SZABO SCANDIC

Part of Europa Biosite

Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Description

eGFP/Firefly Luciferase MCF7 Cell Line is a MCF7 human breast mammary gland cell line engineered to express eGFP (enhanced green fluorescence protein) and Firefly luciferase driven by a CMV promoter. This cell line was generated by transduction with Firefly Luciferase-eGFP Lentivirus (#79980-P).

Background

MCF7 is a breast cancer cell line derived from a pleural effusion metastatic site. MCF7 is a hormone receptor positive (HR+) breast cancer cell line that expresses high levels of both estrogen receptor (ER) and progesterone receptor, with low expression of human epidermal growth factor receptor 2 (HER2). This receptor expression pattern renders MCF7 cell line useful as a model to develop hormone receptor targeting therapeutics and as a target-negative cell line for the development of therapeutics against HER2. This cell line constitutively expresses both eGFP and firefly luciferase, making it ideal for both time-course and endpoint cellular assays.

Application

- Use in time-course and endpoint cellular viability assays.
- Use as ER-positive xenograft cell line for fluorescence imaging for bioluminescence imaging.

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

MCF7 cells, human breast mammary gland cell line, epithelial cells, adherent.

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 1	BPS Bioscience #60187
Growth Medium 1R	BPS Bioscience #78180
Human Insulin Recombinant	BPS Bioscience #90202-A

Materials Required for Cellular Assay

Name	Ordering Information
Thaw Medium 1	BPS Bioscience #60187
Human Insulin Recombinant	BPS Bioscience #90202-A
96-well tissue culture-treated white clear-bottom assay plate	
ONE-Step™ Luciferase Assay System	BPS Bioscience #60690
Luminometer	

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

Complete Thaw Medium 1:

Thaw Medium 1 (#60187) + 10 µg/ml of Human Insulin: MEM medium supplemented with 10% FBS, 1% Penicillin/Streptomycin, 1% Non-Essential amino acids, and 1 mM Na Pyruvate + 10 µg/ml of Human Insulin (#90202-A).

Note: A final concentration of 10 µg/ml of Human Insulin (#90202-A) will need to be added to Thaw Medium 1 for cell culture.

Complete Growth Medium 1R:

Growth Medium 1R (#78180) + 10 µg/ml Human Insulin:
MEM medium supplemented with 10% FBS, 1% non-essential amino acids, 1 mM Na pyruvate, 1% Penicillin/Streptomycin, 0.25 µg/ml Puromycin + 10 µg/ml of Human Insulin (#90202-A).

Note: The final concentration of 10 µg/ml of Human Insulin (#90202-A) will need to be added to Thaw Medium 1 for cell culture.

Media Required for Functional Cellular Assay

Complete Thaw Medium 1:
Thaw Medium 1 (#60187) + 10 µg/ml Human Insulin: MEM medium supplemented with 10% FBS, 1% Penicillin/Streptomycin, 1% Non-Essential amino acids, and 1 mM Na Pyruvate + 10 µg/ml of Human Insulin (#90202-A).

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 Complete Thaw Medium 1.

   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 Complete Thaw Medium 1.

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

4. After 24 hours of culture, check for cell attachment and viability. Change medium to fresh Complete Thaw Medium 1, and continue growing in a 5% CO_2 incubator at 37°C until the cells are ready to passage.

5. Cells should be passaged before they are fully confluent. At first passage and subsequent passages, use Complete Growth Medium 1R.

Cell Passage

1. Aspirate the medium, wash the cells with phosphate buffered saline (PBS) without Ca^{2+}/Mg^{2+}, and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.

2. Once the cells have detached, add Complete Growth Medium 1R and transfer to a tube.

3. Spin down cells at 300 x g for 5 minutes, remove the medium and resuspend the cells in Complete Growth Medium 1R. Seed into new culture vessels at the recommended sub-cultivation ratio of 1:2 to 1:8 once or twice per week.

Cell Freezing

1. Aspirate the medium, wash the cells with PBS without Ca^{2+}/Mg^{2+}, and detach the cells from the culture vessel with 0.25% Trypsin/EDTA.

2. Once the cells have detached, add Complete Growth Medium 1R and count the cells.

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

4. 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.

5. 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

A. eGFP/Firefly Luciferase MCF7 Cell Line cell titration curve.

- All conditions should be performed in triplicate.
- The assay should include "Background Control".

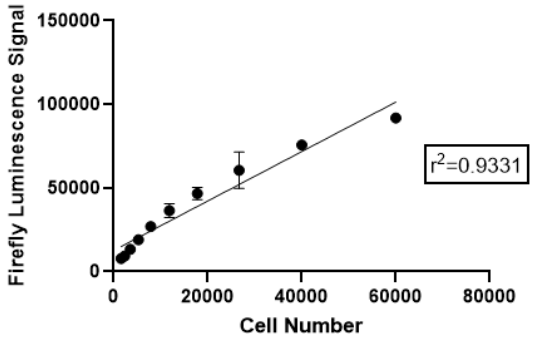
1. Seed eGFP/Firefly Luciferase MCF7 Cells at varying cell densities in 100 µl of Complete Thaw Medium 1 into a white clear-bottom 96-well cell culture plate. For a cell titration curve, we recommend performing a serial dilution at 2:1 cells to media. Leave a few empty wells as "Background Control" wells.

2. Incubate the cells at 37°C with 5% CO_2 for 24 hours.

3. Add 100 µl per well of One-Step Luciferase Assay Working Solution.

4. Incubate with gentle agitation at RT for ~15 to 30 minutes.

5. Measure luminescence using a luminometer.



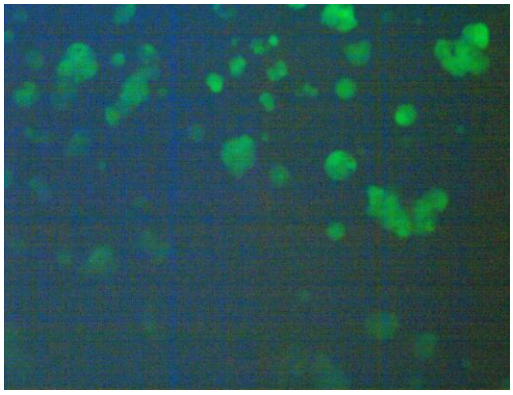


Figure 1: Luciferase activity and eGFP expression in the eGFP/Firefly Luciferase MCF7 Cell Line.
Left Panel: Cells were plated overnight at various densities in a 96-well plate. Luciferase activity in eGFP/Firefly Luciferase MCF7 cells was measured using One Step™ Luciferase Assay System (#60690). Right Panel: Fluorescent image of eGFP/Firefly Luciferase MCF7 cells.

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

References

Horwitz, *et al.,* 1975 *Steroids* 26 (6): 785-795.
Lee, *et al.,* 2015 *J Natl Cancer Inst.* 107 (7): djv073.
Singh, *et al.,* 2016 *J Pharmacokinet Pharmacodyn.* 43(6):567-582.

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	79980-P	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
eGFP/ Firefly Luciferase RS4;11 Cell Line	78926	2 vials
eGFP/Firefly Luciferase K562 Cell Line	78911	2 vials
eGFP/Firefly Luciferase OVCAR3 Cell Line	78953	2 vials

Version 102924