Py230

305619

ALGEMENE INFORMATIE

Beschrijving

The Py230 cell line is a murine mammary tumor cell line derived from the MMTV-PyMT (mouse mammary tumor virus-polyoma middle T antigen) transgenic mouse model. Py230 cells are notable for their origin from spontaneous mammary tumors and are used extensively in breast cancer research to investigate tumor progression, angiogenesis, and the role of the tumor microenvironment. These cells are characterized by a moderately differentiated phenotype and relatively slow growth compared to other cell lines derived from the same model, such as Py8119. Importantly, Py230 cells are negative for estrogen receptor and progesterone receptor expression but exhibit low levels of HER2, a marker relevant to human breast cancer subtypes.
One of the defining features of the Py230 cell line is its utility in studies focusing on tumor-stromal interactions and vascular development. In a study examining the role of the NG2 proteoglycan in mammary tumor progression, Py230 was employed as an orthotopic allograft model to evaluate the effects of pericyte-endothelial interactions on vascular function. Py230 tumors were found to have delayed growth when transplanted into NG2-deficient mice, highlighting the importance of stromal components, such as pericytes, in tumor angiogenesis. Specifically, vessels associated with Py230 tumors in NG2-null hosts exhibited structural and functional deficits, including reduced pericyte coverage, impaired vascular basement membrane assembly, and increased vessel leakiness, leading to tumor hypoxia.

Weefsel	Mammary gland, Breast
Ziekte	Adenocarcinoma

Toepassingen

3D cell culture

CLASSIFICATIE

Organisme	Muis
Seks	Vrouw
Groei-eigenschappen	Aanhanger
GGO-status	GMO-S1

Details over de GGO-status

GMO-S1: This murine mammary carcinoma cell line (Py230) contains a polyomavirus middle T antigen (PyMT) transgene driven by the MMTV promoter, supporting tumorigenic transformation. The construct is stably present in mouse mammary tumor-derived cells. This classification applies only within Germany and may differ elsewhere.

Bioveiligheidsniveau	1

KENMERKEN

Morfologie	Epithelial-like
Celtype	Epithelial cell

IDENTIFICATIEGEGEVENS

Bronvermelding

Py230 (Cytion catalog number 305619)

NCBI-belastingnummer	10090
Cellosaurus	CVCL_AQ08

EXPRESSIE EN VATBAARHEID

Antigeenexpressie

E-cadherin+ (PubMed: 24368187), cytokeratin 8+, cytokeratin 14+

BEHANDELING EN KWEEK

Kweekmedium

Hams F12K

Incubatieomgeving	37°C, 5% CO_2, humidified atmosphere.

Supplementen

Supplement the medium with 5% FBS and 0,1% MITO+ Serum Extender

Dissociatiereagens	Accutase

Heruitplanten

These cells will differentiate if maintained at low density.
-> It is recommended to make clones from early passages. Subclone by plating into ultra-low adhesion plates at low density for 2 days. Lightly trypsinize cells and pick single cells, place into wells of 96-well plate with 150µL complete medium. Leave in incubator for 2 weeks. Check for colony growth. Keep only colonies that grow and form domes.

Zaaidichtheid	2-4*10^4 cells/cm²
Vloeistofverversing	Daily

Ontdooien en kweken

Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit.
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.
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.
Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening.
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.
Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
Gently resuspend the cell pellet in 10 ml of fresh culture medium. For adherent cells, divide the suspension between two T25 culture flasks; for suspension cultures, transfer all the medium into one T25 flask to promote effective cell interaction and growth.
Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

KWALITEITSCONTROLE EN CRYOPRESERVATIE

Onvruchtbaarheid

Mycoplasma contamination is excluded using both PCR-based assays and luminescence-based mycoplasma detection methods.
To ensure there is no bacterial, fungal, or yeast contamination, cell cultures are subjected to daily visual inspections.

Kweekmedium invriezen	As a cryopreservation medium, we recommend CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

Opslagvoorwaarden

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.

Verzendvoorwaarden

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.

DONATEUR

Soort / ondersoort	C57BL/6 MMTV-PyMT transgenic
Leeftijd van de donor	Adult

JURIDISCHE EN VEILIGHEIDSASPECTEN

Veiligheidsmaatregelen

When planning to store a cryovial in liquid nitrogen for future thawing, it is mandatory to adhere to stringent safety measures. Appropriate protective gloves and clothing are essential, and the use of a face mask or safety goggles is required during the transfer of frozen samples to or from the liquid nitrogen tank. This is to mitigate the risk of injury from potential cryovial explosions upon removal, which can result in the projection of sharp fragments.

Garantie

At Cytion, we stand behind the quality and viability of our products.
We guarantee that our cells will be viable at the start of culture for
60 days after shipment from our facilities.
We assure that all materials conform to the specifications described in the
Certificate of Analysis and/or Product Sheet.
For full details, please refer to our
Warranty Statement.

Er is een overeenkomst inzake materiaaloverdracht vereist	Yes

PRODUCTGEGEVENS

Overzichtstabel