Research use only. Not for use in diagnostic procedures.

IVISbrite™ Bioluminescent Tumor Cell Line

It is recommended that this cell line be used in Nude and SCID mouse models. An immune response may occur in Balb/c mice.

IVISbrite[™] 4T1 Red F-luc Bioluminescent Tumor Cell Line

Product Number: BW124087

Material Provided

Cells:

2 x 1 mL frozen aliquots (BW124087V)

Format:

1.0 x 10⁶ cells / mL in 95% FBS, 5% DMSO

| DESIGNATION | 4T1-Red F-luc |
|--------------------------------|---|
| Tissue | Mouse: mammary gland; adenocarcinoma |
| Source of Parental Line | ATCC (CRL-2539) |
| Gene Transfer Vehicle | Red F-luc-Puro 3d generation lentivirus |
| Bioluminescence In Vitro | At least 15,000 photons/cell/sec. Exact number will vary depending on imaging and culturing conditions. |
| Recommended Media and FBS | RPMI 1640 ATCC Cat. No. 30-2001. Supplement the above with 10% Hyclone Fetal Bovine Serum (FBS) GE HealthCare Cat. No. SH30071. |
| Recommended Storage Conditions | Remove frozen cells from dry ice packaging and immediately place cells at a temperature below - 130°C, preferably in liquid nitrogen vapor, until ready to use. |
| Average Doubling Time | 14 hours |
| Other Recommendations | When initially thawing, use T25 flask or 10cm plate. Cells should be ready to expand within 1-4 days. Antibiotics can be used in the media if desired after the initial thaw. (puromycin at 5ug/mL). |
| | Refer to Cell Culture Guidelines for more detailed instructions. |



The Features

Revvity IVISbrite[™] cell line models offer researchers the ability to:

- Monitor early tumor development
- Monitor tumor growth and metastases in vivo
- Quantify tumor burden in the whole animal
- Follow responses to therapeutic treatments non-invasively in longitudinal studies using the same cohorts of mice

Murine Pathogen Free

All Revvity cell lines are confirmed to be pathogen free by the IMPACT Profile I (PCR) at the University of Missouri Research Animal Diagnostic and Investigative Laboratory.

Cell Line Stability

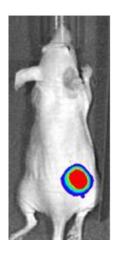
Cell may undergo genotypic changes resulting in reduced responsiveness over time in normal cell culture conditions. Genetic instability is a biological phenomenon that occurs in all stably transfected cells. Therefore, it is recommended to prepare an adequate number of frozen stock at early passages.

Product Warranty

Revvity warrants that cells will be viable upon shipment from Revvity for a period of thirty days, provided they have been properly stored and handled during this period.

Mouse Mammary Gland Cancer Cell Line: 4T1-Red F-luc

4T1-Red F-luc is a luciferase expressing cell line which was stably transfected with firefly luciferase gene from *Luciola Italica* (Red F-luc). The cell line was established by transducing lentivirus containing Red F-luc luciferase gene under the control of human ubiquitin C promoter. These cells will serve as a new tool to detect drug efficacy in vitro and in vivo with high sensitivity in nude and SCID mouse models.



Bioluminescence image of 4T1 Red F-luc subcutaneous tumor



Growth Curve of 4T1-Red F-luc Cells

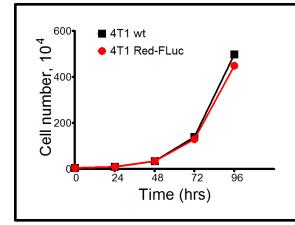


Figure 1. 5×10^4 cells were plated on a 6cm plate. The total numbers of cells were counted every 24 h using a Nexcelom automatic cell counter.

In Vitro BLI Signal Stability

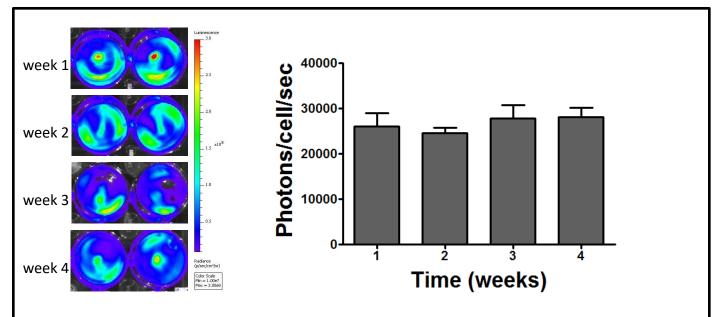


Figure 2. 5 x10⁴ cells were plated per well in 24-well plates. Cells were incubated at 37 °C for recovery overnight and luciferase assay was performed using the Revvity IVIS[®] SpectrumCT. Each experiment was done in quadruplicates. The cells were maintained in continuous culture over four weeks and weekly luciferase assay was performed. Bioluminescence data was analyzed using the Living Image 4.0 software.



Subcutaneous Tumor Growth in a Nu/nu Mouse

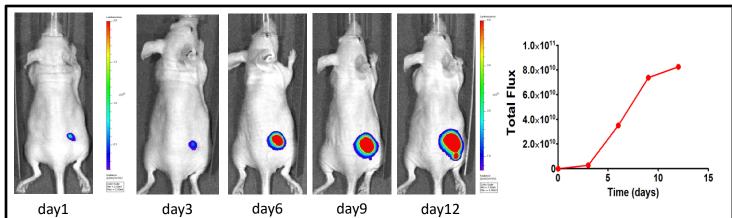


Figure 3. 1 x 10⁶ 4T1-Red F-luc cells were injected subcutaneously into the dorsal region near the thigh of female nu/nu mouse. Tumor growth was monitored for luciferase expression using the Revvity IVIS[®] Spectrum at various time points. Mice were imaged 10 minutes post i.p. injection of luciferin at 150mg/kg at various time points. The image above shows tumor growth from a representative mouse.

Tumor Growth Comparison Between Wild Type and Red F-luc Cells

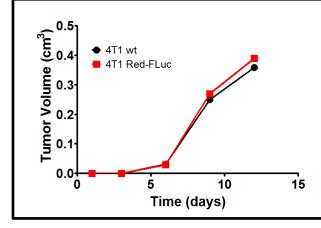


Figure 4. 1 x 10⁶ 4T1-Red F-luc and 4T1 parental cells were injected subcutaneously into the dorsal region near the thigh of a female nu/nu mouse. Tumor growth was monitored by caliper measurements at various time points. Similar tumor growth rate was observed for both parental and Red F-luc transduced cell lines.

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