

MDA-MB-231/Luc Cell Line

CATALOG NUMBER: AKR-231

STORAGE: Liquid nitrogen

Note: For best results begin culture of cells immediately upon receipt. If this is not possible, store at -80°C until first culture. Store subsequent cultured cells long term in liquid nitrogen.

QUANTITY & CONCENTRATION: 1 mL, 1×10^6 cells/mL in 70% DMEM, 20% FBS, 10% DMSO

Background

The MDA-MB-231 breast cancer cell line was obtained from a patient in 1973 at M. D. Anderson Cancer Center. With epithelial-like morphology, the MDA-MB-231 breast cancer cells appear phenotypically as spindle shaped cells. *In vitro*, the MDA-MB-231 cell line has an invasive phenotype. It has abundant activity in both the Boyden chamber chemoinvasion and chemotaxis assay. The MDA-MB-231 cell line is also able to grow on agarose, an indicator of transformation and tumorigenicity, and displays a relatively high colony forming efficiency. *In vivo*, the MDA-MB-231 cells form mammary fat pad tumors in nude mice. IV injection of cells into the tail vein of nude mice has been shown to produce experimental metastasis. Our MDA-MB-231/Luc cell line stably expresses firefly luciferase gene and Neomycin resistant gene.

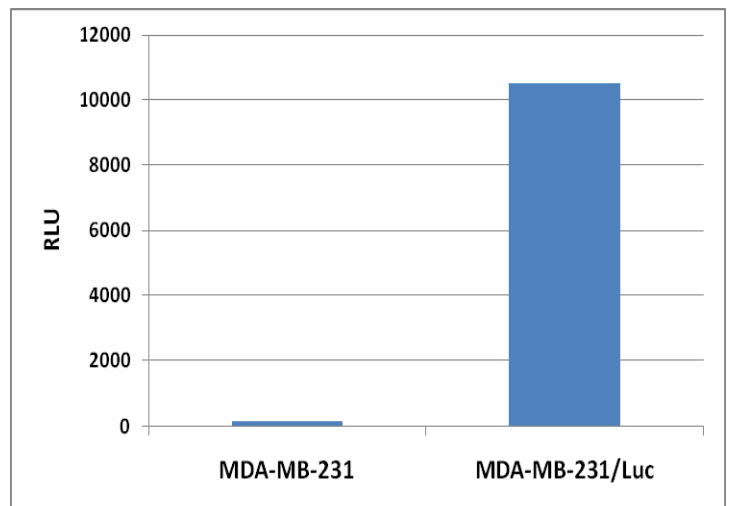
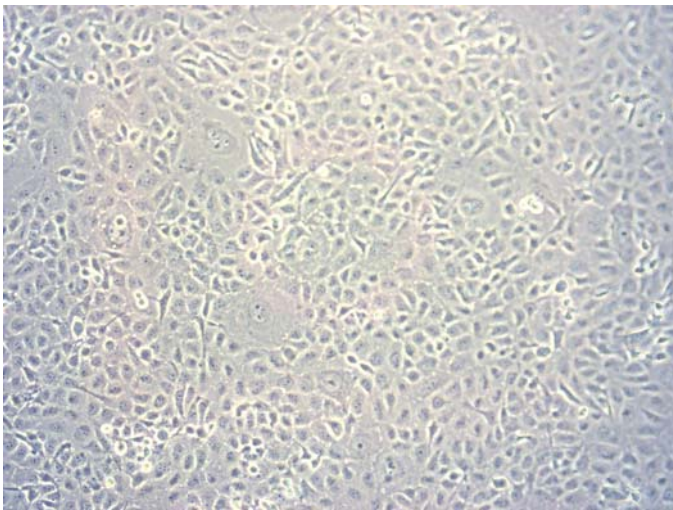


Figure 1. MDA-MB-231/Luc Cell Line. Left: Phase Contrast; Right: Luciferase Activity Assay.

Quality Control

This cryovial contains at least 1.0×10^6 MDA-MB-231/Luc cells as determined by morphology, trypan-blue dye exclusion, and viable cell count. The MDA-MB-231/Luc cells are tested free of microbial contamination.

Medium

1. Culture Medium: D-MEM (high glucose), 10% fetal bovine serum (FBS), 0.1 mM MEM Non-Essential Amino Acids (NEAA), 2 mM L-glutamine, 1% Pen-Strep.
2. Freeze Medium: 70% DMEM, 20% FBS, 10% DMSO.

Methods

Establishing MDA-MB-231/Luc Cultures from Frozen Cells

1. Place 10 mL of complete DMEM growth medium in a 50-mL conical tube. Thaw the frozen cryovial of cells within 1–2 minutes by gentle agitation in a 37°C water bath. Decontaminate the cryovial by wiping the surface of the vial with 70% (v/v) ethanol.
2. Transfer the thawed cell suspension to the conical tube containing 10 ml of growth medium.
3. Collect the cells by centrifugation at 1000 rpm for 5 minutes at room temperature. Remove the growth medium by aspiration.
4. Resuspend the cells in the conical tube in 15 mL of fresh growth medium by gently pipetting up and down.
5. Transfer the 15 mL of cell suspension to a T-75 tissue culture flask. Place the cells in a 37°C incubator at 5% CO₂.
6. Monitor cell density daily. Cells should be passaged when the culture reaches 95% confluence.

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