Product sheet

H-MESO-1 growing culture | 330186

General information

Description	The H-MESO-1 cell line (Cytion catalog number 300186), is a human-derived cellular model originating from a Caucasian male afflicted with asbestos-induced pleural mesothelioma-an infrequent and aggressive malignancy predominantly affecting the pleural lining of the lungs. An inherent and distinctive feature of the H-MESO-1 cell line is its tumorigenic potential. This has been empirically demonstrated through the successful induction of tumor formation when these cells are engrafted into immunocompromised athymic nude mice. The establishment of the H-MESO-1 cell line originally involved the xenotransplantation of primary tumor material obtained from Dr. R.M. Williams and Dr. A. Rossini. Subsequent to this initial step, adaptation for in vivo transplantation was meticulously undertaken under the guidance of Dr. A.E. Bogden. Furthermore, it is worth underscoring that this particular model recapitulates the clinical behavior of malignant mesothelioma in humans. Consequently, it holds significant promise as an invaluable resource for the rigorous evaluation of novel therapeutic interventions, especially in the domains of chemotherapy and immunotherapy.
Organism	Human
Tissue	Lung
Disease	Pleural Mesothelioma
Synonyms	H-Meso-1, HMESO-1, HMeso-1, HMeso1, HMESO1, H-Meso, HMESO, Hmeso, Hmeso

Characteristics

Age	35 years
Gender	Male
Ethnicity	Caucasian
Morphology	Epithelial-like
Growth properties	Adherent

Identifiers / Biosafety / Citation

Citation	H-MESO-1 (Cytion catalog number 300186)
Biosafety level	1

Expression / Mutation

Tumorigenic	Yes, in nude mice

Handling

Culture Medium	RPMI 1640
Medium supplements	10% FBS, w: 2.1 mM stable Glutamine, w: 2.0 g/L NaHCO3
Passaging solution	Accutase
Subculturing	Remove medium and rinse the adherent cells using PBS without calcium and magnesium (3-5 ml PBS for T25, 5-10ml for T75 cell culture flasks). Add Accutase (1-2ml per T25, 2.5ml per T75 cell culture flask), the cell sheet must be covered completely. Incubate at ambient temperature for 8-10 minutes. Carefully resuspend the cells with medium (10 ml), centrifuge for 5 min at 300xg, resuspend cells in fresh medium and dispense into new flasks which contain fresh medium.
Split ratio	A ratio of 1:2 to 1:4 is recommended
Seeding density	1 x 10^4 cells/cm^2
Fluid renewal	Every 5 to 7 days
Freezing recovery	After thawing, plate the cells at 5 x 10^4 cells/cm^2 and allow the cells to recover from the freezing process and to adhere for at least 24 hours.
Freeze medium	CM-1 (Cytion catalog number 800100) or CM-ACF (Cytion catalog number 806100)
Handling of cryopreserved cultures	The cells come deep-frozen shipped on dry ice. Please make sure that the vial is still frozen. If immediate culturing is not intended, the cryovial must be stored below -150 degree Celsius after arrival. If immediate culturing is intended, please follow the below instructions: Quickly thaw by rapid agitation in a 37 degree Celsius water bath within 40-60 seconds. The water bath should have clean water containing an antimicrobial agent. As soon as the sample has thawed, remove the cryovial from the water bath. A small ice clump should still remain and the vial should still be cold. From now on, all operations should be carried out under aseptic conditions. Transfer the cryovial to a sterile flow cabinet and wipe with 70% alcohol. Carefully open the vial and transfer the cell suspension into a 15 ml centrifuge tube containing 8 ml of culture medium (room temperature). Resuspend the cells carefully. Centrifuge at 300 x g for 3 min and discard the supernatant. The centrifugation step may be omitted, but in this case the remains of the freeze medium have to be removed 24 hours later. Resuspend the cells carefully in 10 ml fresh cell culture medium and transfer them into two T25 cell culture flasks. All further steps are described in the subculture section.

Handling of proliferating cultures

One or two cell culture flasks come filled with cell culture medium. Collect the entire medium in 1 or 2 x 50 ml centrifuge tubes, respectively. Carefully add 5 ml of cell culture medium to each T25 cell culture flask. Control the cell morphology and confluency under the microscope. Incubate at 37 degree Celsius for a minimum of 24 hours. Spin down the collected medium at 300 x g for 3 minutes to collect the cells which may have detached during transit. If a cell pellet is visible, resuspend the cells in 5 ml of cell culture medium and transfer to a T25 cell culture flask. Incubate at 37 degree Celsius for a minimum of 24 hours.

Quality control / Genetic profile / HLA

Sterility

Mycoplasma contaminations are ruled out through PCR-based and luminescence-based mycoplasma assays. The absence of bacterial, fungal or yeast contamination is controlled through daily visual cell monitoring.

STR profile

Amelogenin: x,Y
CSF1PO: 11,12
D13S317: 11
D16S539: 12
D5S818: 10,12
D7S820: 12
TH01: 6,9.3
TPOX: 8
vWA: 17
D3S1358: 14
D21S11: 30,33.2
D18S51: 14,20
Penta E: 7,11
Penta D: 11,13
D8S1179: 10
FGA: 23

HLA alleles

A*: 02:01:01
B*: 13:02:01, 44:02:01
C*: 06:02:01, 07:04:01
DRB1*: 07:01:01, 13:01:01
DQA1*: 01:03:01, 02:01:01
DQB1*: 02:02:01, 06:03:01
DPB1*: 03:01, 20:01:01
E: 01:01, 01:03