Description

eGFP/Firefly Luciferase MM.1S Cell Line is a stable MM.1S cell line that expresses a firefly luciferase and enhanced GFP (eGFP) cassette driven by a CMV promoter. The cells were transduced with the integrating Firefly Luciferase-eGFP Lentivirus (BPS Bioscience #79980-G) and cloned by limited dilution to get a monoclonal population. This cell line has been validated by flow cytometry for eGFP expression and luciferase activity.

Background

MM.1S cells are multiple myeloma human B lymphoblasts. The parent cell line MM.1 was established from the peripheral blood of a multiple myeloma patient who had become resistant to steroid-based therapy. MM.1S cells are sensitive to dexamethasone.

Application

- Control in cell killing assays.
- Suitable as a B-cell target of CAR-T or CAR-NK cells during optimization of CAR design.

Materials Provided

Components	Format
2 vials of frozen cells	Each vial contains >1 x 10^6 cells in 1 ml of Cell Freezing Medium (BPS Bioscience, #79796)

Parental Cell Line

MM.1S human B lymphoblasts, suspension

Mycoplasma Testing

The cell line has been screened to confirm the absence of Mycoplasma species.

Materials Required but Not Supplied

These materials are not supplied with the cell line but are necessary for cell culture and cellular assays. BPS Bioscience's reagents are validated and optimized for use with this cell line and are highly recommended for best results. Media components are provided in the Media Formulations section below.

Media Required for Cell Culture

Name	Ordering Information
Thaw Medium 2	BPS Bioscience #60184
Growth Medium 2Q	BPS Bioscience #78380

Storage Conditions

Cells are shipped in dry ice and should immediately be thawed or stored in liquid nitrogen upon receipt. Do not use a -80°C freezer for long term storage. Contact technical support at support@bpsbioscience.com if the cells are not frozen in dry ice upon arrival.

Media Formulations

For best results, the use of validated and optimized media from BPS Bioscience is *highly recommended*. Other preparations or formulations of media may result in suboptimal performance.

Note: Thaw Media do *not* contain selective antibiotics. However, Growth Media *do* contain selective antibiotics, which are used to maintain selective pressure on the cell population expressing the gene of interest.
Cells should be grown at 37°C with 5% CO_2. BPS Bioscience's cell lines are stable for at least 10 passages when grown under proper conditions.

Media Required for Cell Culture

Thaw Medium 2 (BPS Bioscience #60184):
RPMI 1640 medium (ATCC modification) supplemented with 10% FBS, 1% Penicillin/Streptomycin.

Growth Medium 2Q (BPS Bioscience #78380):
RPMI 1640 medium supplemented with 10% FBS, 1% Penicillin/Streptomycin plus 500 µg/ml Geneticin.

Cell Culture Protocol

Cell Thawing

1. Retrieve a cell vial from liquid nitrogen storage. Keep on dry ice until ready to thaw.

2. When ready to thaw, swirl the vial of frozen cells for approximately 60 seconds in a 37°C water bath. Once cells are thawed (it may be slightly faster or slower than 60 seconds), quickly transfer the entire content of the vial to an empty 50 ml conical tube.
Note: Leaving the cells in the water bath at 37°C for too long will result in rapid loss of viability.

3. Using a 10 ml serological pipette, slowly add 10 ml of pre-warmed Thaw Medium 2 to the conical tube containing the cells. Thaw Medium 2 should be added dropwise while gently rocking the conical tube to permit gentle mixing and avoid osmotic shock.

4. Immediately spin down the cells at 300 *x g* for 5 minutes, remove the medium and resuspend the cells in 5 ml of pre-warmed Thaw Medium 2.

5. Transfer the resuspended cells to a T25 flask or T75 flask and incubate at 37°C in a 5% CO_2 incubator.

6. After 24 hours of culture, check for viability. For a T25 flask, add 3-4 ml of fresh Thaw Medium 2 and continue growing culture in a 5% CO_2 incubator at 37°C until the cells are ready to passage.

7. Cells should be passaged before they reach 2 x 10^6 cells/ml. At first passage and subsequent passages, use Growth Medium 2Q.

