

MC3T3-E1 | 305187

MC3T3-E1

Description MC3T3-E1 is a clonal cell line derived from the fibroblasts of a Swiss albino mouse. It is characterized by its ability to form colonies in culture and its sensitivity to ultraviolet radiation. MC3T3-E1 cells are widely used in research to study the effects of UV radiation on DNA damage and repair mechanisms, as well as in the study of cell growth and differentiation.

Organism Mammalia

Tissue Skin fibroblasts

Applications Cell culture, DNA damage studies, Cell growth studies

Synonyms Mc3T3-E1, MC3T3E1, MC-3T3-E1, MC 3T3-E1, MC 3T3-E1

MC3T3-E1

Breed/Subspecies C57BL/6

Age 1 month

Gender Male

Morphology Fibroblastic cells

Cell type Fibroblasts

Growth properties Adherent

MC3T3-E1

Citation MC3T3-E1 (ATCC CCL-163) | 305187

Biosafety level 1

NCBI_TaxID 10090

CellosaurusAccession CVCL_0409

MC3T3-E1 | 305187

Thawing and Culturing Cells

1. Thaw the vial in a 37°C water bath. Transfer the cells to a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 10 mL of DMEM supplemented with 10% FBS. Incubate the cells for 24 hours to allow them to attach to the flask.
2. After 24 hours, replace the medium with DMEM supplemented with 10% FBS. When the cells have reached confluence, remove the medium and wash the cells with PBS. Add trypsin-EDTA solution and incubate for 2-3 minutes. Add 10 mL of DMEM supplemented with 10% FBS to stop the trypsin. Pipette the cells into a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 mL of DMEM supplemented with 10% FBS.
3. Seed the cells into a 25 cm² flask containing 10 mL of DMEM supplemented with 10% FBS. Incubate the cells for 24 hours to allow them to attach to the flask.
4. After 24 hours, replace the medium with DMEM supplemented with 10% FBS. When the cells have reached confluence, remove the medium and wash the cells with PBS. Add trypsin-EDTA solution and incubate for 2-3 minutes. Add 10 mL of DMEM supplemented with 10% FBS to stop the trypsin. Pipette the cells into a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 mL of DMEM supplemented with 10% FBS.
5. Seed the cells into a 25 cm² flask containing 10 mL of DMEM supplemented with 10% FBS. Incubate the cells for 24 hours to allow them to attach to the flask.
6. After 24 hours, replace the medium with DMEM supplemented with 10% FBS. When the cells have reached confluence, remove the medium and wash the cells with PBS. Add trypsin-EDTA solution and incubate for 2-3 minutes. Add 10 mL of DMEM supplemented with 10% FBS to stop the trypsin. Pipette the cells into a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 mL of DMEM supplemented with 10% FBS.
7. Seed the cells into a 25 cm² flask containing 10 mL of DMEM supplemented with 10% FBS. Incubate the cells for 24 hours to allow them to attach to the flask.
8. After 24 hours, replace the medium with DMEM supplemented with 10% FBS. When the cells have reached confluence, remove the medium and wash the cells with PBS. Add trypsin-EDTA solution and incubate for 2-3 minutes. Add 10 mL of DMEM supplemented with 10% FBS to stop the trypsin. Pipette the cells into a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 mL of DMEM supplemented with 10% FBS.

Incubation Atmosphere 37 °C, 5% CO₂, humidified

Flask Coating None

Freezing Procedure Seed cells into a 25 cm² flask containing 10 mL of DMEM supplemented with 10% FBS. When the cells have reached confluence, remove the medium and wash the cells with PBS. Add trypsin-EDTA solution and incubate for 2-3 minutes. Add 10 mL of DMEM supplemented with 10% FBS to stop the trypsin. Pipette the cells into a 15 mL centrifuge tube and centrifuge at 300 x g for 5 minutes. Remove the supernatant and resuspend the cells in 1 mL of DMEM supplemented with 10% FBS. Add 10% DMSO and freeze the cells in a liquid nitrogen vapor phase.

Shipping Conditions Dry ice, -78 °C

Storage Conditions -150 °C to -196 °C

MC3T3-E1 / HLA

Sterility The cells are free of mycoplasmas and other contaminants. The cells are tested for mycoplasmas using PCR.