OCUM-1

305612

GENERAL INFORMATION

Description

OCUM-1 is a human gastric cancer cell line derived from a patient with poorly differentiated adenocarcinoma of the stomach. This cell line is widely utilized in cancer research to study the aggressive nature of gastric cancers, particularly those with low differentiation status. OCUM-1 serves as a reliable in vitro model for investigating tumor biology, mechanisms of metastasis, and therapeutic responses in gastric adenocarcinoma, which remains a leading cause of cancer-related mortality worldwide.
OCUM-1 cells exhibit epithelial morphology and adhere under standard culture conditions. They are characterized by features typical of poorly differentiated gastric cancer, including high proliferative capacity, the ability to invade surrounding tissues, and molecular alterations that drive tumor progression. Researchers frequently use OCUM-1 to study signaling pathways such as Wnt/β-catenin, PI3K/AKT, and EMT-related mechanisms, which are often dysregulated in gastric adenocarcinoma and contribute to its metastatic behavior. Additionally, this cell line provides a platform for evaluating genetic and epigenetic changes associated with poorly differentiated tumors.
In preclinical research, OCUM-1 is particularly valuable for drug screening and the development of targeted therapies aimed at treating aggressive gastric cancer subtypes. The cell line is often used to assess the efficacy of chemotherapy agents, small-molecule inhibitors, and combination therapies, as well as to explore mechanisms of chemoresistance. Furthermore, OCUM-1 is utilized in studies focused on tumor microenvironment interactions and the molecular drivers of peritoneal dissemination, a frequent and challenging complication in advanced gastric cancer. Overall, OCUM-1 remains a crucial resource for advancing gastric cancer research and the discovery of novel therapeutic approaches.

Tissue	Stomach
Disease	adenocarcinoma
Metastatic site	Pleural effusion

Synonyms

- OCUM1
- Osaka City University Medical school-1

CLASSIFICATION

Organism	Human
Sex	Female
Growth properties	Adherent
Biosafety level	1

CHARACTERISTICS

Morphology	Lymphocyte-like with clustering
Cell type	Lymphocyte
Doubling time	26-34 hours

IDENTIFIERS

Citation

OCUM-1 (Cytion catalog number 305612)

Cytion GmbH
Nikola-Tesla-Str. 3
69124 Heidelberg
Tel: +49 (0)6221 405780
info@cytion.com
cytion.com

Registered office Heidelberg
VAT ID: DE283292917
Local court Mannheim - HRB 714394
CEO / Geschäftsführer: Jonathan Steubing

Banking information
Sparkasse Heidelberg
IBAN: DE35 6725 0020 0009 2076 86
BIC: SOLADES1HDB

NCBI TaxID	9606
Cellosaurus	CVCL_3084

EXPRESSION AND SUSCEPTIBILITY

Mutational profile

Mutation: MAP2K1, Simple, p.Gln56Pro (c.167A>C), Hemizygous

HANDLING AND CULTURE

Culture medium

DMEM, w: 4.5 g/L Glucose, w: 4 mM L-Glutamine, w: 3.7 g/L NaHCO3, w: 1.0 mM Sodium pyruvate (Cytion article number 820300a)

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

Supplements

Supplement the medium with 10% FBS

Dissociation reagent	Accutase

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	38 years

Ethnicity	Japanese

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