OE33

305458

GENERAL INFORMATION

Description

OE33 is a human oesophageal adenocarcinoma cell line derived from a primary tumor associated with Barrett's oesophagus. This cell line is extensively used in research to explore the molecular biology and therapeutic responses of oesophageal adenocarcinoma, particularly in the context of Barrett's oesophagus progression. OE33 provides a relevant model for understanding the pathogenesis of this cancer, which has been increasing in incidence and is associated with poor prognosis in advanced stages.
OE33 cells display epithelial morphology and grow adherently under standard culture conditions. The cell line is characterized by molecular features typical of oesophageal adenocarcinoma, including mutations and dysregulated pathways involved in tumorigenesis, such as p53 and HER2/neu signaling. OE33 is particularly useful for investigating cellular responses to therapeutic interventions targeting HER2/neu and other pathways implicated in cancer progression and resistance. This cell line also serves as a tool for studying the interactions between tumor cells and their microenvironment, as well as mechanisms of metastasis and immune evasion.
In preclinical research, OE33 is widely employed in drug screening to evaluate the efficacy of chemotherapy, targeted therapies, and novel treatment combinations aimed at improving outcomes for oesophageal adenocarcinoma. Additionally, the cell line is used in xenograft models to assess tumorigenicity and therapeutic responses in vivo. OE33's clinical relevance and molecular characteristics make it an invaluable resource for advancing our understanding of oesophageal adenocarcinoma and developing effective treatments for this aggressive disease.

Tissue	Esophagus
Disease	Adenocarcinoma

Synonyms

- OE-33
- JROECL 33
- JROECL33
- OEC33

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Epithelial-like

IDENTIFIERS

Citation

OE33 (Cytion catalog number 305458)

NCBI TaxID	9606
Cellosaurus	CVCL_0471

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EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: TP53, Simple, p.Cys135Tyr (c.404G>A), Unspecified

Viruses

EBV -, HBV -, HCV -, HIV-1 -, HIV-2 -, HPV -, HTLV-I/-II -, MLV -

HANDLING AND CULTURE

Culture medium

RPMI 1640, w: 2.1 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	The 1:1 mixture of EDTA (stock. 0.05%) and trypsin (stock: 0.1%) must be prepared each time ahead of detaching the cells using PBS without Ca2+ and Mg2+ to provide a physiologic osmolarity. Ready-to-use mixtures of trypsin/EDTA are not recommended, as this may result in cell clumps. As an alternative, TrypLE Express (Life Technologies) instead of trypsin/EDTA can be used. The protocol of the manufacturer should be followed.

Subculturing

Remove the old medium from the adherent cells and wash them with PBS that lacks calcium and magnesium. For T25 flasks, use 3-5 ml of PBS, and for T75 flasks, use 5-10 ml. Then, cover the cells completely with Accutase, using 1-2 ml for T25 flasks and 2.5 ml for T75 flasks. Let the cells incubate at room temperature for 8-10 minutes to detach them. After incubation, gently mix the cells with 10 ml of medium to resuspend them, then centrifuge at 300xg for 3 minutes. Discard the supernatant, resuspend the cells in fresh medium, and transfer them into new flasks that already contain fresh medium.

Seeding density	2-4*10^4/cm²
Fluid renewal	1 to 2 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	73 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