SW620-GFP

305708

GENERAL INFORMATION

Description

SW620-GFP cells are a fluorescently labeled variant of the human colorectal adenocarcinoma cell line SW620, which was originally derived from a metastatic lesion in a lymph node of an adult patient. These cells have been engineered to stably express green fluorescent protein (GFP), enabling direct visualization of cellular morphology, proliferation, and migratory behavior in real time using fluorescence-based imaging techniques. The parental SW620 line is characterized by its metastatic origin and exhibits features associated with advanced colorectal cancer, including enhanced motility, invasive capacity, and altered cell adhesion properties.
The expression of GFP in SW620-GFP cells facilitates applications such as live-cell tracking, invasion assays, and in vivo imaging in xenograft models, where tumor growth and dissemination can be monitored non-invasively. These cells retain key molecular characteristics of the parental line, including mutations commonly associated with colorectal cancer progression and dysregulation of signaling pathways such as Wnt/β-catenin and MAPK. As a result, SW620-GFP cells are a valuable tool for studying mechanisms of metastasis, tumor microenvironment interactions, and the evaluation of anti-cancer therapeutics targeting advanced-stage colorectal carcinoma.
Genetic modification: Stably modified by replication-incompetent lentiviral transduction to express the ZsGreen1 green fluorescent protein reporter; maintained as a polyclonal population under puromycin selection (1–5 µg/mL). S1/BSL-1 containment.

Tissue	Metastatic
Disease	Colon adenocarcinoma
Metastatic site	Lymph node

Synonyms

- SW620
- SW 620
- SW.620

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Suspension
GMO status	GMO-S1

GMO status details

GMO-S1: This cell line contains a stably integrated ZsGreen1 green fluorescent protein reporter introduced via replication-incompetent lentiviral transduction. The resulting polyclonal cell population was maintained under puromycin selection (1–5 µg/mL). S1 containment is required. This classification applies only within Germany and may differ elsewhere.

Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Tumourigenic	Yes, in athymic nude mice

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IDENTIFIERS

Citation

SW620-GFP (Cytion catalog number 305708)

NCBI TaxID	9606
Cellosaurus	CVCL_A9MJ

EXPRESSION AND SUSCEPTIBILITY

Antigen expression

ZsGreen1 (green fluorescent protein)

Mutational profile

Mutation: p.Gln1338Ter, Homozygous; Mutation: p.Gly12Val, Homozygous; Mutation: p.Arg273His, Heterozygous; Mutation: p.Pro309Ser, Heterozygous

HANDLING AND CULTURE

Culture medium

DMEM

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

Thawing and culturing

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 200 x g for 5 minutes, carefully discard the supernatant containing freezing medium.
Follow the procedure described under Post-Thaw Recovery

QUALITY CONTROL AND CRYOPRESERVATION

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

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.

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.

DONOR

Donor age	51 years
Ethnicity	Caucasian

LEGAL AND SAFETY

Safety precautions

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.

Warranty

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.

Material Transfer Agreement required	Yes

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