IVISbrite™ K562 Red F-luc Bioluminescent Tumor Cell Line

Product Number: BW124735

Material Provided

Cells: 2 x 1 mL frozen aliquots (BW124735V)

Format: 1.0 x 10^6 cells / mL in 95% FBS, 5% DMSO

DESIGNATION	K562 Red F-luc
Tissue	Human: Chronic Myelogenous Leukemia (CML)
Source of Parental Line	ATCC (CCL-243)
Gene Transfer Vehicle	Red F-luc-Puro 3d generation lentivirus
Bioluminescence In Vitro	At least 4,000 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.
Culture Properties	Suspension cells*; viability cannot be determined solely by cell attachment. Refer to Cell Culture Guidelines for more detailed instructions.
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	15 hours
Other Recommendations	When initially thawing, use T25 flask or 10cm plate. Cells should be ready to expand within 1-4 days. When plate is full, simply collect and dilute cells 1:3-1:7 with fresh warm media and re-plate them without using trypsin in a larger vessel. Antibiotics can be used in the media if desired after the initial thaw. (puromycin at 2ug/mL). Refer to Cell Culture Guidelines for more detailed instructions.

* *Please refer to Morphology on page 2 of this document.*

revvity

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

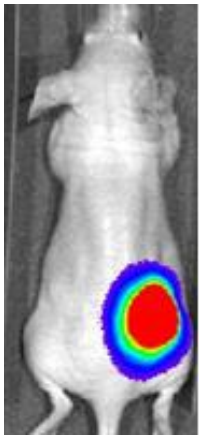
Cell may undergo genotypic changes resulting in reduced responsiveness over time in normal cell culture conditions. Genetic instability is a biological phenomenon that occurs in all stably transfected cells. Therefore, it is recommended to prepare an adequate number of frozen stock at early passages.

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.

Human Chronic Myelogenous Leukemia (CML) Cell Line: K562 Red F-luc

K562 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 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.



Bioluminescence image of K562 Red F-luc subcutaneous tumor

Morphology

K562 Red F-luc is a suspension cell line. Cells will normally appear as rounded and fully suspended, therefore viability cannot be determined based on cell attachment. Refer to Cell Culture Guidelines for more detailed instructions.

Growth Curve of K562 Red F-luc Cells

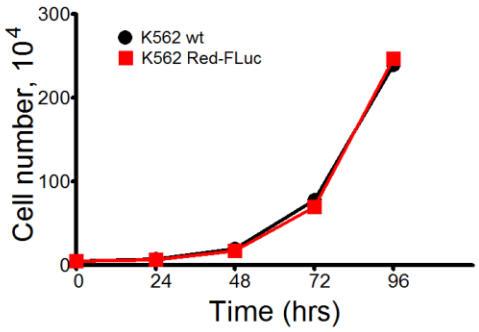
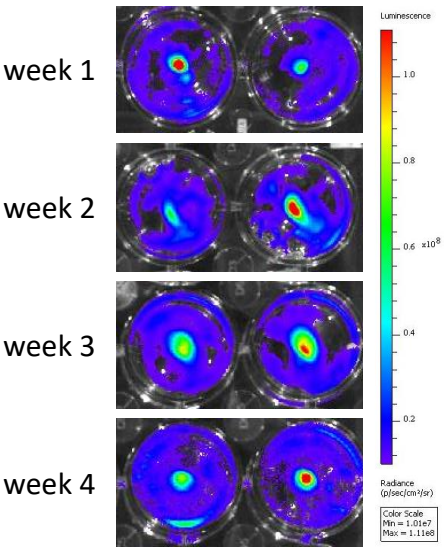


Figure 1. 5 x10^4 cells were plated on a 6cm plate. The total numbers of cells were counted every 24 h using a Nexcelom automatic cell counter.

