

Data Sheet

UM-SCC-1 Squamous Carcinoma Cell Line

Cancer Cell line

SCC070**Pack Size: 1x10⁶ viable cells/vial****Store in liquid nitrogen.****FOR RESEARCH USE ONLY****Not for use in diagnostic procedures. Not for human or animal consumption.**

Background

Head and neck squamous-cell carcinoma (HNSCC) is the sixth leading cancer by incidence world-wide. The cancer may occur in the lip, oral cavity, nasal cavity, paranasal sinuses, salivary glands, pharynx and larynx. Risk factors include smoking, alcohol consumption, wood dust exposures and human papilloma virus (HPV) infections.

UM-SCC-1 is a unique head and neck squamous carcinoma cell line isolated from a surgical resection of a recurrent tumor of the floor of the mouth in a 73-year-old male who had previously been treated by surgery and radiation.¹ The cell line is negative for HPV-16 and for HLA-A2, a class I molecule of the major histocompatibility complex (MHC).

Source

The UM-SCC-1 was established at the University of Michigan¹ with written informed consent obtained from the patient and with the approval of the study by the Medical School Institutional Review Board as described by Brenner *et al.*

Short Tandem Repeat

D3S1358: 18	CSF1PO: 10, 12
TH01: 6	Penta D: 9
D21S11: 27	vWA: 15, 18
D18S51: 18	D8S1179: 13, 16
Penta E: 13	TPOX: 8, 11
D5S818: 10, 13	FGA: 22
D13S317: 8, 11	D19S433: 12
D7S820: 9, 12	D2S1338: 20, 22
D16S539: 12, 13	Amelogenin: X, Y

Cancer cell lines are inherently genetically unstable. Genetic instability may arise in the form of loss of heterozygosity of alleles at one or more genetic sites with increased passages.

Quality Control Testing

- Each vial contains $\geq 1 \times 10^6$ viable cells.
- Cells are tested by PCR and are negative for HPV-16, HPV-18, Hepatitis A, B, C, and HIV-1 & 2 viruses.
- Cells are negative for mycoplasma contamination.
- Each lot of cells are genotyped by STR analysis to verify the unique identity of the cell line.

Important Note

UM-SCC cell lines were derived in the lab of Dr. Thomas Carey at the University of Michigan and are exclusively distributed by us. PURCHASER may not distribute UM-SCC cells or derivatives to third parties.

Storage and Handling

UM-SCC-1 cells should be stored in liquid nitrogen. The cells can be cultured for at least 10 passages after initial thawing without significantly affecting the cell marker expression and functionality.

Representative Data

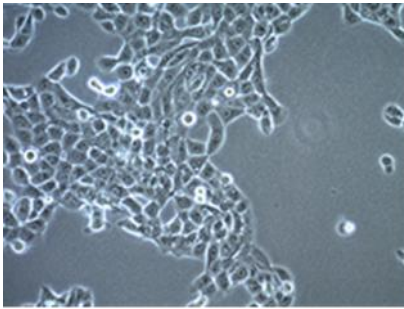


Figure 1: Day 2 after thaw.

Protocols

Thawing of Cells

1. Do not thaw the cells until the recommended medium is on hand. Cells can grow on normal tissue culture ware surfaces without any additional coating.
Cells are thawed and expanded in DMEM High Glucose (D5796), containing 10% FBS (ES009-B) and Non-Essential Amino Acids (TMS-001-C).
2. Remove the vial of frozen UM-SCC-1 cells from liquid nitrogen and incubate in a 37 °C water bath. Closely monitor until the cells are completely thawed. Maximum cell viability is dependent on the rapid and complete thawing of frozen cells.
Important: Do not vortex the cells.
3. As soon as the cells are completely thawed, disinfect the outside of the vial with 70% ethanol. Proceed immediately to the next step.
4. In a laminar flow hood, use a 1 or 2 mL pipette to transfer the cells to a sterile 15 mL conical tube. Be careful not to introduce any bubbles during the transfer process.
5. Using a 10 mL pipette, slowly add dropwise 9 mL of 10% FBS media (Step 1 above; pre-warmed to 37 °C) to the 15 mL conical tube.
Important: Do not add the entire volume of media all at once to the cells. This may result in decreased cell viability due to osmotic shock.
6. Gently mix the cell suspension by slowly pipetting up and down twice. Be careful not to introduce any bubbles.
Important: Do not vortex the cells.
7. Centrifuge the tube at 300 x g for 2-3 minutes to pellet the cells.

