Product sheet

EFO-27 Cells | 305769

General information

Description	The EFO-27 cell line is a human ovarian carcinoma model derived from a moderately differentiated serous papillary adenocarcinoma. It was established from a solid omental metastasis in a patient with advanced-stage ovarian cancer. EFO-27 is part of a series of ovarian tumor-derived cell lines developed to explore the hormonal regulation of ovarian cancer cell proliferation. In early passages, EFO-27 was reported to be aneuploid, with a modal chromosome number exceeding 100, indicating a high degree of chromosomal instability, a common feature of high-grade serous ovarian carcinomas. EFO-27 cells display an epithelioid morphology in vitro and have been shown to form dome-like multicellular structures in monolayer culture, a phenotype sometimes associated with active ion transport and tight junction formation. In serum-free media, the proliferation of EFO-27 was stimulated by gonadotropic hormones, specifically human chorionic gonadotropin (hCG) and follicle-stimulating hormone (FSH), suggesting that the cells retain functional hormone receptor signaling pathways. This responsiveness highlights the potential role of gonadotropin signaling in promoting tumor growth and progression in ovarian carcinoma and supports EFO-27 as a relevant model for studying hormone-driven mechanisms in ovarian cancer biology. EFO-27 has also been included in major multi-omics datasets, such as the Cancer Cell Line Encyclopedia (CCLE) and COSMIC, where its genomic profile contributes to drug sensitivity mapping and tumor subtype classification. These datasets provide additional layers of information, including gene expression, copy number alterations, and mutational landscape, positioning EFO-27 as a well-characterized resource for preclinical research in ovarian cancer.
Organism	Human
Tissue	Metastatic
Disease	Ovarian mucinous adenocarcinoma
Metastatic site	Omentum
Synonyms	EFO 27, EFO27

Characteristics

Age	36 years
Gender	Female
Ethnicity	Caucasian
Cell type	Epithelioid cells growing adherently as monolayer

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Growth properties	Adherent

Regulatory Data

Citation	EFO-27 (Cytion catalog number 305769)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_1192

Biomolecular Data

Mutational profile	Mutation: PTEN, Simple, p.Lys267Argfs*9 (c.800delA) (p.Leu265fs, c.795delA), Heterozygous (Cosmic-CLP=906852), TP53, Simple, p.Arg273Cys (c.817C>T), Heterozygous (Cosmic-CLP=906852)

Handling

Culture Medium	RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)
Supplements	Supplement the medium with 20% FBS, additional 2.0 mM L-Glutamine, 1% NEAA, 1 mM sodium pyruvate
Dissociation Reagent	Accutase
Doubling time	29 hours
Seeding density	1 to 3 x 10^4 cells/cm2
Fluid renewal	2 to 3 times per week
Freeze medium	As a cryopreservation medium, we use complete growth medium (including FBS) + 10% DMSO for adequate post-thaw viability, or CM-1 (Cytion catalog number 800100), which includes optimized osmoprotectants and metabolic stabilizers to enhance recovery and reduce cryo-induced stress.

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 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium.
7. 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.
8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.

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

Sterility	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.