

## Technical Data Sheet: 4T1-GFP-Luc2

ATCC <sup>®</sup> Number	CRL-2539-GFP-LUC2™
Organism	Mus musculus
Tissue/Disease Source	Mammary Tumor
Product Description	<ul> <li>This luciferase expressing cell line was derived from 4T1 cell line by transduction with a dual reporter lentiviral vector encoding both Green fluorescent protein (GFP) and firefly luciferase gene (luc2) and subsequently through single cell cloning.</li> <li>Luciferase Signal noise ratio: ≥ 1,000</li> <li>Confirmed to be murine pathogen free</li> </ul>
Application	Excellent signal/background ratio and stable GFP and Luciferase expression make this cell line ideal for in vitro fluorescence and bioluminescence in cell-based assays for cancer research.

## In vitro Fluorescent Imaging



**Figure 1. GFP expression in 4T1-GFP-Luc2 cells is stable after 30 population doublings.** GFP expression was detected by flow cytometry (red) using 10,000 cells per sample for 4T1 cells after (A) thawing from a frozen stock, (B) 15 population doublings, or (C) 30 population doublings. 4T1 parental cells (blue) were used as a negative control.

## Cell Morphology and GFP Expression



Doubling time = 16 hours

(CRL-2539-GFP-LUC2™)

4T1-GFP-Luc2



**Figure 2. Cell morphology and GFP expression of 4T1 parental and 4T1-GFP-Luc2.** Cells were maintained in ATCC recommended culture conditions. Cell morphology and GFP expression were observed under microscopy and images were captured by digital camera. Scale bars, 100 µm.



**Figure 3. Luciferase-expressing reporter cells demonstrate linear and stable signal in in vitro bioluminescence studies**. 4T1-GFP-Luc2 cells were seeded on the previous day in a 96-well plate in triplicates. Commercially available luciferase substrate (Promega) was added to the cells and luminescence was read using a plate reader within 10 minutes. (A) 80, 400, 2,000, or 10,000 cells were used for the luminescence assay to observe the linear correlation of luminescence signal and cell numbers. (B) The luminescence assay was repeated after an additional 15 PDL and 30 PDL.

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## Luciferase Expression