8. Decant as much of the supernatant as possible. Steps 5-8 are necessary to remove residual cryopreservative (DMSO).
9. Resuspend the cells in a total volume of 10% FBS medium (pre-warmed to 37 °C).
10. Transfer the cell mixture into a T75 tissue culture flask.
11. Incubate the cells at 37 °C in a humidified incubator with 5% CO₂.
12. The next day, exchange the medium with fresh 10% FBS media pre-warmed to 37 °C. Exchange with fresh medium every two to three days thereafter.
13. When the cells are approximately 90% confluent, they can be dissociated with Accutase® (SCR005) or trypsin-EDTA (SM-2003-C) and further passaged or, alternatively, frozen for later use.

Subculturing of Cells

1. Carefully remove the medium from the T75 tissue culture flask containing the confluent layer of UM-SCC-1 cells.
2. Apply 3-5 mL of Accutase® or trypsin-EDTA solution and incubate in a 37 °C incubator for 3-5 minutes.
3. Inspect the flask and ensure the complete detachment of cells by gently tapping the side of the flask with the palm of your hand.
4. Add 8 mL of 10% FBS medium (pre-warmed to 37 °C) to the plate.
5. Gently rotate the flask to mix the cell suspension. Transfer the dissociated cells to a 15 mL conical tube.
6. Centrifuge the tube at 300 x *g* for 3-5 minutes to pellet the cells.
7. Discard the supernatant, then loosen the cell pellet by tapping the tip of the tube with a finger.
8. Apply 2 mL of 10% FBS media (pre-warmed to 37 °C) to the conical tube and resuspend the cells thoroughly.
Important: Do not vortex the cells.
9. Count the number of cells using a hemocytometer.
10. Plate the cells to the desired density (typical split ratio is 1:3 to 1:6).

Cryopreservation of Cells

The UM-SCC-1 cells can be frozen in the expansion media plus 10% DMSO using a Nalgene® slow freeze Mr. Frosty® container.

References

1. Krause, C.J., Carey, T.E., Ott, R.W., Hurbis, C., McClatchey, K.D., Regezi, J.A. (1981) Human squamous cell carcinoma. Establishment and characterization of new permanent cell lines. Arch Otolaryngol. 107(11): 703-10.
2. Brenner, J.C., Graham, M.P., Kumar, B., Saunders, L.M., Kupfer, R., Lyons, R.H., Bradford, C.R., Carey, T.E. (2010) Genotyping of 73 UM-SCC head and neck squamous cell carcinoma cell lines. Head Neck 34(4): 417-26.

Restricted Use Agreement

Subject to local law

THIS PRODUCT MAY ONLY BE USED FOR RESEARCH PURPOSES, WHICH IS FURTHER DEFINED BELOW. BY OPENING THIS PRODUCT, YOU ("PURCHASER") HEREBY REPRESENT THAT YOU HAVE THE RIGHT AND AUTHORITY TO LEGALLY BIND YOURSELF AND/OR YOUR EMPLOYER, AS APPLICABLE, AND CONSENT TO BE LEGALLY BOUND BY THE TERMS OF THIS RESTRICTED USE AGREEMENT. IF YOU DO NOT AGREE TO COMPLY WITH THESE TERMS, YOU MAY NOT OPEN OR USE THE PRODUCT AND YOU MUST CALL CUSTOMER SERVICE (1-800-645-5476) TO ARRANGE TO RETURN THE PRODUCT FOR A REFUND.

"Product" means UM-SCC-1 Squamous Carcinoma Cell Line (SCC070).

"Research Purposes" means any internal in vitro research use and specifically excludes the following uses of whatever kind or nature:

- Re-engineering or copying the Product
- Making derivatives, modifications, or functional equivalents of the Product
- Obtaining patents or other intellectual property rights claiming use of the Product
- Using the Product in the development, testing, or manufacture of a Commercial Product
- Using the Product as a component of a Commercial Product
- Reselling or licensing the Product
- Using the Product in clinical or therapeutic applications including producing materials for clinical trials
- Administering the Product to humans
- Using the Product in collaboration with a commercial or non-academic entity

"Commercial Product" means any product intended for: (i) current or future sale; (ii) use in a fee-for-service; or (iii) any diagnostic, clinical, or therapeutic use.

Access to the Product is limited solely to PURCHASER's officers, employees, and students who need to use the Product for Research Purposes. PURCHASER shall comply with all applicable laws in its use and handling of the Product and shall keep it under reasonably safe and secure conditions to prevent unauthorized use or access.

These restrictions will remain in effect for as long as PURCHASER possesses the Product.

PLEASE CONTACT licensing@emdmillipore.com PRIOR TO PURCHASE FOR ANY USE OF THE PRODUCT OUTSIDE OF THIS RESTRICTED USE AGREEMENT.

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

The life science business of Merck operates
as MilliporeSigma in the U.S. and Canada.

Merck and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates.
All other trademarks are the property of their respective owners. Detailed information on
trademarks is available via publicly accessible resources.

© 2019 -2024 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

Document Template 20306518 Ver 6.0

SCC070CA Ver 3.0, Rev 09OCT2024, DP

