

PY8119-GFP | 305857

General information

Description

PY8119-GFP cells are a fluorescently labeled derivative of the murine PY8119 breast cancer cell line, which originates from a spontaneous mammary tumor in a mouse model. The parental PY8119 line is commonly associated with genetically engineered mouse models of breast cancer and is used to study tumor progression, immune interactions, and therapeutic responses in a syngeneic context. Stable expression of green fluorescent protein (GFP) enables direct visualization of tumor cell behavior, facilitating real-time tracking of proliferation, migration, and cellular interactions both in vitro and in vivo.

The GFP modification makes PY8119-GFP cells particularly well suited for applications such as live-cell imaging, intravital microscopy, and metastasis studies in immunocompetent mouse models. These cells retain key characteristics of the parental line, including aggressive growth and the ability to form tumors when implanted into syngeneic hosts. As a result, PY8119-GFP cells are widely used to investigate tumor-immune system dynamics, evaluate anti-cancer therapies, and study mechanisms of invasion and dissemination. However, as with all fluorescently modified lines, careful validation is recommended to ensure that GFP expression does not alter baseline cellular behavior.

Organism

Mouse

Tissue

Mammary gland

Disease

Malignant neoplasms of the mouse mammary gland

Synonyms

P years8119

Characteristics

Age

Adult

Gender

Female

Morphology

Epithelial-like

Cell type

Mesenchymal-like cell

Growth properties

Adherent

Regulatory Data

Citation

PY8119-GFP (Cytion catalog number 305857)

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Biosafety level 1

NCBI_TaxID 10090

Biomolecular Data

Protein expression GFP

Handling

Culture Medium DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO₃, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

Supplements Supplement the medium with 10% FBS

Seeding density 1.5-4 X 10⁴ cells/cm²

Fluid renewal 2 to 3 times per week

Freeze medium As a cryopreservation medium, we use complete growth medium + 10% DMSO for adequate post-thaw viability.

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Thawing and Culturing Cells

1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
2. Upon receipt, either store the cryovial immediately at temperatures below -150°C to ensure the preservation of cellular integrity, or proceed to step 3 if immediate culturing is required.
3. For immediate culturing, swiftly thaw the vial by immersing it in a 37°C water bath with clean water and an antimicrobial agent, agitating gently for 40-60 seconds until a small ice clump remains.
4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
5. Carefully open the disinfected vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of room-temperature culture medium, mixing gently.
6. Centrifuge the mixture at 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
7. Follow the procedure described under Post-Thaw Recovery

Incubation Atmosphere

37°C, 5% CO₂, humidified atmosphere.

Shipping Conditions

Cryopreserved cell lines are shipped on dry ice in validated, insulated packaging with sufficient refrigerant to maintain approximately -78 °C throughout transit. On receipt, inspect the container immediately and transfer vials without delay to appropriate storage.

Storage Conditions

For long-term preservation, place vials in vapor-phase liquid nitrogen at about -150 to -196 °C. Storage at -80 °C is acceptable only as a short interim step before transfer to liquid nitrogen.

Quality Control & Molecular Analysis