Product sheet

COS-7 growing culture | 665470

General information

Description	COS-7 cells, which were derived from the CV-1 cell line and transformed with a mutant form of the SV40 virus encoding for the wild-type T antigen, are a popular research tool for transfection studies. COS-7 cells are characterized by fibroblast-like growth and susceptibility to viruses. COS-7 cells are frequently employed to produce recombinant proteins for biochemistry, molecular biology, and cellular biology research. They are commonly used to study Simian virus 40 (SV40), a simple tumor virus that has been linked to mesothelioma, a form of lung cancer in animals. No link has been found to human mesothelioma. COS-7 cells can be readily transfected using conventional techniques and agents such as Lipofectamine. Transfection conditions for COS-7 cells are comparable to those for HeLa cells, with a transfection efficiency of 80 percent achievable using conventional methods. Transfection can be performed as early as the first passage or even at the time of seeding, saving researchers time and energy. In terms of morphology, COS-7 cells have a fibroblast-like appearance and an average diameter of 20 to 25 micrometers.
Organism	Cercopithecus aethiops (Green monkey)
Tissue	Kidney
Applications	Transfection host. Suitable for transfection by vectors requiring expression of SV40 T antigen.
Synonyms	Cos-7, COS7, Cos7, CV-1 in Origin Simian-7

Characteristics

Age	Adult
Gender	Male
Morphology	Fibroblast-like
Cell type	Fibroblast
Growth properties	Monolayer, adherent

Identifiers / Biosafety / Citation

Citation	COS-7 (Cytion catalog number 605470)
Biosafety level	1

Expression / Mutation

COS-7 growing culture | 665470

Virus susceptibility	SV40 (lytic growth), SV40 tsA209 at 40 degree Celsius, SV40 mutants with deletions in the early region
Products	T antigen

Handling

Culture Medium	DMEM:Ham's F12
Medium supplements	10% FBS, w: 3.1 g/L Glucose, w: 1.6 mM L-Glutamine, w: 15 mM HEPES, w: 1.0 mM Sodium pyruvate, w: 1.2 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 10 minutes. Carefully resuspend the cells, the addition of medium is optional but not necessary, and dispense into new flasks which contain fresh medium.
Split ratio	A ratio of 1:4 to 1:8 is recommended
Seeding density	1 x 10^4 cells/cm^2 will yield in a confluent layer in about 4 days
Fluid renewal	2 to 3 times per week
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)

COS-7 growing culture | 665470

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.