OE19

305441

GENERAL INFORMATION

Description

OE19 is a human oesophageal adenocarcinoma cell line derived from the primary tumor of a patient with Barrett's oesophagus-associated adenocarcinoma. This cell line is widely utilized in research focused on oesophageal cancers, particularly for investigating tumorigenesis in the context of Barrett's oesophagus progression. OE19 serves as a model to study the molecular mechanisms underlying adenocarcinoma development, therapeutic responses, and resistance mechanisms in upper gastrointestinal malignancies.
OE19 cells exhibit an epithelial morphology and adhere under standard culture conditions. They are characterized by genomic alterations and molecular features typical of oesophageal adenocarcinoma, including overexpression of HER2/neu (ERBB2), a hallmark of aggressive tumor behavior and a clinically significant target for therapy. This makes OE19 particularly relevant for testing HER2-targeted therapies, such as monoclonal antibodies and tyrosine kinase inhibitors. Additionally, OE19 cells are used to explore signaling pathways critical to cancer progression, including MAPK/ERK and PI3K/AKT pathways, as well as mechanisms of immune evasion and interaction with the tumor microenvironment.
In preclinical studies, OE19 is valuable for evaluating chemotherapeutic agents, targeted therapies, and novel combinations aimed at overcoming drug resistance. The cell line is also employed in xenograft models to assess tumor growth and therapeutic efficacy in vivo. Its molecular profile and relevance to Barrett's oesophagus-related adenocarcinoma make OE19 a significant resource for advancing the understanding and treatment of this challenging malignancy.

Tissue	Esophagus
Disease	Adenocarcinoma

Synonyms

- OE-19
- JROECL 19
- JROECL19
- OEC19

CLASSIFICATION

Organism	Human
Sex	Male
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like
Doubling time	50-60 hours

IDENTIFIERS

Citation

OE19 (Cytion catalog number 305441)

NCBI TaxID	9606

Cellosaurus	CVCL_1622

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: TP53, Simple, p.Asn310Lysfs*27 (c.929dup) (c.929_930ins1), Heterozygous

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 10% FBS

Dissociation reagent	Accutase 10 min 37°C
Seeding density	2 to 5 x 10^4 cells/cm^2

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	72 years

Ethnicity	European

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