EFO-27

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.

Tissue	Metastatic
Disease	Ovarian mucinous adenocarcinoma
Metastatic site	Omentum

Synonyms

- EFO 27
- EFO27

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Cell type	Epithelioid cells growing adherently as monolayer
Doubling time	29 hours

IDENTIFIERS

Citation

EFO-27 (Cytion catalog number 305769)

NCBI TaxID	9606

Cellosaurus	CVCL_1192

EXPRESSION AND SUSCEPTIBILITY

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 AND CULTURE

Culture medium

RPMI 1640, w: 2.0 mM stable Glutamine, w: 2.0 g/L NaHCO3 (Cytion article number 820700a)

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

Supplements

Supplement the medium with 20% FBS, additional 2.0 mM L-Glutamine, 1% NEAA, 1 mM sodium pyruvate

Dissociation reagent	Accutase
Seeding density	1 to 3 x 10^4 cells/cm2
Fluid renewal	2 to 3 times per week

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 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.

QUALITY CONTROL AND CRYOPRESERVATION

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.

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.

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	36 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.

Disclaimer

Our cells are provided for in vitro laboratory research purposes exclusively and are not intended for clinical or diagnostic use, nor are they to be administered to humans or used for veterinary purposes. Users must adhere to all applicable guidelines and regulations for the handling and use of these cells in a research setting.

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