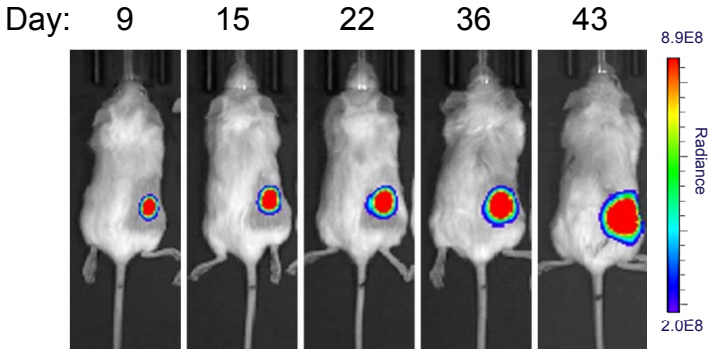
ATCC® | Credible leads to Incredible™

Technical Data Sheet: EML4-ALK Fusion-A549 Isogenic-Luc2

ATCC® Number	CCL-185IG-LUC2™
Organism	*Homo sapiens*
Tissue/Disease Source	Lung Carcinoma
Product Description	This luciferase expressing cell line was derived from EML4-ALK Fusion-A549 Isogenic line by transduction with lentiviral vector encoding firefly luciferase gene (luc2) and subsequently through single cell cloning • Signal noise ratio: ≥ 1,000 • Bioluminescence: ≥ 500,000 photons/cell/sec (subject to imaging and culture condition) • Confirmed to be murine pathogen free
Application	EML4-ALK positive lung cancer model. Excellent signal/background ratio and stable Luciferase expression make this cell line ideal for in vivo bioluminescence imaging of xenograft animal model to study human lung cancer and monitor activity of anti-cancer drug. It also can be used in cell-based assays for cancer research.

In vivo Bioluminescent Imaging



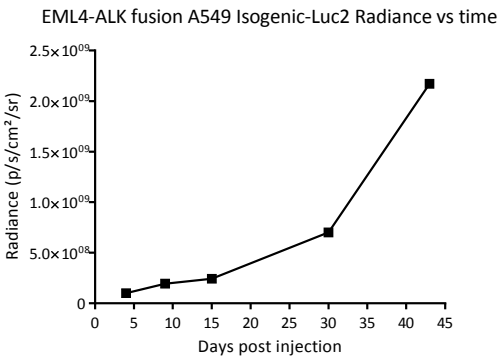
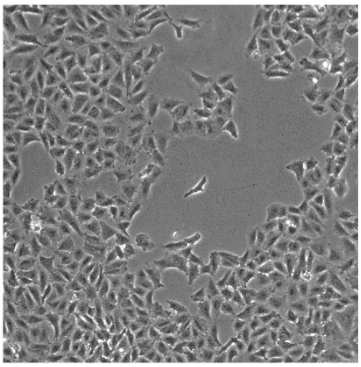


Figure 1: *In vivo* detection of luciferase activity of EML4-ALK Fusion-A549 Isogenic-Luc2. EML4-ALK Fusion-A549 Isogenic-Luc2 cells ($3x10^6$) were injected subcutaneously into the dorsal region near the thigh of female NSG mice. Tumor growth was monitored weekly using a Xenogen IVIS Spectrum. *In vivo* bioluminescence imaging demonstrated the progression of tumors.

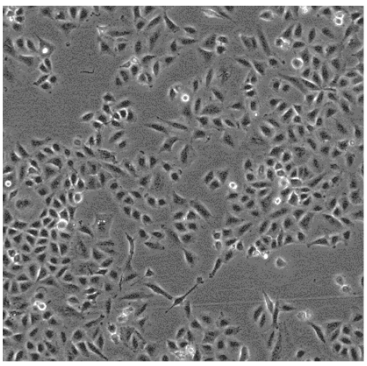
Cell Morphology

EML4-ALK Fusion-A549
Isogenic
(CCL-185IG™)



Doubling time = 21.1 hours

EML4-ALK Fusion-A549
Isogenic-Luc2
(CCL-185IG-LUC2™)



Doubling time = 22.8 hours

Figure 2: Cell morphology of EML4-ALK Fusion-A549 Isogenic parental and EML4-ALK Fusion-A549 Isogenic-Luc2. Cells were maintained in ATCC recommended culture conditions. Cell morphology was observed under microscopy and images were captured by digital camera.

Luciferase Expression

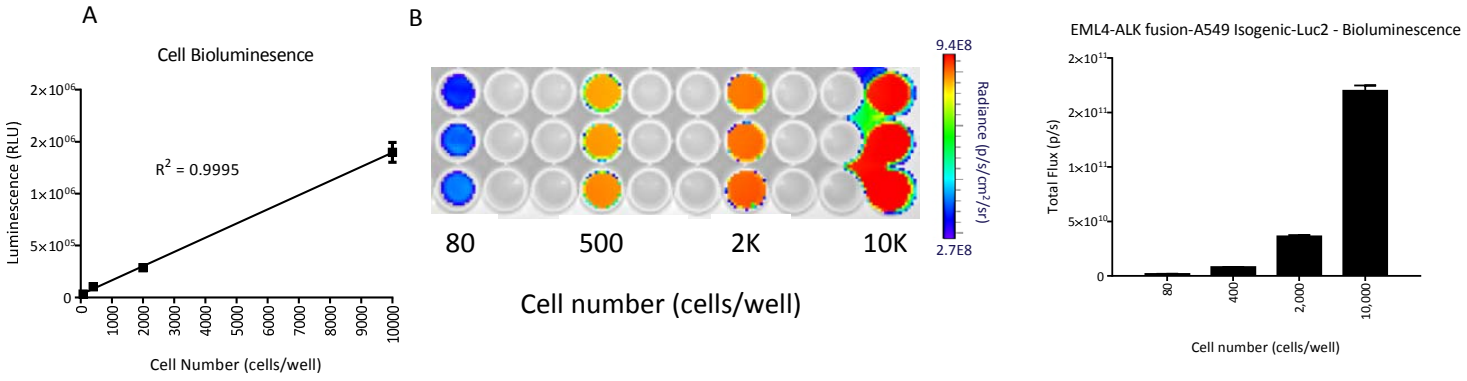


Figure 3: Linearity of luminescence and of in vitro quantification of luciferase activity of EML4-ALK Fusion-A549 Isogenic-Luc2. Cells were seeded in a 96-well plate at indicated cell numbers per well, and Bright-Glo (Promega) was added to the indicated wells. The luminescence of the plate was read within 10 minutes using a luminescence plate reader (A) and determined to have a linear correlation of bioluminescence intensity with cell numbers. (B) The plate was imaged using a Xenogen IVIS Spectrum to quantify photons emitted per cell.