

Description

eGFP/Firefly Luciferase Ramos (RA 1) Cell Line is a Ramos (RA 1) cell line expressing firefly luciferase and enhanced GFP (eGFP) driven by an EF1a promoter. The cells were generated by transduction with Firefly Luciferase-eGFP Lentivirus (BPS Bioscience #78741), which is a SIN (self-inactivating) lentivirus.

Background

Ramos cells are often used for immunology research. Derived from a young male patient with Burkitt's lymphoma, these cells are well characterized and have demonstrated expression of immunoglobulin on the cell surface and secretion of IgM. The use of eGFP and firefly luciferase allows for easy read outs during cellular assays.

Application

- *In vitro* and *in vivo* bioluminescence imaging.
- Use as target cells in CAR-T or NK co-culture killing assays.

Materials Provided

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

Parental Cell Line

Ramos (RA 1), human Burkitt's lymphoma cell line, 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 8	BPS Bioscience #79652
Growth Medium 8B	BPS Bioscience #82153

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% CO₂. BPS Bioscience's cell lines are stable for at least 10 passages when grown under proper conditions.

Media Required for Cell Culture

Thaw Medium 8 (BPS Bioscience #79652):

RPMI-1640 supplemented with 10% Heat-Inactivated FBS, and 1% Penicillin/Streptomycin.

Growth Medium 8B (BPS Bioscience #82153):

RPMI-1640 supplemented with 10% Heat-Inactivated FBS, 1% Penicillin/Streptomycin plus 0.25 µg/ml Puromycin.

Media Required for Functional Cellular Assay

Thaw Medium 8 (BPS Bioscience #79652):

RPMI-1640 supplemented with 10% Heat-Inactivated FBS.

Cell Culture Protocol

Cell Thawing

1. Swirl the vial of frozen cells for approximately 60 seconds in a 37°C water bath. As soon as the cells are thawed (it may be slightly faster or slower than 60 seconds), quickly transfer the entire contents of the vial to a tube containing 10 ml of pre-warmed Thaw Medium 8.

Note: Leaving the cells in the water bath at 37°C for too long will result in rapid loss of viability.

2. 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 8.
3. Transfer the resuspended cells to a T25 flask and incubate at 37°C in a 5% CO₂ incubator.
4. After 24 hours of culture, check for cell viability. For a T25 flask, add 3-4 ml of Thaw Medium 8, and continue growing in a 5% CO₂ incubator at 37°C until the cells are ready to passage.
5. Cells should be passaged before they reach a density of 2 x 10⁶ cells/ml. Switch to Growth Medium 8B at first and subsequent passages.

Cell Passage

Dilute the cell suspension into new culture vessels before they reach a density of 2 x 10⁶ cells/ml, with Growth Medium 8B. The sub-cultivation ratio should maintain the cells between 0.2 x 10⁶ cells/ml and 2 x 10⁶ 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 10⁶ 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

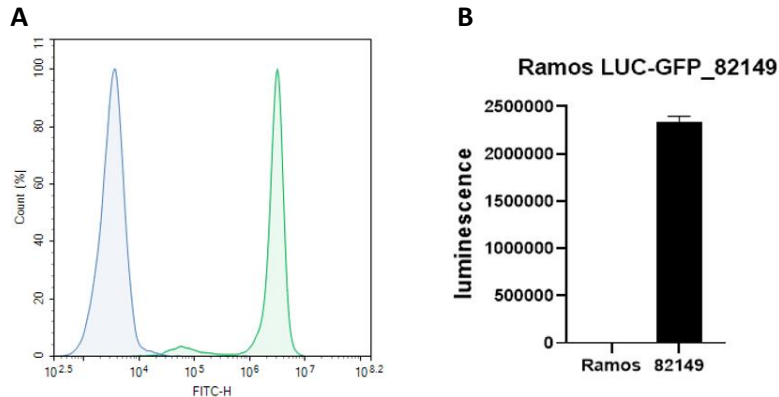


Figure 1. eGFP Expression and luciferase activity in eGFP/ Firefly Luciferase Ramos (RA 1) Cell Line. Parental Ramos cells (blue) and eGFP/Firefly Luciferase Ramos cells (green) were analyzed by flow cytometry for eGFP expression (A). Luciferase expression was measured using ONE-Step™ Luciferase Assay (BPS Bioscience #60690) (B).

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

References

Benjamin D., et al., 1982 *J Immunol.* 129(3):1336-42.

License Disclosure

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

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 Lentivirus	79692	500 µl x 2
Firefly Luciferase-eGFP Lentivirus	78741	500 µl x 2
eGFP/Firefly Luciferase U-87 MG Cell Line	78904	2 vials
eGFP/ Firefly Luciferase MM.1S Cell Line	78376	2 vials