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Technical Data Sheet: Daudi-Luc2

ATCC® Number	CCL-213-LUC2™
Organism	*Homo sapiens*
Tissue/Disease Source	Burkitts Lymphoma
Product Description	This luciferase expressing cell line was derived from Daudi cell line by transduction with lentiviral vector encoding firefly luciferase gene (luc2) and subsequently through single cell cloning. • Signal noise ratio: ≥ 1,000 • Naturally expresses high levels of CD20 (verified at ATCC) • Daudi-Luc2 has been used as a target cancer cell for *in vitro* killing assay by CD20 CAR-T cells (tested at ATCC) and is expected to also work for CD19 CAR-T cells.
Application	Excellent signal/background ratio and stable luciferase expression make this cell line ideal for in vitro study of CD19 specific CAR-T cells. It also can be used in cell-based assays for cancer research.

In vitro CAR-T killing cancer bioluminescence assay

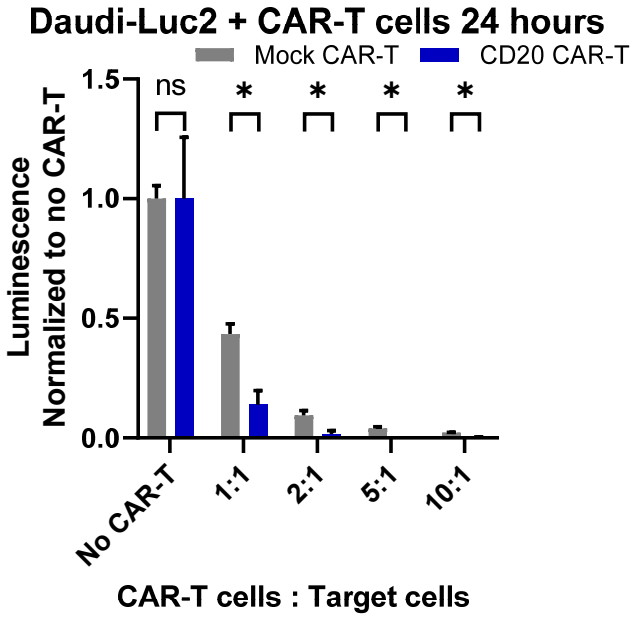

Figure 1: CD20 CAR-T in vitro killing assay of Daudi-Luc2 measured using luminescence. Daudi-Luc2 cells (5 x 10^3) were seeded into a 96-well plate and were used as target cells for either CD20 CAR-T or Mock CAR-T (control) from the same donor which were seeded at various ratios of CAR-T cells to target Daudi-Luc2 cells (1:1, 2:1, 5:1, and 10:1). After 24 hours of co-culture, Bright-Glo (Promega) was added to the indicated wells. The luminescence of the plate was read within 10 minutes using a luminescence plate reader and determined to have a dose-dependent specific killing with CD20 CAR-T cells which was greater than the non-specific killing observed with mock CAR-T cells. (* = significant difference, ns = not signicigant using unpaired t test, with a single pooled variance).

Cell Morphology

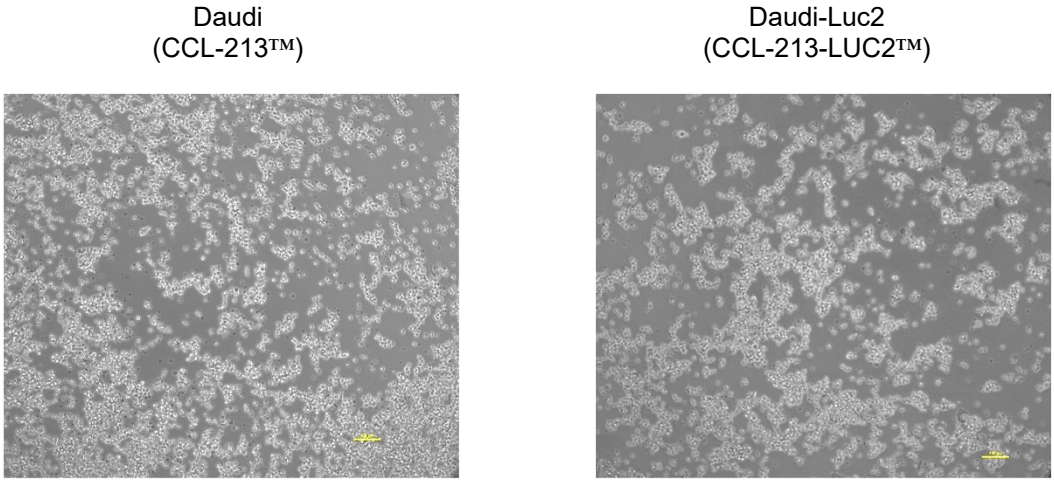

Figure 2: Cell morphology of Daudi parental and Daudi-Luc2. Cells were maintained in ATCC recommended culture conditions. Cell morphology was observed under microscopy and images were captured by digital camera.

Luciferase Expression

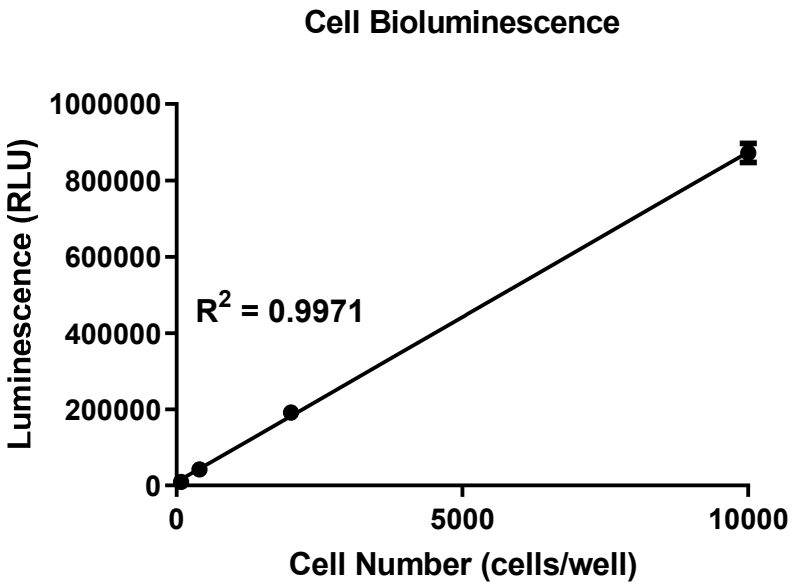

Figure 3: Linearity of luminescence of Daudi-Luc2. Cells were seeded in a 96-well plate at indicated cell numbers per well, and Bright-Glo (Promega) was added to the indicated wells. The luminescence of the plate was read within 10 minutes using a luminescence plate reader and was determined to have a linear correlation of bioluminescence intensity with cell numbers.