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Data Sheet

Firefly Luciferase - CHO Recombinant Cell Line Cat. #:79725

Product Description

Recombinant CHO-K1 cells constitutively expressing the firefly luciferase reporter.

Background

Since CHO-K1 cells do not express endogenous human proteins, this cell line provides an excellent platform to compare specific killing of CAR-T or NK cells relative to CHO-K1 cells expressing both the firefly luciferase and a specific cell surface receptor of interest, such as B-Cell Maturation Antigen (BCMA) (BPS Bioscience #79724).

Applications

- Use as a control for co-culture killing assays.

Host Cell

Chinese Hamster Ovary (CHO)-K1, adherent epithelial cells.

Format

Each vial contains 2×10^6 cells in 1 ml of FBS with 10% DMSO.

Storage

Store in liquid nitrogen immediately upon receipt.

Cell Culture

Thaw Medium 3 (BPS Bioscience, #60186): F-12K Medium supplemented with 10% FBS and 1% Penicillin/Streptomycin.

Growth Medium 3D (BPS Bioscience, #79539): F-12K Medium supplemented with 10% FBS and 1% Penicillin/Streptomycin plus 1 mg/ml of Geneticin to ensure recombinant expression.

Cells should be grown at 37°C with 5% CO₂ using Growth Medium 3D. Cells should exhibit a typical cell division time of ~24 hours.

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It is recommended to quickly thaw the frozen cells from liquid nitrogen in a 37°C water bath, transfer to a tube containing 10 ml of Thaw Medium 3 (**no Geneticin**), spin the cells down, remove the supernatant, and then re-suspend the cells in pre-warmed Thaw Medium 3 (**no Geneticin**). Then transfer the re-suspended cells to a T25 flask and culture in a 37°C CO₂ incubator overnight. The next day, replace the medium with fresh Thaw Medium 3 (**no Geneticin**) and continue growing in a CO₂ incubator at 37°C until the cells are ready to be split. Cells should be split before they reach complete confluence. After the first passage, switch to Growth Medium 3D (**contains Geneticin**).

To passage the cells, rinse the cells with Phosphate Buffered Saline (PBS), detach the cells from the culture vessel with 0.05% Trypsin/EDTA, and add Growth Medium 3D and transfer to a tube. Next, spin the cells down, remove the supernatant, and then re-suspend the cells and seed appropriate aliquots of the cell suspension into new culture vessels. Suggested sub-cultivation ratios: 1:10 to 1:20 twice a week.

To freeze the cells down, rinse the cells with Phosphate Buffered Saline (PBS), and detach the cells from the culture vessel with 0.05% Trypsin/EDTA. After detachment, add Thaw Medium 3 (**no Geneticin**) and count the cells, then transfer to a tube, spin the cells down, and resuspend in 4°C Freezing Medium (10% DMSO + 90% FBS) at $\sim 2 \times 10^6$ cells/ml. Dispense 1 ml of cell aliquots into each cryogenic vial. Place vials in an insulated container for slow cooling and store at -80°C overnight. Transfer to liquid nitrogen the next day for storage. It is recommended to expand the cells and freeze down more than 10 vials of cells for future use at early passages.

Mycoplasma Testing

This cell line has been screened using the Venor™ GeM Mycoplasma Detection Kit, PCR Based (Sigma, #MP0025) to confirm the absence of Mycoplasma contamination.

Materials Required by Not Supplied

- Thaw Medium 3 (BPS Bioscience, #60186)
- Growth Medium 3D (BPS Bioscience, #79539)
- 96-well tissue culture-treated white clear-bottom assay plate
- ONE-Step luciferase assay system (BPS Bioscience, #60690) or other luciferase reagent for measuring firefly luciferase activity
- Luminometer

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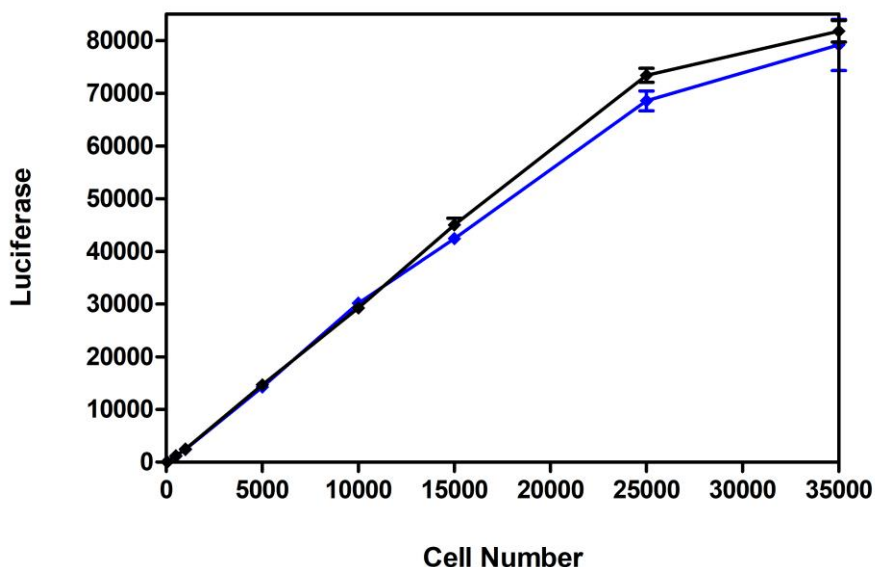
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Figure 1. Luciferase activity of Firefly Luciferase CHO recombinant cells compared with BCMA / Luciferase CHO recombinant cells.

Firefly Luciferase CHO recombinant cells (blue line) and BCMA / Luciferase CHO recombinant cells (BPS Bioscience, #79724; black line) were seeded in a 96-well plate at various densities. The next day, luciferase activity was measured using the ONE-Step luciferase assay system (BPS Bioscience, #60690).



License Disclosure

Visit bpsbioscience.com/license for the label license and other key information about this product.

Related Products

Product	Cat. #	Size
BCMA / Luciferase CHO Recombinant Cell Line	79724	2 vials
NF-κB Reporter (Luc) - CHO-K1 Recombinant Cell Line	60622	2 vials
ONE-Step Luciferase Detection Reagent	60690-1	10 ml
ONE-Step Luciferase Detection Reagent	60690-2	100 ml
Growth Medium 3D	79539	500 ml
Thaw Medium 3	60186-1	100 ml

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