell infusion; (n = 5), **** $p < 0.0001$, GD2.CAR (2×10^6 cells) vs CD19.CAR and GD2.CAR (5×10^6 cells) vs CD19.CAR). **D.** Quantification of CAR-T cells (CD45⁺CD3⁺CAR⁺) in blood, bone marrow and spleen at the time of euthanasia at day 77 after CAR-T cell treatment. **(E)** Phenotypic characterization of circulating CAR-T cells. **F,** Representative flow plots of circulating CAR-T cell staining at the time of euthanasia.