Product sheet

SW620-GFP Cells | 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.
Organism	Human
Tissue	Metastatic
Disease	Colon adenocarcinoma
Metastatic site	Lymph node
Synonyms	SW620, SW 620, SW.620

Characteristics

Age	51 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Suspension

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Regulatory Data

Citation	SW620-GFP (Cytion catalog number 305708)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_A9MJ
GMO Status	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.

Biomolecular Data

Antigen expression	ZsGreen1 (green fluorescent protein)
Tumorigenic	Yes, in athymic nude mice
Mutational profile	Mutation: p.Gln1338Ter, Homozygous; Mutation: p.Gly12Val, Homozygous; Mutation: p.Arg273His, Heterozygous; Mutation: p.Pro309Ser, Heterozygous

Handling

Culture Medium	DMEM
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% CO_2, 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