Product sheet

EOMA Cells | 305241

General information

Description	The EOMA cell line, also known as EOMA endothelial cells, is derived from a spontaneously arising hemangioendothelioma in a mouse. This cell line is extensively used in research to study angiogenesis, the process of new blood vessel formation, which is critical in both normal physiological processes and in pathological conditions such as cancer, diabetic retinopathy, and rheumatoid arthritis. EOMA cells are characterized by their endothelial origin, displaying properties typical of endothelial cells, including the formation of capillary-like structures in vitro. Researchers utilize the EOMA cell line to investigate the molecular and cellular mechanisms underlying angiogenesis. This includes studies on the role of various growth factors, signaling pathways, and the extracellular matrix in endothelial cell proliferation, migration, and tube formation. EOMA cells are particularly valuable in evaluating the effects of anti-angiogenic compounds, which are used in the treatment of cancer and other diseases involving abnormal blood vessel growth. These cells are also used in gene expression studies and in the development of therapeutic strategies targeting angiogenesis. In addition to angiogenesis research, EOMA cells serve as a model for studying hemangioendothelioma, a rare vascular tumor, providing insights into tumor biology and the identification of potential therapeutic targets. By offering a reliable and reproducible in vitro system, the EOMA cell line significantly contributes to the understanding of vascular biology and the development of treatments for angiogenesis-related diseases.
Organism	Mouse
Tissue	Blood vessel
Disease	Hemangioendothelioma of the mouse blood vessel, malignant

Characteristics

Breed/Subspecies	129
Age	Adult
Gender	Unspecified
Morphology	Endothelial
Cell type	Endothelial cell
Growth properties	Adherent

Regulatory Data

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Citation	EOMA (Cytion catalog number 305241)
Biosafety level	1
NCBI_TaxID	9606
CellosaurusAccession	CVCL_3507

Biomolecular Data

Protein expression	Angiotensin converting enzyme (ACE), thrombospondin, cathepsin L, endostatin, interleukin-6 (interleukin 6, IL-6)
Antigen expression	CD31 +, vascular addressin +, CD45 (Ly5-T200) +
Tumorigenic	Yes, in syngeneic mice

Handling

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)
Supplements	Supplement the medium with 10% FBS
Dissociation Reagent	Accutase
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.
Fluid renewal	2 to 3 times per week
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.

Thawing and Culturing Cells	1. Confirm that the vial remains deeply frozen upon delivery, as cells are shipped on dry ice to maintain optimal temperatures during transit. 2. 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. 3. 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. 4. Perform all subsequent steps under sterile conditions in a flow hood, disinfecting the cryovial with 70% ethanol before opening. 5. 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. 6. Centrifuge the mixture at 300 x g for 3 minutes to separate the cells and carefully discard the supernatant containing residual freezing medium. 7. 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. 8. Adhere to established subculture protocols for continued growth and maintenance of the cell line, ensuring reliable experimental outcomes.
Incubation Atmosphere	37°C, 5% CO_2, humidified atmosphere.
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.
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.

Quality Control & Molecular Analysis

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.