Cell Passage

Dilute the cell suspension into new culture vessels at no less than 0.2 x 10^6 cells/ml of Growth Medium 2Q. The sub-cultivation ratio should be calculated so that cells are maintained between 0.2 x 10^6 cells/ml and 2 x 10^6 cells/ml.

Cell Freezing

1. Spin down the cells at 300 *x g* for 5 minutes, remove the medium and resuspend the cell pellet in 4°C Cell Freezing Medium (BPS Bioscience #79796) at a density of ~2 x 10^6 cells/ml.

2. Dispense 1 ml of cell suspension into each cryogenic vial. Place the vials in an insulated container for slow cooling and store at -80°C overnight.

3. Transfer the vials to liquid nitrogen the next day for long term storage.

Note: It is recommended to expand the cells and freeze at least 10 vials at an early passage for future use.

Validation Data

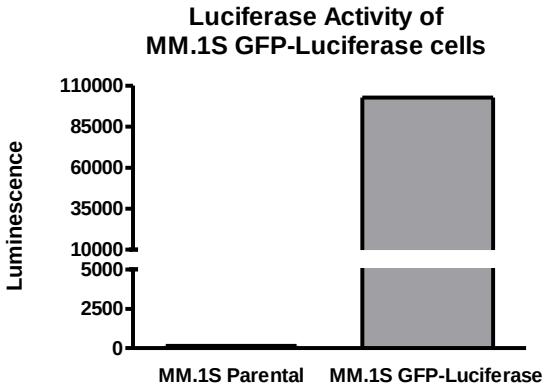

Figure 1: Luciferase activity in GFP/Firefly Luciferase MM.1S Cell Line.
GFP/Firefly Luciferase MM.1S cells and parental MM.1S cells were seeded in a 96-well plate at a density of 25,000 cells/well. Luciferase activity was measured using the ONE-Step™ Luciferase Assay System (BPS Bioscience #60690).

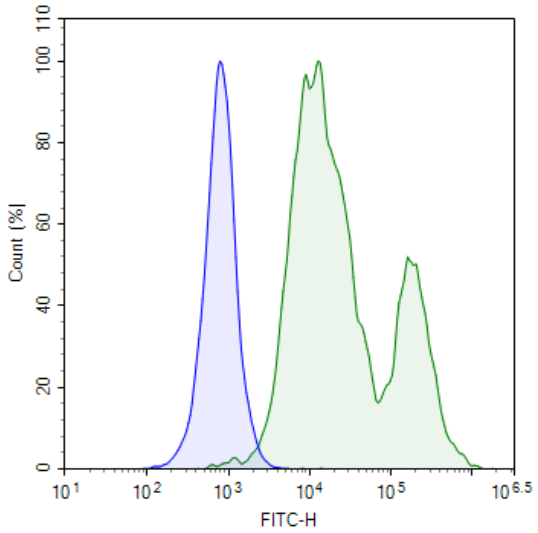

Figure 2. Expression of eGFP in the GFP/Firefly Luciferase MM.1S Cell line.
20,000 eGFP/Firefly Luciferase MM.1S cells and parental MM.1S cells were analyzed by flow cytometry. The MM.1S Parental cells are shown in blue, and the eGFP/Firefly Luciferase MM.1S cells are shown in green.

Data shown is representative. For lot-specific information, please contact BPS Bioscience, Inc. at support@bpsbioscience.com.

References

Greenstein S., 2003 *et al*. *Exp. Hematol.* 31: 271-282.

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Troubleshooting Guide

Visit bpsbioscience.com/cell-line-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Related Products

Products	*Catalog #*	*Size*
Firefly Luciferase-eGFP Lentivirus (G418) or (Puromycin)	79980	500 µl x 2
Enhanced GFP Lentivirus (Puromycin)	79979	500 µl x 2
Firefly Luciferase Lentivirus (G418, Hygromycin and Puromycin)	79692	500 µl x 2
RFP Lentivirus	78347	500 µl x 2
Firefly Luciferase Raji Cell Line	78622	2 vials
Firefly Luciferase K562 Cell Line	78621	2 vials
Firefly Luciferase Molm13 Cell Line	78372	2 vials
Firefly Luciferase Jurkat Cell Line	78373	2 vials