In Vitro BLI Signal Stability



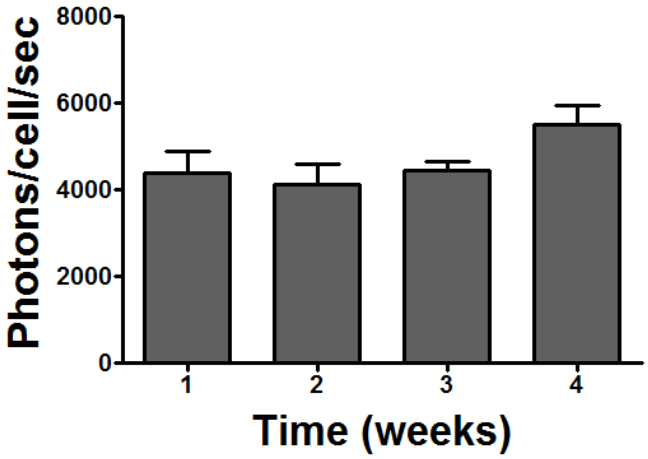


Figure 2. 5 x10^4 cells were plated per well in 24-well plates. Cells were incubated at 37 °C for recovery overnight and luciferase assay was performed using the Revvity IVIS® SpectrumCT. Each experiment was done in quadruplicates. The cells were maintained in continuous culture over four weeks and weekly luciferase assay was performed. Bioluminescence data was analyzed using the Living Image 4.0 software.

Subcutaneous Tumor Growth in a Nu/nu Mouse

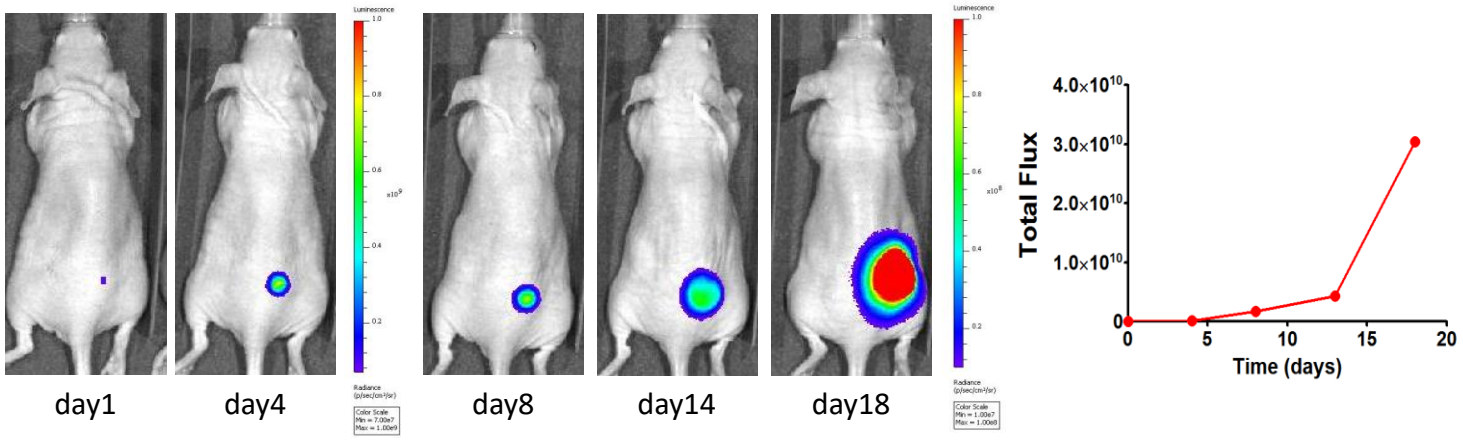


Figure 3. 1 x 10^6 K562 Red F-luc cells were injected subcutaneously into the dorsal region near the thigh of female nu/nu mouse. Tumor growth was monitored for luciferase expression using the Revvity IVIS® Spectrum at various time points. Mice were imaged 10 minutes post i.p. injection of luciferin 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

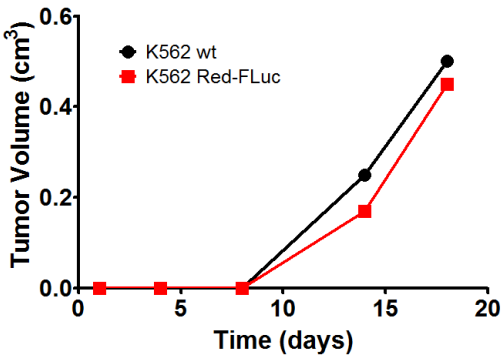


Figure 4. 1 x 10^6 K562 Red F-luc and K562 parental cells were injected subcutaneously into the dorsal region near the thigh of female nu/nu mouse. Tumor growth was monitored by caliper measurements at various time points. Similar tumor growth rate was observed for both parental and Red F-luc transduced cell lines.

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