Description

Firefly Luciferase SNU-16 Cell Line is a human gastric carcinoma SNU-16 cell line constitutively expressing the firefly (*Photinus pyralis*) luciferase reporter under the control of a EF1A promoter. This cell line was generated by transduction with Firefly Luciferase Lentivirus (#78740-H).

This cell line has been validated for luciferase activity.

Background

SNU-16 is an epithelial gastric carcinoma cell line isolated from a patient with stomach cancer prior to chemotherapy. It expresses various cytokeratins and CEA (carcinoembryonic antigen) and has an amplification of the c-MET gene. It is widely used in the gastric cancer field as a model to understand pathological mechanisms and test therapeutic modalities. The presence of firefly luciferase allows for easy readouts when performing cellular assays or animal experiments.

Application

- Use as an internal control in co-culture killing assays.
- *In vitro* and *in vivo* Bioluminescence Imaging.

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

SNU-16, human epithelial gastric carcinoma, 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 2S	BPS Bioscience #78430

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(s) 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 2S (BPS Bioscience #78430):
RPMI 1640 medium (ATCC modification) supplemented with 10% FBS, 1% Penicillin/Streptomycin plus 100 µg/ml of Hygromycin B.

Cell Culture Protocol

Note: SNU-16 cells are derived from human material and thus the use of adequate safety precautions is recommended.

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 2.

   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 2.

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

4. After 24 hours of culture, check for cell viability. For a T25 flask, add 3-4 ml of Thaw Medium 2, 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 reach a density of 2 x 10^6 cells/ml. At first passage and subsequent passages, use Growth Medium 2S.

Cell Passage

Dilute the cell suspension into new culture vessels before they reach a density of 2 x 10^6 cells/ml, but no less than 0.2 x 10^6 cells/ml in Growth Medium 2S. The sub-cultivation ratio should maintain the cells 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

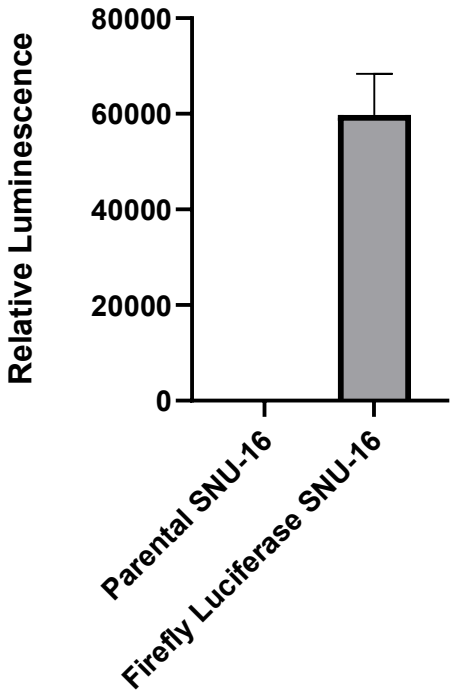

Figure 1. Luciferase activity of the Firefly Luciferase SNU-16 Cell Line.
Firefly Luciferase SNU-16 cells and parental SNU-16 cells were seeded in a 96-well plate at a density of 30,000 cells/well. Luciferase activity was measured using the ONE-Step™ luciferase assay system (#60690).

Data shown is representative.

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 lot-specific information and all other questions, please visit https://bpsbioscience.com/contact.

References
Park J., *et al.*, 1990 *Cancer Res* 50 (9): 2773-80.

Related Products

Products	*Catalog #*	*Size*
Firefly Luciferase K562 Cell Line	78621	2 vials
Firefly Luciferase – RPMI 8226 Recombinant Cell Line	79834	2 vials
Firefly Luciferase Raji Cell Line	78622	2 vials
Firefly Luciferase Molm13 Cell Line	78372	2 vials

Version 022026