**Supplementary Legends to Tables, Figures, and Movies**

**Supplementary Table S1. Chemokine production of NB cells.** Tumor cells were plated at 5 x 105 cells/ml in 24-well plates and infected with Ad524 (50-100 vp/cell). Supernatants were collected 72 hrs later and analyzed for the production of RANTES, MIP-1α, MIP-1β, MCP-1 and IP-10. Data represent mean ± SD of two experiments.

**Supplementary Fig S1. NB cells infected with Ad524 do not upregulate GD2, Fas, TRAIL receptors and costimulatory molecules.** NB cells infected with control or Ad524 (50-100 vp/cell) were assessed at day 3 after infection. Presented are histograms of 3 NB cell lines (CHLA-255, IMR-32, and SKNLP). The gray filled curve, blue line and red line correspond to isotype control, no-virus treatment and Ad524 infection, respectively.

**Supplementary Fig S2. Ad524 does not increase the effector function of GD2.CAR-T cells.** IFNγ, granzyme B, CD25, CD69 and TRAIL expression was assessed in T cells after co-culture with NB cells (CHLA-255, IMR-32 and SKNLP) preincubated for 72 hrs with or without Ad524 (50-100 vp/cell). Presented are representative histograms (top) and quantification (bottom) from 3 different preparations of T cells. The gray filled curve, blue line and red line correspond to T cells incubated without tumor cells and T cells incubated with tumor cells without or with Ad524, respectively.

**Supplementary Fig S3. Growth of CHLA-255 cells in control mice*.*** NSG mice were injected s.c. on the right flank with CHLA-255 cells and inoculated i.t. by day 14 with PBS followed by i.v. infusion of control T cells (107 cells) 4 days later. Tumor growth was assessed by caliper measurement. Data represent mean ± SEM.

**Supplementary Fig S4. Growth of CHLA-255 cells in mice inoculated in both flanks.** NSG mice were injected s.c. in both flanks with CHLA-255 cells. By day 12 these animal were inoculated i.t. with PBS on the left side and Ad524.RANTES.IL-15 on the right side. Four days later, they were infused i.v. with FFluc labeled GD2.CAR-T cells (107 cells). T-cell bioluminescence at each tumor site was measured. Mice were euthanized by day 15 after T-cell infusion due to the growth of the tumor on the non-viral inoculated tumor. Data represent mean ± SEM. \**P* < 0.05 by Student’s *t* test.

**Supplementary Movie. Sequential confocal microscope imaging.** Co-culture experiments of GFP+ CHLA-255 cells preincubated with Ad524 for 72 hrs and then co-cultured with either control or GD2.CAR-T cells. Cells were imaged for 16 hrs after adding T cells. Apoptotic CHLA-255 cells binding Annexin-V appear in Orange. (**A**) Control T cells, (**B**) GD2.CAR-T cells, (**C**) Ad524 and control T cells, (**D**) Ad524 and GD2.CAR-T cells.