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Technical Data Sheet: Farage-Luc2

ATCC® Number	CRL-2630-LUC2™
Organism	*Homo sapiens*
Tissue/Disease Source	Lymphoma; Non-Hodgkin's B Cell
Product Description	This luciferase expressing cell line was derived from Farage 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) • Farage-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

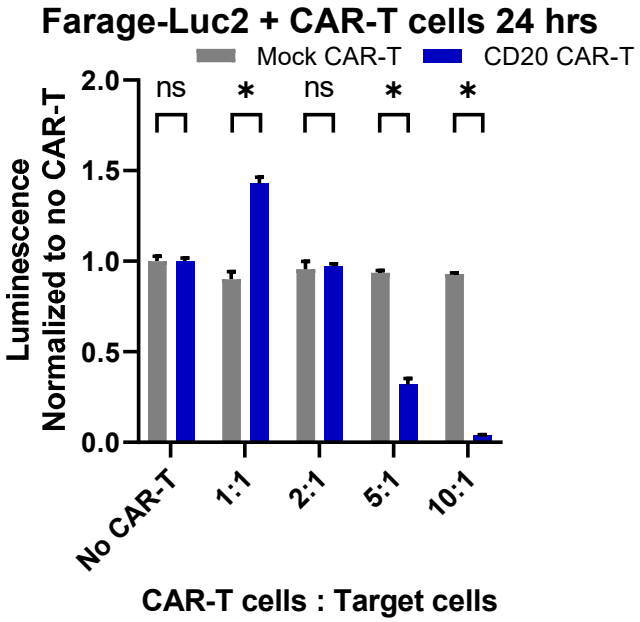
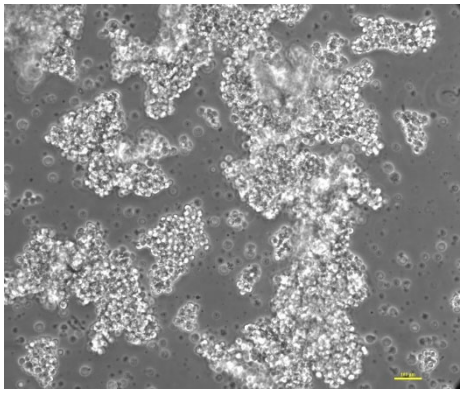


Figure 1: CD20 CAR-T in vitro killing assay of Raji-Luc2 measured using luminescence. Raji-Luc2 cells (5 x 10^3) were seeded into a 96-well plate and were used as target cells for either CD20 CAR-T or Mock CAR-T (control) from the same donor which were seeded at various ratios of CAR-T cells to target Farage-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).

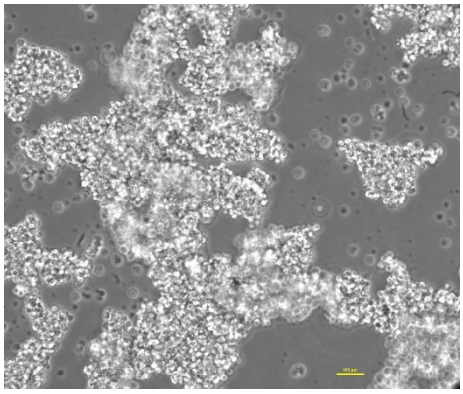
Cell Morphology

Farage
(CRL-2630™)



Doubling time = 30 hours

Farage-Luc2
(CRL-2630-LUC2™)



Doubling time = 33 hours

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

Luciferase Expression

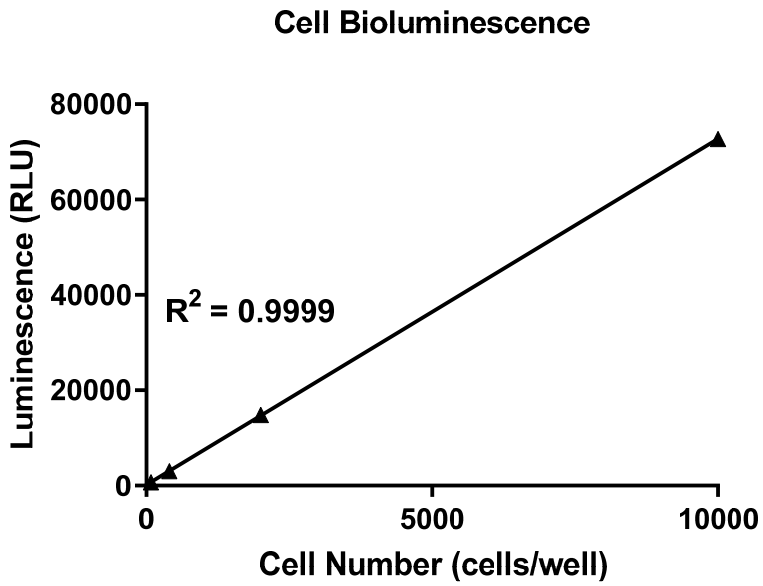


Figure 3: Linearity of luminescence of Farage-Luc2. Cells were seeded in a 96-well plate at indicated cell numbers per well, and Bright-Glo (Promega) was added to the indicated wells. The luminescence of the plate was read within 10 minutes using a luminescence plate reader and was determined to have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